United States Environmental Protection Agency Region 8 Air Program 1595 Wynkoop Street Denver, CO 80202



#### AIR POLLUTION CONTROL TITLE V PERMIT TO OPERATE

In accordance with the provisions of title V of the Clean Air Act and 40 CFR part 71 and applicable rules and regulations,

#### Questar Pipeline Company Fidlar Compressor Station

is authorized to operate air emission units and to conduct other air pollutant emitting activities in accordance with the permit conditions listed in this permit.

This source is authorized to operate at the following location:

### Uintah and Ouray Indian Reservation SW ¼, NW ¼, Section 16, T9S, R22E, Uintah County, Utah

Terms not otherwise defined in this permit have the meaning assigned to them in the referenced regulations. All terms and conditions of the permit are enforceable by EPA and citizens under the Clean Air Act (CAA).

Carl Daly, Director Air Program US EPA Region 8

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#### AIR POLLUTION CONTROL TITLE V PERMIT TO OPERATE

### **Questar Pipeline Company Fidlar Compressor Station**

Permit Number: V-UO-0002-05.01 Replaces Permit No: V-OU-0002-05.00 Issue Date:July 15, 2011Effective Date:July 25, 2011Expiration Date:August 12, 2013

The permit number cited above should be referenced in future correspondence regarding this facility.

## Permit Revision History

DATE OF REVISION	TYPE OF REVISION	SECTION NUMBER AND TITLE	DESCRIPTION OF REVISION
October 20, 2000	Initial Permit Issued		Permit # V-OU-0002-00.00
July 3, 2008	1 <sup>st</sup> Renewal Permit Issued		Permit # V-OU-0002-05.00
July 15, 2011	Significant Modification		Permit # V-UO-0002-05.01
		II. Standards of Performance – Turbines FS01, FS03, FS05	Created separate section for existing NSPS GG requirements for turbines FS01, FS03, and FS05
		III. Standards of Performance – Engine FS07	Added new section with NSPS JJJJ requirements for Engine FS07
		IV. Emission Standards for Hazardous Air Pollutants – Engine FS07	Added new section with MACT ZZZZ requirements for Engine FS07
		V. Requested Emission Limits – Engine FS02	Added new section with applicant-requested enforceable restrictions to recognize NSCR catalyst on FS02. Includes NO <sub>x</sub> emission limits and associated monitoring, recordkeeping, and reporting requirements.
		VI. Facility-Wide Requirements	Renumbered Section from III to VI to reflect the addition of new sections.
		VII. Part 71 Administrative Requirements	Renumbered Section from IV to VII to reflect the addition of new sections.
		VIII. Appendix	Renumbered Section from I to VIII to reflect the addition of new sections.

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# Abbreviations and Acronyms

ADDreviation	ns and Acronyms
AR	Acid Rain
ARP	Acid Rain Program
bbls	Barrels
BACT	Best Available Control Technology
CAA	Clean Air Act [42 U.S.C. Section 7401 et seq.]
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emission Monitoring System
CFR	Code of Federal Regulations
CMS	Continuous Monitoring System (includes COMS, CEMS and diluent monitoring)
COMS	Continuous Opacity Monitoring System
CO	Carbon monoxide
$CO_2$	Carbon dioxide
DAHS	Data Acquisition and Handling System
dscf	Dry standard cubic foot
dscm	Dry standard cubic meter
EIP	Economic Incentives Programs
EPA	Environmental Protection Agency
FGD	Flue gas desulfurization
gal	Gallon
GPM	Gallons per minute
$H_2S$	Hydrogen sulfide
gal	gallon
HAP	Hazardous Air Pollutant
hr	Hour
Id. No.	Identification Number
	Kilogram
kg 15	Pound
lb MACT	
MACT	Maximum Achievable Control Technology
MVAC	Motor Vehicle Air Conditioner
Mg	Megagram
MMBtu	Million British Thermal Units
mo	Month
NSCR	Non-Selective Catalytic Reduction
NESHAP	National Emission Standards for Hazardous Air Pollutants
NMHC	Non-methane hydrocarbons
NO <sub>x</sub>	Nitrogen Oxides
NSPS	New Source Performance Standard
NSR	New Source Review
pH	Negative logarithm of effective hydrogen ion concentration (acidity)
PM	Particulate Matter
$PM_{10}$	Particulate matter less than 10 microns in diameter
ppm	Parts per million
PSD	Prevention of Significant Deterioration
PTE	Potential to Emit
psi	Pounds per square inch
psia	Pounds per square inch absolute
RICE	Reciprocating Internal Combustion Engine
RMP	Risk Management Plan
scfm	Standard cubic feet per minute
SNAP	Significant New Alternatives Program
$SO_2$	Sulfur Dioxide
tpy	Ton Per Year
US EPA	United States Environmental Protection Agency
VOC	Volatile Organic Compounds

# I. Source Identification and Unit-Specific Information

## I.A. Source Information

Parent Company Name:	Questar Pipeline Company			
Plant Name:	Fidlar Compressor Station			
Plant Location:	SW ¼, NW ¼, Section 16, T9S, R22E Latitude 40° 02' 23" N Longitude -109° 27' 25" W			
Region: 8	State: Utah	County: Uintah		
Reservation:	Uintah & OurayTribe: Ute			
<b>Responsible Official:</b>	Vice President, Operations & Gas Control			
SIC Codes:		ssion: Establishments engaged in the storage of natural gas for sale.		

### AFS Plant Identification Number: None

**Other Clean Air Act Permits:** There are no other federal CAA permits, such as PSD or minor NSR, issued to this facility.

**Description of Process:** The Fidlar Compressor Station is an integral part of Questar's interstatepipeline transmission system. The facility provides critical transportation compression needs of the natural gas shippers on Questar's southern transmission system. The Fidlar Compressor Station receives natural gas from and delivers it to any one of Questar's main lines that transport natural gas east, west and north to existing markets and interconnecting points with other interstate pipelines.

There are currently four compressors operating at Fidlar Compressor Station. Gas turbine engines drive three compressors, and an internal combustion engine drives one. The facility is also equipped with one natural gas fired reciprocating internal combustion engine used to drive a standby emergency generator. The generator provides electric power to the compressor station during power outages only. All equipment at the Fidlar Compressor Station burns pipeline quality natural gas as its only fuel source.

Gas enters the station then passes through separator tanks. The tanks allow any entrained liquids to drop out of the natural gas. Liquids and sludge are temporarily stored on site and then removed by truck. The gas then passes through gas scrubbers consisting of cloth type filters to remove gas laden impurities. Impurities are occasionally blown to the pressurized storage vessel or sludge tank. Gas pressure is then boosted by the compressor units. After compression, the gas is cooled by cooling fans which draw ambient air over the pipes to the cool the gas. There is no contact between the cooling air and natural gas. There are numerous shutdown and relief valves associated with the facility. A natural gas fired boiler provides heat to the buildings. A natural gas fired line heater is used to prevent station fuel gas line freezing.

Emission Unit ID	Description	Control Equipment
	11.16 MMBtu/hr (1,019 hp), natural gas fired turbines for natural gas compression. Solar Saturn T-1001S-205:	None
FS01 FS03	Serial Number:30283Installed:7/21/2004Serial Number:20487Installed:6/12/2004	None
	37.05 MMBtu/hr (4,028 hp), natural gas fired turbine for natural gas compression Solar Centaur T4700S:	None
FS05	Serial Number: 5109C Installed: 1/21/2008	
	10.79 MMBtu/hr (1,061 hp natural gas fired engine for natural gas compression White Superior 12G-825, 4 stroke rich burn:	AFR & NSCR installed 9/1995
FS02	Serial Number: 299499 Installed: 12/3/1983	
	6.54 MMBtu/hr (643 hp), natural gas fired stand by engine for emergency power generator. Cummins GTA28 CC, rich burn:	AFR & NSCR
FS07	Serial Number: 25352466 Installed: 11/18/2010	
	400 bbl condensate sludge storage tank, 42,000 gal/year throughput:	None
QPC Tank	Serial Number: unknown Installed: pre-1991	
QPC Truck	42,000 gal/year tank truck loading unit:	None
Loadout	Serial Number: unknown Installed: pre-1991	
FS08	Fugitive emissions from valves, seals, pumps, etc.	None

# Table 1 Source Emission PointsQuestar Pipeline Company Fidlar Compressor Station

# Table 2 Insignificant Emission UnitsQuestar Pipeline Company Fidlar Compressor Station

Emission Unit ID	Description	
1	Maintenance Cabinet	
2	Two Battery Banks	
3	Natural gas fuel line heater (0.75 MMBtu/hr)	
4	Air compressor-electric	
5	Two Space heaters - natural gas (0.11 MMBtu/hr each)	
6	Two diesel storage tanks (500 gal each)	
7	Natural gas boiler for building heat – 1.7 MMBtu/hr	
8	Bench grinder	
9	Two lubrication oil tanks (500 gal each)	
10	Ambitrol storage tank (678 gal)	
11	Two Glycol tanks (6,300 gal and 3,755 gal)	
12	Blowdown	

## II. Standards of Performance - Turbines FS01, FS03, FS05

#### **II.A. Subpart A – New Source Performance Standards, General Provisions** [40 CFR 60.1 – 60.19]

1. 40 CFR Part 60, Subpart A – Standards of Performance for New Stationary Sources, General Provisions: This facility is subject to the requirements of 40 CFR part 60, subpart GG. As such, this facility is subject to 40 CFR part 60, subpart A. Notwithstanding conditions in this permit, the permittee shall comply with all applicable requirements of 40 CFR part 60, subpart A.

[40 CFR 60.1]

2. At all times, including periods of startup, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

[60.11(d)]

### **II.B. Subpart GG - Standards of Performance for Stationary Gas Turbines** [40 CFR 60.40c - 60.48c]

- 1. Applicability [40 CFR 60.330]
  - (a) This facility is subject to the requirements of 40 CFR part 60, subpart GG. Notwithstanding conditions in this permit, the permittee shall comply with all applicable requirements of 40 CFR part 60, subpart GG.
  - (b) 40 CFR part 60, subpart GG applies to the following emission units:

FS01:	11.16 MMBtu/hr (1,019 hp), natural gas fired, Solar Saturn T-1001S-205 turbine
FS03:	11.16 MMBtu/hr (1,019 hp), natural gas fired, Solar Saturn T-1001S-205 turbine.
FS05	37.05 MMBtu/hr (4,028 hp), natural gas fired, Solar Centaur T4700S turbine:

2. Emission Standards [40 CFR 60.332 and 60.333]

Emission units FS01, FS03, and FS05 are subject to the nitrogen oxide standard and the sulfur dioxide fuel standards listed in Table 3 below.

# Table 3 Turbine Emission StandardsQuestar Pipeline Company Fidlar Compressor Station

Pollutant	Emission Standard	Regulatory Reference
Nitrogen oxides	FS01 & FS03: STD = $0.0150(14.4) + F = 150 \text{ ppm}$ Y	40 CFR 60.332 (a)(2)
	FS05: STD = $0.0150(14.4)$ + F = 167 ppm Where: Y = 14.4 kilojoules per watt hour (FS01 and FS03)	
	Y = 12.906 kilojoules per watt hour (FS05) Y= 12.906 kilojoules per watt hour (FS05) (manufacturer's rated heat rate at manufacturer's rated peak load. The value	
	of Y shall not exceed 14.4 kilojoules per watt hour) and	
	F = 0 (NO <sub>x</sub> emission allowance for fuel bound nitrogen) and	
	$STD = allowable NO_x \text{ emissions (percent by volume at 15 percent oxygen and on a dry basis)}$	
SO <sub>2</sub> Either: (a) No owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere fro any stationary gas turbine any gases which contain sulfur dioxide in excess of 0.015 percent by volume at 15 percent oxygen and on a dry basis;		40 CFR 60.333(a)
or (b) Fuel sulfur content shall not exceed 0.8 percent by we		40 CFR 60.333(b)

\* The permittee has opted to demonstrate compliance with the SO<sub>2</sub> limit by verifying that the fuel used meets the definition of natural gas to avoid fuel sulfur monitoring.

Emission units FS01, FS03, and FS05 shall be exempt from the  $NO_x$  emission standard when being fired with an emergency fuel. For the purpose of this requirement, the term "emergency fuel" means "a fuel fired by a gas turbine only during circumstances, such as natural gas curtailment or breakdown of delivery system, that makes it impossible to fire natural gas in the gas turbine."

[40 CFR 60.332(k), 40 CFR 60.331(r)]

**II.C. Testing Requirements** [40 CFR 60.8, 40 CFR 60.335, and 40 CFR 71.6(a)(3)(i)(A)]

1. Initial performance testing is required for off permit replacement units for turbines FS01, FS03, and FS05. The permittee shall comply with the initial performance test requirements of 40 CFR 60.8(a) - (f) for measuring NO<sub>x</sub> emissions from replaced units FS01, FS03 and FS05 within 60 days after achieving the maximum production rate at which the turbines will be operated, but not later than 180 days after initial startup of the turbines.

2. The permittee shall comply with the test methods and procedures of 40 CFR 60.335(a), (b), and (c) when conducting the initial performance test for  $NO_x$  for units FS01, FS03, and FS05.

**II.D. Monitoring Requirements** [40 CFR 60.334(c), 40 CFR 60.334(h) and 40 CFR 71.6(a)(3)(i)(A) through (C)]

- 1. The permittee shall comply with the requirements of 40 CFR 60.334(h) for monitoring of sulfur content and nitrogen content of the fuel being burned in units FS01, FS03, and FS05.
  - (a) The permittee shall demonstrate that gaseous fuel burned in units FS01, FS03, and FS05 meets the definition of natural gas pursuant to \$60.331(u).
  - (b) The permittee shall demonstrate the gas quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the gaseous fuel, specifying that the maximum total sulfur content of the fuel is 20.0 grains/100 scf or less.

[40 CFR 60.334(h) - (h)(3)(i)]

[Explanatory Note: Under (0.334(h)(2)), monitoring of nitrogen content of the fuel is only required if the permittee claims an allowance for fuel-bound nitrogen. The permittee has not claimed such an allowance.]

- 2. The permittee shall measure  $NO_x$  emissions from emission units FS01, FS03, and FS05 at least once every quarter to show compliance with the requirements of 40 CFR 60.332(a)(2). To meet this requirement, the permittee shall measure the  $NO_x$  emissions from each turbine using a portable analyzer and the monitoring protocol approved by EPA, or by using a Mobile Test Van (MTV) and the monitoring protocols approved by EPA.
  - (a) Monitoring shall begin in the first calendar quarter following EPA notification to the applicant of the approval of the monitoring protocol.
  - (b) If an emission unit is inoperable for 1500 hours or more in any calendar quarter, the permittee is exempt from conducting  $NO_x$  monitoring for the emissions unit for that quarter only.

[40 CFR 60.334(c)]

## II.E. Recordkeeping Requirements [40 CFR 71.6(a)(3)(ii), 40 CFR 60.7(b) and 60.7(f)]

- 1. The permittee shall comply with the following recordkeeping requirements:
  - (a) The permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.
  - (b) The permittee shall maintain a file of all measurements, including performance testing measurements, monitoring device calibration checks, and other information required by the NSPS conditions of this permit.

- 2. The permittee shall comply with the following recordkeeping requirements when firing an emergency fuel:
  - (a) Monitoring of fuel sulfur content shall be recorded daily while firing an emergency fuel as defined in 40 CFR 60.331(r).
  - (b) Monitoring of fuel nitrogen content shall be recorded daily while firing a fuel other than pipeline-quality natural gas or while firing an emergency fuel as defined in 40 CFR 60.331(r).
- 3. The permittee shall keep records of all required monitoring. The records shall include the following:
  - (a) The date, place, and time of sampling or measurements;
  - (b) The date(s) analyses were performed;
  - (c) The company or entity that performed the analyses;
  - (d) The analytical techniques or methods used;
  - (e) The results of such analyses; and
  - (f) The operating conditions as existing at the time of sampling or measurement.
- 4. The permittee shall keep a record of the number of hours an emissions unit is inoperable and document the reason(s) why the emissions unit was inoperable.
- 5. The permittee shall retain records of all required monitoring data and support information, sample analyses, fuel supplier, fuel quality, and fuel make-up pertinent to the custom fuel monitoring schedule for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. These records shall be made available upon request by EPA Region 8. Support information includes all calibration and maintenance records, all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

### **II.F. Reporting Requirements** [40 CFR 71.6(a)(3)(iii) and 40 CFR 60.8(a)]

The permittee shall submit to EPA a written report of the results of any initial performance test(s) required in this section.

# III. Standards of Performance – Emergency Engine FS07

#### **III.A. 40 CFR 60, Subpart A – Standards of Performance for New Stationary Sources, General Provisions** [40 CFR 60.1 - 60.19]

1. This facility is subject to the requirements of 40 CFR part 60, subpart A as outlined in Table 3 of 40 CFR 60, subpart JJJJ. Notwithstanding conditions in this permit, the permittee shall comply with all applicable requirements of 40 CFR part 60.

[40 CFR 60.4246]

#### **III.B. 40 CFR 60, Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines** [40 CFR 60.4230 – 60.4248]

- 1. This facility is subject to the requirements of 40 CFR part 60, subpart JJJJ. Notwithstanding conditions in this permit, the permittee shall comply with all applicable requirements of 40 CFR part 60, subpart JJJJ.
- 2. 40 CFR part 60, subpart JJJJ applies to the following engine:
  - FS07: Cummins GTA28 CC 643 hp, natural gas fired stand by engine for emergency power generator Manufactured October 2010

[40 CFR 60.4230(a)(5)]

- 3. The permittee shall demonstrate compliance with 40 CFR 60, subpart JJJJ according to the following:
  - (a) Certified Engine:
    - (i) Operate an engine certified according to procedures specified in 40 CFR 60, subpart JJJJ for the same model year; and
    - (ii) Demonstrate compliance according to one of the methods specified in §60.4243(a).
  - (b) Non-Certified Engine:
    - (i) Operate a non-certified engine and demonstrate compliance with the emission standards specified in the emissions table and according to the testing procedures specified in §60.4244, as applicable; and
    - (ii) Keep a maintenance plan and records of conducted maintenance and, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions; and
    - (iii) Conduct an initial performance test and subsequent performance testing according to 40 CFR 60.4244, every 8,760 hours of operation or 3 years, whichever comes first, thereafter to demonstrate compliance.
  - (c) Perform maintenance checks and readiness testing pursuant to the requirements of §60.4243(d).

- (d) Use propane as an alternative fuel during emergency operations pursuant to the requirements of §60.4243(e).
- (e) Operate the air to fuel ratio (AFR) and three-way catalysts/non-selective catalytic reduction controls pursuant to §60.4243(g).

[40 CFR 60.4243]

(f) Install a non-resettable hour meter as required in §60.4237(a).

[40 CFR 60.4237]

#### **III.C. Emission Limits**

1. Emissions from engine unit FS07 shall not exceed the following limits:

Unit		Source of Emission Limit	NO <sub>x</sub>		СО		VOC	
	Unit		g/hp-hr	ppmvd (at 15% O <sub>2</sub> )	g/hp-hr	ppmvd (at 15% O <sub>2</sub> )	g/hp-hr	ppmvd (at 15% O <sub>2</sub> )
	FS07	NSPS JJJJ – Manuf. on or after 01/01/2009	2.0*	160*	4.0*	540*	1.0*	86*

\* Emission limits are for non-certified engines. The permittee may choose to comply with the emission standards in either units of g/hp-hr or ppmvd at 15% O<sub>2</sub>.

[40 CFR 60.4233(e)]

#### **III.D. Testing Requirements** [40 CFR 71.6(a)(3)(i)(A) through (C)]

1. The permittee conducting performance tests must follow the procedures in 40 CFR 60.4244(a) through (f), and as outlined in Appendix B of this permit.

[40 CFR 60.4244]

 Reference Method performance tests shall be conducted, according to 40 CFR 60.4244, upon startup and for all replacement engines for FS07 that are <u>non-certified</u> to measure NO<sub>x</sub>, CO, and VOC emissions to demonstrate compliance with the emission limits. In addition, the permittee must conduct subsequent performance tests on <u>non-certified</u> engines every 8,760 hours of operation or 3 years, which ever comes first.

[40 CFR 60.4243(b)(2)(ii)]

3. The performance tests for  $NO_x$ , CO, and VOC shall be conducted in accordance with the test methods specified in Table 2 of 40 CFR 60, Subpart JJJJ.

[40 CFR 60.4243(b)(2)(ii)]

#### **III.E. Recordkeeping Requirements** [40 CFR 71.6(a)(3)(ii), 40 CFR 60.4245]

The permittee must keep records of the following for engine FS07:

- (a) All notifications submitted to comply with this subpart and all documentation supporting any notification;
- (b) Maintenance conducted on the engine;
- (c) If FS07 is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR parts 90 and 1048; and
- (d) If FS07 is not a certified engine or is a certified engine operating in a non-certified manner and subject to §60.4243(a)(2), documentation that the engine meets the emission standards.
- (e) If FS07 does not meet the standards applicable to non-emergency engines, records of the hours of operation of the engine that is recorded through the non-resettable hour meter.

[40 CFR 60.4245(a)&(b)]

#### **III.F.** Notifications and Reporting Requirements

[40 CFR 71.6(a)(3)(iii), 40 CFR 60.4245 & 60.19]

- 1. The permittee must, for engines that have not been certified by an engine manufacturer to meet the emission standards in 60.4231, submit an initial notification as required in 60.7(a)(1). The notification must include the following information:
  - (a) Name and address of the owner or operator;
  - (b) The address of the affected source;
  - (c) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;
  - (d) Emission control equipment; and
  - (e) Fuel used.

[40 CFR 60.4245(c)]

2. The permittee must submit a copy of each performance test as required by §60.4244 and this section within 60 days after the test has been completed.

[40 CFR 60.4245(d)]

## IV. Emission Standards for Hazardous Air Pollutants - Engine FS07

#### IV.A. 40 CFR Part 63, Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants From Reciprocating Internal Combustion Engines [40 CFR 63.6580 - 63.6675]

- 1. This facility is subject to the requirements of 40 CFR part 63, subpart ZZZZ for stationary reciprocating internal combustion engines (RICE). Notwithstanding conditions in this permit, the permittee shall comply with all applicable requirements of 40 CFR part 63, subpart ZZZZ.
- 2. 40 CFR part 63, subpart ZZZZ applies to the following engine:
  - FS07: Cummins GTA28 CC 643 hp, natural gas fired stand by engine for emergency power generator Manufactured October 2010

[40 CFR 63.6585]

3. This engine is an affected source that meets a criteria in §63.6590(c)(1) through (7) and must meet the requirements of 40 CFR part 63, subpart ZZZZ by meeting the requirements of 40 CFR part 60, subpart JJJJ, for spark ignition engines. No further requirements apply for this engine under 40 CFR part 63.

[40 CFR 63.6590(c)]

# V. <u>Requested Emission Limits – Engine FS02</u>

## V.A. Applicability

The following requirements have been created, at the permittee's request, to recognize the non-selective catalytic reduction (NSCR) controls on engine FS02, a 1,061 hp, natural gas fired, White Superior 12G-825 compression engine; serial number 299499. The requirements are intended to establish enforceable restrictions on the PTE of NO<sub>x</sub> from engine FS02.

### V.B. Emission Limits

Emissions from engine FS02 equipped with NSCR catalyst shall not exceed:

- 1. 2.0 grams per horse power-hour (g/hp-hr) of  $NO_x$  emissions; and
- 2. 4.68 pounds per hour (lbs/hr) of  $NO_x$  emissions.

### V.C. Work Practice and Operational Requirements

- 1. Engine FS02 shall be equipped with an AFR and NSCR system for the control of  $NO_x$ .
- 2. The permittee shall follow, for engine FS02 and associated AFR and NSCR systems, the manufacturer's recommended maintenance schedule and procedures to ensure optimum performance of the unit and control system.
- 3. The permittee shall install a temperature-sensing device before the NSCR system on engine FS02 in order to monitor the inlet temperature to the NSCR. The temperature-sensing device shall be accurate to within 0.75% of span.
- 4. The inlet temperature to the NSCR system shall be maintained at all times engine FS02 operates in accordance with manufacturer's specifications.
- 5. The inlet temperature to the NSCR system shall be measured at least hourly during the operation of engine FS02.
- 6. If the inlet temperature to the NSCR system deviates from the acceptable range according to manufacturer specifications, then the following actions shall be taken:
  - (a) Immediately upon determining a deviation of the NSCR inlet temperature, the cause will be investigated. Investigation may include monitoring of  $NO_x$  emissions to ensure the NSCR system is functioning and testing the temperature sensing device. If the cause is determined to be the NSCR system, then the catalyst shall be inspected and cleaned or replaced, if necessary.
  - (b) If the problem can be corrected by following the engine and/or the NSCR manufacturer's recommended procedures, then the permittee shall correct the problem within 24 hours of inspecting the engine and NSCR.

- (c) If the problem can not be corrected using the manufacturer's recommended procedures, then the engine shall not be returned to operation until the NSCR inlet temperature is measured and found to be within the acceptable temperature range for the engine. The permittee shall also notify EPA in writing of the problem within 10 working days of observing the problem and include in the notification the cause of the problem and a corrective action plan that outlines the steps and timeframe for bringing the NSCR inlet temperature range into compliance. (The corrective action may include removal and cleaning of the catalyst according to the manufacturer's methods or replacement of the catalyst.)
- 7. A baseline pressure drop across the NSCR system shall be established during the initial performance test. A new baseline pressure drop across the NSCR system shall be established each time the catalyst is cleaned or replaced.
- 8. The pressure drop across an NSCR system shall be measured at least hourly during the operation of the engine.
- 9. During operation the pressure drop across the NSCR system shall be maintained to within four (4) inches of water from the baseline pressure drop reading taken during the most recent performance test.
- 10. If the pressure drop exceeds four (4) inches of water from the baseline pressure drop reading taken during the most recent performance test, the cause will be investigated. Investigation may include monitoring of  $NO_x$  emissions to ensure the NSCR system is functioning and testing the pressure transducers. If the cause is determined to be the NSCR system, then the catalyst shall be inspected and cleaned or replaced, if necessary.
- 11. The permittee's completion of any or all of the actions prescribed by this permit shall not constitute, nor qualify as, an exemption from the  $NO_x$  emission limit in this permit.
- 12. Engine FS02 shall be fired only with natural gas. The natural gas shall be pipeline-quality in all respects except that the  $CO_2$  concentration in the gas shall not be required to be within pipeline-quality.

[Note to Permittee: The purpose of permit condition 12, above, is to ensure that there are no contaminants in the fuel that might foul the catalyst. In general, pipeline-quality natural gas is (1) within  $\pm 5\%$  of the heating value of pure methane, or 1,010 Btu/per cubic foot under standard atmospheric conditions, and (2) free of water and toxic or corrosive contaminants. However, CO<sub>2</sub> is not a potential foulant of the catalyst and has therefore been excluded from the requirement.]

### V.D. Testing Requirements

1. An initial performance test shall be conducted for engine FS02 for measuring  $NO_x$  emissions to demonstrate compliance with the emission limits in this section. The initial performance test for  $NO_x$  shall be conducted within forty-five (45) calendar days of the effective date of this permit.

- 2. Upon change out of engine FS02, a performance test shall be conducted for measuring  $NO_x$  emissions from the unit to demonstrate compliance with the emission limits in V.B. The performance test for  $NO_x$  for each unit shall be conducted within forty-five (45) calendar days of initial startup of the replacement engine.
- 3. Upon the cleaning or replacement of the NSCR catalyst, a performance test shall be conducted for measuring  $NO_x$  emissions from the unit to demonstrate compliance with the emission limits and to establish a new baseline pressure drop. The performance test shall be conducted within forty-five (45) calendar days of startup of the engine with the new catalyst.
- 4. The performance test for  $NO_x$  emissions shall be conducted in accordance with the appropriate test methods specified in 40 CFR part 60, Appendix A. The permittee may submit to EPA a written request for approval of an alternate testing method, but shall only use that alternate test method after obtaining written approval from EPA.
- 5. The inlet temperature to the NSCR system and the pressure drop across the NSCR system shall both be measured during the performance test for measuring  $NO_x$  emissions.
- 6. All tests for  $NO_x$  emissions for engine FS02 must meet the following requirements:
  - (a) All tests shall be performed at a maximum operating rate (90% to 110% of engine design capacity).
  - (b) During each test run, data shall be collected on all parameters necessary to document how  $NO_x$  emissions were measured or calculated (such as test run length, minimum sample volume, volumetric flow rate, moisture and oxygen corrections, etc.).
  - (c) Each test shall consist of at least three (3) 1-hour or longer valid test runs. Emission results shall be reported as the arithmetic average of all valid test runs and shall be in terms of g/hp-hr and lbs/hr.
  - (d) A source test plan for  $NO_x$  emissions shall be submitted to EPA for approval within thirty (30) calendar days of the effective date of this permit. The source test plan shall include and address the following elements:
    - (i) Purpose of the test;
    - (ii) Unit and NSCR system to be tested;
    - (iii) Expected engine operating rate during test;
    - (iv) Schedule/dates for the test;
    - (v) Sampling and analysis procedures (sampling locations, test methods, laboratory identification);
    - (vi) Quality assurance plan (calibration procedures and frequency, sample recovery and field documentation, chain of custody procedures); and
    - (vii) Data processing and reporting (description of data handling and quality control procedures, report content).

## V.E. Monitoring Requirements

- 1. The permittee shall conduct annual performance tests for engine FS02 for measuring  $NO_x$  emissions to demonstrate compliance with the emission limit. The performance tests for  $NO_x$  shall be conducted in accordance with the test methods specified in 40 CFR Part 60, Appendix A. The permittee may submit to EPA a written request for approval of an alternate testing method, but shall only use that alternate test method after obtaining written approval from EPA.
- 2. The permittee shall measure  $NO_x$  emissions from engine FS02 quarterly to demonstrate compliance with the  $NO_x$  emission limit.
- 3. The permittee shall measure the quarterly  $NO_x$  emissions using a portable analyzer and a monitoring protocol approved by EPA. Monitoring for  $NO_x$  emissions from engine FS02 shall commence during the first complete calendar quarter following the permittee's submittal of the initial performance test results for  $NO_x$  to EPA. The annual performance test required in this section, shall meet the monitoring requirement for that quarter.

## V.F. Recordkeeping Requirements

The permittee shall comply with the following recordkeeping requirements:

- 1. Record shall be kept of the results of all NO<sub>x</sub> performance tests and monitoring required in this permit.
- 2. Records shall be kept of all temperature measurements requirements of this permit, as well as a description of any corrective actions taken pursuant to this section.
- 3. Records shall be kept of all pressure drop measurements required by this permit, as well as a description of any corrective actions taken.
- 4. Records shall be kept of vendor specifications to demonstrate that the accuracy of the temperature-sensing devices on the NSCR system is at least as accurate as that required in this permit.
- 5. Records shall be kept of vendor specifications to demonstrate that the accuracy of the pressure-sensing devices on the NSCR system is at least as accurate as that required in this permit.

## V.G. Reporting Requirements

- 1. The permittee shall submit to EPA a written report of the results of the  $NO_x$  performance tests and temperature and pressure drop measurements required in this permit. This report shall be submitted within 60 (sixty) calendar days of the date of testing completion.
- 2. The permittee shall submit to EPA, as part of the semi-annual monitoring reports, a report of any instances where the NSCR system inlet temperature deviates from the acceptable range

and where the pressure drop across the NSCR system deviates from the acceptable reading, as well as a description of any corrective actions. If no such instances have been detected, then a statement shall be provided to say so.

# VI. Facility-Wide Requirements

Conditions in this section of the permit apply to all emissions units located at the facility, including any units not specifically listed in this permit.

[40 CFR 71.6(a)(1)]

## VI.A. General Recordkeeping Requirements [40 CFR 71.6(a)(3)(ii)]

The permittee shall comply with the following generally applicable recordkeeping requirements:

1. If the permittee determines that his or her stationary source that emits (or has the potential to emit, without federally recognized controls) one or more hazardous air pollutants is not subject to a relevant standard or other requirement established under 40 CFR part 63, the permittee shall keep a record of the applicability determination at the Operations Center for a period of five (5) years after the determination, or until the source changes its operations to become an affected source, whichever comes first. The record of the applicability determination shall include an analysis (or other information) that demonstrates why the permittee believes the source is unaffected (e.g., because the source is an area source).

[40 CFR 63.10(b)(3)]

2. Records shall be kept, as required by the Off Permit Changes condition of this permit, for changes made in accordance with the approved Alternative Operating Scenarios.

## VI.B General Reporting Requirements [40 CFR 71.6(a)(3)(iii]

1. The permittee shall submit to EPA reports of any monitoring results and recordkeeping required under this permit semi-annually by April 1<sup>st</sup> and October 1<sup>st</sup> of each year. The report due on April 1<sup>st</sup> shall cover the six-month period from July 1<sup>st</sup> through the end of December of the prior year. The report due on October 1<sup>st</sup> shall cover the six-month period from January 1<sup>st</sup> through the end of June of the current year. All instances of deviations from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official consistent with the submission requirements of this permit.

[Explanatory note: To help part 71 permittees meet reporting responsibilities, EPA has developed a form "SIXMON" for six-month monitoring reports. The form may be found on the EPA website at: <u>http://www.epa.gov/air/oaqps/permits/p71forms.html</u>]

- 2. The permittee shall promptly report to the EPA Regional Office deviations from permit requirements, including those attributable to upset conditions as defined in this permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. "Prompt" is defined as follows:
  - (a) Any definition of "prompt" or a specific timeframe for reporting deviations provided in an underlying applicable requirement as identified in this permit;

- (b) Where the underlying applicable requirement fails to address the time frame for reporting deviations, reports of deviations will be submitted based on the following schedule:
  - (i) For emissions of a hazardous air pollutant or a toxic air pollutant (as identified in the applicable regulation) that continue for more than an hour in excess of permit requirements, the report must be made within 24 hours of the occurrence.
  - (ii) For emissions of any regulated air pollutant, excluding a hazardous air pollutant or a toxic air pollutant that continue for more than two hours in excess of permit requirements, the report must be made within 48 hours.
  - (iii) For all other deviations from permit requirements, the report shall be submitted with the semi-annual monitoring report required in VI.B.1.
- 3. If any of the conditions in 2(b)(i) (ii), above are met, the source must notify EPA by telephone (1-800-227-8917) or facsimile (303-312-6064) based on the timetables listed above. [Notification by telephone or fax must specify that this notification is a deviation report for a part 71 permit.] A written notice, certified consistent with the requirements of this permit must be submitted within ten (10) working days of the occurrence. All deviations reported under this section must also be identified in the 6-month report.

[Explanatory note: To help part 71 permittees meet reporting responsibilities, EPA has developed a form "PDR" for prompt deviation reporting. The form may be found on the EPA website at: <u>http://www.epa.gov/air/oaqps/permits/p71forms.html</u>]

- 4. "Deviation," means any situation in which an emissions unit fails to meet a permit term or condition. A deviation is not always a violation. A deviation can be determined by observation or through review of data obtained from any testing, monitoring, or recordkeeping established in accordance with §71.6(a)(3)(i) and (a)(3)(ii). For a situation lasting more than 24 hours which constitutes a deviation, each 24 hour period is considered a separate deviation. Included in the meaning of deviation are any of the following:
  - (a) A situation where emissions exceed an emission limitation or standard;
  - (b) A situation where process or emissions control device parameter values indicate that an emission limitation or standard has not been met;
  - (c) A situation in which observations or data collected demonstrates noncompliance with an emission limitation or standard or any work practice or operating condition required by the permit; or
  - (d) A situation in observation or data collected demonstrates noncompliance with an emission limitation or standard or any work practice or operating condition required by the permit.

## VI.C. Stratospheric Ozone and Climate Protection [40 CFR part 82]

The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR part 82, subpart F.

- 1. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.
- 2. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.
- 3. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.
- 4. Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with recordkeeping requirements pursuant to 40 CFR 82.166(i). ("MVAC-like appliance" as defined at 40 CFR 82.152)

## VI.D. Alternative Operating Scenarios - Turbine Replacement/Overhaul [40 CFR 71.6(a)(9)]

- 1. Replacement of a permitted turbine with a turbine of the same make, model, heat input capacity rating, and configured to operate in the same manner as the turbine being replaced, shall be an allowed alternative operating scenario provided the replacement activity satisfies all of the provisions for Off Permit Changes under this permit including the provisions specific to turbine replacement.
- 2. Any emission standards, requirements, or provisions in this permit that apply to the permitted turbines shall also apply to the replacement turbines, including the initial compliance test required by 40 CFR 60.8 and subject to all other requirements of 40 CFR part 60, subpart GG.
- 3. Replacement of a permitted turbine with a turbine subject to 40 CFR part 60, subpart KKKK is not allowed under this alternative operating scenario.
- 4. Replacement of a permitted turbine with a turbine subject to 40 CFR part 63, subpart YYYY is not allowed under this alternative operating scenario.

## VI.E. Alternative Operating Scenario – Engine Replacement/Overhaul [40 CFR 71.6(a)(9)]

- 1. Replacement of an existing permitted engine with an engine of the same make, model, horsepower rating, and configured to operate in the same manner as the engine being replaced, and which satisfies all the provisions for off permit changes under this permit, including the provisions specific to engine replacement, shall be considered an allowed alternative operating scenario under this permit.
- 2. Any emission limits, requirements, control technologies, testing or other provisions that apply to engines that are replaced under this Alternative Operating Scenarios section shall also apply to the replacement engines.

- 3. Replacement of an existing permitted engine that is not subject to 40 CFR part 60, subpart JJJJ with an engine that is subject to 40 CFR part 60, subpart JJJJ is not an allowed alternative operating scenario.
- 4. Replacement of an existing permitted engine that is not subject to 40 CFR part 63, subpart ZZZZ with an engine that is subject to 40 CFR part 63, subpart ZZZZ is not an allowed alternative operating scenario.

[Explanatory Note: This section was included to allow for off permit replacement of engines that may have existing federally enforceable limits. For replacement engines which trigger new applicable requirements (i.e., NSPS, NESHAP, etc.), the minor permit modification shall be utilized to maintain the permitted emission limits of the replaced engine and incorporate the new applicable requirements.]

## **VI.F. Permit Shield** [40 CFR 71.6(f)(3)]

Nothing in this permit shall alter or affect the following:

- 1. The liability of a permittee for any violation of applicable requirements prior to or at the time of permit issuance;
- 2. The ability of EPA to obtain information under Section 114 of the CAA; or
- 3. The provisions of Section 303 of the CAA (emergency orders), including the authority of Administrator under that section.

## VII. Part 71 Administrative Requirements

2.

### **VII.A. Annual Fee Payment** [40 CFR 71.6(a)(7) and 40 CFR 71.9]

1. The permittee shall pay an annual permit fee in accordance with the procedures outlined below.

The permittee shall pay the annual permit fee each year no later than April 1<sup>st</sup>. The fee shall cover the previous calendar year.

[40 CFR 71.9(h)]

[40 CFR 71.9(a)]

3. The fee payment shall be in United States currency and shall be paid by money order, bank draft, certified check, corporate check, or electronic funds transfer payable to the order of the U.S. Environmental Protection Agency.

[40 CFR 71.9(k)(1)]

4. The permittee shall send fee payment and a completed fee filing form to:

For regular U.S. Postal Service mail	For non-U.S. Postal Service Express mail (FedEx, Airborne, DHL, and UPS)
U.S. Environmental Protection Agency	U.S. Bank
FOIA and Miscellaneous Payments	Government Lockbox 979078
Cincinnati Finance Center	US EPA FOIA & Misc. Payments
P.O. Box 979078	1005 Convention Plaza
St. Louis, MO 63197-9000	SL-MO-C2-GL
	St. Louis, MO 63101
	[40 CFR 71.9(k)(2)]

5. The permittee shall send an updated fee calculation worksheet form and a photocopy of each fee payment check (or other confirmation of actual fee paid) submitted annually by the same deadline as required for fee payment to the address listed in this permit.

[40 CFR 71.9(h)(1)]

[Explanatory note: The fee filing form FF and the fee calculation worksheet form FEE may be found on EPA website at: http://www.epa.gov/air/oaqps/permits/p71forms.html]

- 6. Basis for calculating annual fee:
  - (a) The annual emissions fee shall be calculated by multiplying the total tons of actual emissions of all regulated pollutants (for fee calculation) emitted from the source by the presumptive emissions fee (in dollars/ton) in effect at the time of calculation.

[40 CFR 71.9(c)(1)]

 (i) "Actual emissions" means the actual rate of emissions in tpy of any regulated pollutant (for fee calculation) emitted from a part 71 source over the preceding calendar year. Actual emissions shall be calculated using each emissions unit's actual operating hours, production rates, in-place control equipment, and types of materials processed, stored, or combusted during the preceding calendar year.

[40 CFR 71.9(c)(6)]

(ii) Actual emissions shall be computed using methods required by the permit for determining compliance, such as monitoring or source testing data.

[40 CFR 71.9(h)(3)]

(iii) If actual emissions cannot be determined using the compliance methods in the permit, the permittee shall use other federally recognized procedures.

[40 CFR 71.9(e)(2)]

[Explanatory note: The presumptive fee amount is revised each calendar year to account for inflation, and it is available from EPA prior to the start of each calendar year.]

- (b) The permittee shall exclude the following emissions from the calculation of fees:
  - (i) The amount of actual emissions of each regulated pollutant (for fee calculation) that the source emits in excess of 4,000 tons per year;

[40 CFR 71.9(c)(5)(i)]

(ii) Actual emissions of any regulated pollutant (for fee calculation) already included in the fee calculation; and

[40 CFR 71.9(c)(5)(ii)]

(iii) The quantity of actual emissions (for fee calculation) of insignificant activities [defined in \$71.5(c)(11)(i)] or of insignificant emissions levels from emissions units identified in the permittee's application pursuant to \$71.5(c)(11)(i).

[40 CFR 71.9(c)(5)(iii)]

7. Fee calculation worksheets shall be certified as to truth, accuracy, and completeness by a responsible official.

[40 CFR 71.9(h)(2)]

[*Explanatory note: The fee calculation worksheet form already incorporates a section to help you meet this responsibility.*]

8. The permittee shall retain fee calculation worksheets and other emissions-related data used to determine fee payment for 5 years following submittal of fee payment. [Emission-related data include, for example, emissions-related forms provided by EPA and used by the

permittee for fee calculation purposes, emissions-related spreadsheets, and emissions-related data, such as records of emissions monitoring data and related support information required to be kept in accordance with \$71.6(a)(3)(ii).]

[40 CFR 71.9(i)]

9. Failure of the permittee to pay fees in a timely manner shall subject the permittee to assessment of penalties and interest in accordance with §71.9(1).

[40 CFR 71.9(l)]

10. When notified by EPA of underpayment of fees, the permittee shall remit full payment within 30 days of receipt of notification.

[40 CFR 71.9(j)(2)]

11. A permittee who thinks an EPA assessed fee is in error and who wishes to challenge such a fee, shall provide a written explanation of the alleged error to EPA along with full payment of the EPA assessed fee.

[40 CFR 71.9(j)(3)]

## VII.B. Annual Emissions Inventory [40 CFR 71.9(h)(1)and (2)]

The permittee shall submit an annual emissions report of its actual emissions for both criteria pollutants and regulated HAPS for this facility for the preceding calendar year for fee assessment purposes. The annual emissions report shall be certified by a responsible official and shall be submitted each year to EPA by April 1<sup>st</sup>.

The annual emissions report shall be submitted to EPA at the address listed in this permit.

[Explanatory note: An annual emissions report, required at the same time as the fee calculation worksheet by §71.9(h), has been incorporated into the fee calculation worksheet form as a convenience.]

**VII.C. Compliance Requirements** [40 CFR 71.6(a)(6)(i) and (ii), and Sections 113(a) and 113(e)(1) of the Act, and 40 CFR 51.212, 52.12, 52.33, 60.11(g), and 61.12]

- 1. Compliance with the Permit
  - (a) The permittee must comply with all conditions of this part 71 permit. Any permit noncompliance constitutes a violation of the Clean Air Act and is grounds for enforcement action; for permit termination, revocation and re-issuance, or modification; or for denial of a permit renewal application.

[40 CFR 71.6(a)(6)(i)]

(b) It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

[40 CFR 71.6(a)(6)(ii)]

(c) For the purpose of submitting compliance certifications in accordance with this permit, or establishing whether or not a person has violated or is in violation of any requirement of this permit, nothing shall preclude the use, including the exclusive

use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.

[Section 113(a) and 113(e)(1) of the Act, 40 CFR 51.212, 52.12, 52.33, 60.11(g), and 61.12]

- 2. Compliance Schedule
  - (a) For applicable requirements with which the source is in compliance, the source will continue to comply with such requirements.

[40 CFR 71.5(c)(8)(iii)(A)]

(b) For applicable requirements that will become effective during the permit term, the source shall meet such requirements on a timely basis.

[40 CFR 71.5(c)(8)(iii)(B)]

- 3. Compliance Certifications
  - (a) The permittee shall submit to EPA a certification of compliance with permit terms and conditions, including emission limitations, standards, or work practices annually by April 1<sup>st</sup>, and shall cover the preceding calendar year.

[Explanatory note: To help part 71 permittees meet reporting responsibilities, EPA has developed a reporting form for annual compliance certifications. The form may be found on EPA website at: <u>http://www.epa.gov/air/oaqps/permits/p71forms.html</u>]

(b) The compliance certification shall be certified as to truth, accuracy, and completeness by a responsible official consistent with §71.5(d).

[40 CFR 71.6(c)(5)]

- (c) The certification shall include the following:
  - (i) Identification of each permit term or condition that is the basis of the certification;
  - (ii) The identification of the method(s) or other means used for determining the compliance status of each term and condition during the certification period, and whether such methods or other means provide continuous or intermittent data. Such methods and other means shall include, at a minimum, the methods and means required in this permit. If necessary, the permittee also shall identify any other material information that must be included in the certification to comply with section 113(c)(2) of the Clean Air Act, which prohibits knowingly making a false certification or omitting material information;
  - (iii) The status of compliance with each term and condition of the permit for the period covered by the certification based on the method or means designated in the preceding paragraph of this permit. The certification shall identify each deviation and take it into account in the compliance certification;

- (iv) Such other facts as the EPA may require to determine the compliance status of the source; and
- (v) Whether compliance with each permit term was continuous or intermittent.

[40 CFR 71.6(c)(5)(iii)]

#### VII.D. Duty to Provide and Supplement Information

[40 CFR 71.6(a)(6)(v), 71.5(a)(3), and 71.5(b)]

1. The permittee shall furnish to EPA, within a reasonable time, any information that EPA may request in writing to determine whether cause exists for modifying, revoking, and reissuing, or terminating the permit, or to determine compliance with the permit. Upon request, the permittee shall also furnish to the EPA copies of records that are required to be kept pursuant to the terms of the permit, including information claimed to be confidential. Information claimed to be confidential must be accompanied by a claim of confidentiality according to the provisions of 40 CFR part 2, subpart B.

[40 CFR 71.6(a)(6)(v) and 40 CFR 71.5(a)(3)]

2. The permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information. In addition, a permittee shall provide additional information as necessary to address any requirements that become applicable after the date a complete application is filed, but prior to release of a draft permit.

[40 CFR 71.5(b)]

### VII.E. Submissions [40 CFR 71.5(d), 71.6(c)(1) and 71.9(h)(2)]

1. Any document (application form, report, compliance certification, etc.) required to be submitted under this permit shall be certified by a responsible official as to truth, accuracy, and completeness. Such certifications shall state that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

[Explanatory note: EPA has developed a reporting form CTAC for certifying truth, accuracy and completeness of part 71 submissions. The form may be found on EPA website at: <u>http://www.epa.gov/air/oaqps/permits/p71forms.html</u>]

2. Any documents required to be submitted under this permit, including reports, test data, monitoring data, notifications, compliance certifications, fee calculation worksheets, and applications for renewals and permit modifications shall be submitted to:

Part 71 Permit Contact Air Program, 8P-AR U.S. Environmental Protection Agency, 1595 Wynkoop Street Denver, Colorado 80202

## VII.F. Severability Clause [40 CFR 71.6(a)(5)]

The provisions of this permit are severable, and in the event of any challenge to any portion of this permit, or if any portion is held invalid, the remaining permit conditions shall remain valid and in force.

## VII.G. Permit Actions [40 CFR 71.6(a)(6)(iii)]

This permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

## VII.H. Administrative Permit Amendments [40 CFR 71.7(d)]

The permittee may request the use of administrative permit amendment procedures for a permit revision that:

- 1. Corrects typographical errors;
- 2. Identifies a change in the name, address, or phone number of any person identified in the permit, or provides a similar minor administrative change at the source;
- 3. Requires more frequent monitoring or reporting by the permittee;
- 4. Allows for a change in ownership or operational control of a source where the EPA determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittee has been submitted to the EPA;
- 5. Incorporates into the part 71 permit the requirements from preconstruction review permits authorized under an EPA-approved program, provided that such a program meets procedural requirements substantially equivalent to the requirements of §71.7 and §71.8 that would be applicable to the change if it were subject to review as a permit modification, and compliance requirements substantially equivalent to those contained in §71.6; or
- 6. Incorporates any other type of change which EPA has determined to be similar to those listed above in subparagraphs 1 through 5 above.

[Note to permittee: If subparagraphs 1 through 5 above do not apply, please contact EPA for a determination of similarity prior to submitting your request for an administrative permit amendment under this provision.]

### VII.I. Minor Permit Modifications [40 CFR 71.7(e)(1)]

- 1. The permittee may request the use of minor permit modification procedures only for those modifications that:
  - (a) Do not violate any applicable requirements;

- (b) Do not involve significant changes to existing monitoring, reporting, or recordkeeping requirements in the permit;
- (c) Do not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis;
- (d) Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include:
  - (i) A federally enforceable emissions cap assumed to avoid classification as a modification under any provision of title I; and
  - (ii) An alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Clean Air Act;
- (e) Are not modifications under any provision of title I of the Clean Air Act; and
- (f) Are not required to be processed as a significant modification.

[40 CFR 71.7(e)(1)(i)(A)]

2. Notwithstanding the list of changes ineligible for minor permit modification procedures, minor permit modification procedures may be used for permit modifications involving the use of economic incentives, marketable permits, emissions trading, and other similar approaches, to the extent that such minor permit modification procedures are explicitly provided for in an applicable implementation plan or in applicable requirements promulgated by EPA.

[40 CFR 71.7(e)(1)(i)(B)]

- 3. An application requesting the use of minor permit modification procedures shall meet the requirements of §71.5(c) and shall include the following:
  - (a) A description of the change, the emissions resulting from the change, and any new applicable requirements that will apply if the change occurs;
  - (b) The source's suggested draft permit;
  - (c) Certification by a responsible official, consistent with §71.5(d), that the proposed modification meets the criteria for use of minor permit modification procedures and a request that such procedures be used; and
  - (d) Completed forms for the permitting authority to use to notify affected States as required under §71.8.

[40 CFR 71.7(e)(1)(ii)]

4. The source may make the change proposed in its minor permit modification application immediately after it files such application. After the source makes the change allowed by the preceding sentence, and until the permitting authority takes any of the actions

authorized by §71.7(e)(1)(iv)(A) through (C), the source must comply with both the applicable requirements governing the change and the proposed permit terms and conditions. During this time period, the source need not comply with the existing permit terms and conditions it seeks to modify. However, if the source fails to comply with its proposed permit terms and conditions during this time period, the existing permit terms and conditions it seeks to modify the source fails to comply with its proposed permit terms and conditions during this time period, the existing permit terms and conditions it seeks to modify may be enforced against it.

[40 CFR 71.7(e)(1)(v)]

5. The permit shield under §71.6(f) may not extend to minor permit modifications.

[40 CFR 71.7(e)(1)(vi)]

### VII.J. Group Processing of Minor Permit Modifications [40 CFR 71.7(e)(2)]

- 1. Group processing of modifications by EPA may be used only for those permit modifications:
  - (a) That meet the criteria for minor permit modification procedures under the Minor Permit Modifications section of this permit; and
  - (b) That collectively are below the threshold level of 10 percent of the emissions allowed by the permit for the emissions unit for which the change is requested, 20 percent of the applicable definition of major source in §71.2, or 5 tons per year, whichever is least.

[40 CFR 71.7(e)(2)(i)]

- 2. An application requesting the use of group processing procedures shall be submitted to EPA, shall meet the requirements of §71.5(c), and shall include the following:
  - (a) A description of the change, the emissions resulting from the change, and any new applicable requirements that will apply if the change occurs;
  - (b) The source's suggested draft permit;
  - (c) Certification by a responsible official, consistent with §71.5(d), that the proposed modification meets the criteria for use of group processing procedures and a request that such procedures be used;
  - (d) A list of the source's other pending applications awaiting group processing, and a determination of whether the requested modification, aggregated with these other applications, equals or exceeds the threshold set under this section of this permit;
  - (e) Completed forms for the permitting authority to use to notify affected States as required under §71.8.

[40 CFR 71.7(e)(2)(ii)]

3. The source may make the change proposed in its minor permit modification application immediately after it files such application. After the source makes the change allowed by the preceding sentence, and until the permitting authority takes any of the actions authorized by \$71.7(e)(1)(iv)(A) through (C), the source must comply with both the

applicable requirements governing the change and the proposed permit terms and conditions. During this time period, the source need not comply with the existing permit terms and conditions it seeks to modify. However, if the source fails to comply with its proposed permit terms and conditions during this time period, the existing permit terms and conditions it seeks to modify may be enforced against it.

[40 CFR 71.7(e)(2)(v)]

4. The permit shield under §71.6(f) may not extend to group processing of minor permit modifications.

[40 CFR 71.7(e)(2)(vi)]

## VII.K. Significant Permit Modifications [40 CFR 71.7(e)(3)]

- 1. The permittee must request the use of significant permit modification procedures for those modifications that:
  - (a) Do not qualify as minor permit modifications or as administrative amendments;
  - (b) Are significant changes in existing monitoring permit terms or conditions; or
  - (c) Are relaxations of reporting or recordkeeping permit terms or conditions.

[40 CFR 71.7(e)(3)(i)]

2. Nothing herein shall be construed to preclude the permittee from making changes consistent with part 71 that would render existing permit compliance terms and conditions irrelevant.

[40 CFR 71.7(e)(3)(i)]

3. Permittees must meet all requirements of part 71 for applications, public participation, and review by affected states and tribes for significant permit modifications. For the application to be determined complete, the permittee must supply all information that is required by §71.5(c) for permit issuance and renewal, but only that information that is related to the proposed change.

[40 CFR 71.7(e)(3)(ii), 71.8(d), and 71.5(a)(2)]

## VII.L. Reopening for Cause [40 CFR 71.7(f)]

The permit may be reopened and revised prior to expiration under any of the following circumstances:

- 1. Additional applicable requirements under the Act become applicable to a major part 71 source with a remaining permit term of 3 or more years. Such a reopening shall be completed not later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions have been extended pursuant to §71.7 (c)(3);
- 2. Additional requirements (including excess emissions requirements) become applicable to an affected source under the acid rain program. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the permit;

- 3. EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit; or
- 4. EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

## VII.M. Property Rights [40 CFR 71.6(a)(6)(iv)]

This permit does not convey any property rights of any sort, or any exclusive privilege.

### VII.N. Inspection and Entry [40 CFR 71.6(c)(2)]

Upon presentation of credentials and other documents as may be required by law, the permittee shall allow EPA or an authorized representative to perform the following:

- 1. Enter upon the permittee's premises where a part 71 source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;
- 2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;
- 3. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
- 4. As authorized by the Clean Air Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.

### VII.O. Emergency Provisions [40 CFR 71.6(g)]

- 1. In addition to any emergency or upset provision contained in any applicable requirement, the permittee may seek to establish that noncompliance with a technology-based emission limitation under this permit was due to an emergency. To do so, the permittee shall demonstrate the affirmative defense of emergency through properly signed, contemporaneous operating logs, or other relevant evidence that:
  - (a) An emergency occurred and that the permittee can identify the cause(s) of the emergency;
  - (b) The permitted facility was at the time being properly operated;
  - (c) During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards, or other requirements in this permit; and
  - (d) The permittee submitted notice of the emergency to EPA within 2 working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate

emissions, and corrective actions taken. This notice fulfills the requirements for prompt notification of deviations.

- 2. In any enforcement preceding the permittee attempting to establish the occurrence of an emergency has the burden of proof.
- 3. An emergency means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error.

## **VII.P.** Transfer of Ownership or Operation [40 CFR 71.7(d)(1)(iv)]

A change in ownership or operational control of this facility may be treated as an administrative permit amendment if the EPA determines no other change in this permit is necessary and provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittee has been submitted to EPA.

## VII.Q. Off Permit Changes [40 CFR 71.6(a)(12) and 40 CFR 71.6(a)(3)(ii)]

The permittee is allowed to make certain changes without a permit revision, provided that the following requirements are met, and that all records required by this section are kept at the Operations Center for a period of five years:

- 1. Each change is not addressed or prohibited by this permit;
- 2. Each change shall meet all applicable requirements and shall not violate any existing permit term or condition;
- Changes under this provision may not include changes subject to any requirement of 40 CFR parts 72 through 78 or modifications under any provision of title I of the Clean Air Act;
- 4. The permittee must provide contemporaneous written notice to EPA of each change, except for changes that qualify as insignificant activities under §71.5(c)(11). The written notice must describe each change, the date of the change, any change in emissions, pollutants emitted, and any applicable requirements that would apply as a result of the change;
- 5. The permit shield does not apply to changes made under this provision;
- 6. The permittee must keep a record describing all changes that result in emissions of any regulated air pollutant subject to any applicable requirement not otherwise regulated under this permit, and the emissions resulting from those changes; and
- 7. Replacement of a permitted turbine with a turbine of the same make, model, MMBtu/hr, and configured to operate in the same manner as the turbine being replaced, in addition to satisfying all other provisions for Off Permit Changes, shall satisfy the following provisions:

- (a) The replacement turbine must employ air emissions control devices, monitoring, record keeping and reporting that are equivalent to those employed by the turbine being replaced;
- (b) The replacement of the existing turbine must not constitute a major modification or major new source as defined in Federal PSD regulations (40 CFR 52.21);
- (c) No new applicable requirements, as defined in 40 CFR 71.2, are triggered by the replacement; and
- (d) The following information must be provided in a written notice to EPA, prior to installation of the replacement turbine, in addition to the standard information listed above for contemporaneous written notices for off permit changes:
  - (i) Make, model number, serial number MMBtu/hr and configuration of the permitted turbine and the replacement turbine;
  - (ii) Manufacture date, commence construction date (per the definitions in 40 CFR 60.2, 60.4230(a), and 63.2), and installation date of the replacement turbine at the facility;
  - (iii) If applicable, documentation of the cost to rebuild a replacement turbine versus the cost to purchase a new turbine in order to support claims that a turbine is not "reconstructed," as defined in 40 CFR 60.15 and 63.2;
  - (iv) 40 CFR part 60, subpart KKKK (New Turbine NSPS) non-applicability documentation;
  - (v) 40 CFR part 63, subpart YYYY (Turbine MACT) non-applicability documentation; and
  - (vi) Documentation to demonstrate that the replacement does not constitute a major new source or major modification, as defined in Federal PSD rules (40 CFR 52.21), as follows:
    - (A) If the replacement will not constitute a "physical change or change in the method of operation" as described in §52.21(b)(2)(i), an explanation of how that conclusion was reached shall be provided.
    - (B) If the replacement will constitute a "physical change or change in the method of operation" as described §52.21(b)(2)(i), the following information shall be provided:
      - (1) If the existing source is a "major stationary source" as defined in §52.21(b)(1): For each "regulated NSR pollutant" as defined in §52.21(b)(50), a demonstration (including all calculations) that the replacement will not be a "major modification" as defined in §52.21(b)(2). A modification is major only if it causes a "significant emissions increase" as defined in §52.21(b)(40), and also causes a "significant net emissions increase" as defined in §§52.21(b)(3) and (b)(23).

The procedures of \$52.21(a)(2)(iv) shall be used to calculate whether or not there will be a significant emissions increase. If there will be a significant emissions increase, then

calculations shall be provided to demonstrate there will not be a significant <u>net</u> emissions increase. These latter calculations shall include all source-wide contemporaneous and creditable emission increases and decreases, as defined in \$52.21(b)(3), summed with the PTE of the replacement unit(s).

If netting is used to demonstrate that the replacement will not constitute a "major modification," verification shall be provided that the replacement engine(s) or turbine(s) employ emission controls at least equivalent in control effectiveness to those employed by the engine(s) or turbine(s) being replaced.

PTE of replacement unit(s) shall be determined based on the definition of PTE in §52.21(b)(4). For each "regulated NSR pollutant" for which the PTE is not "significant," calculations used to reach that conclusion shall be provided.

- (2) If the existing source is not a "major stationary source" as defined in §52.21(b)(1): For each "regulated NSR pollutant," a demonstration (including all calculations) that the replacement turbine(s), by itself, will not constitute a "major stationary source" as defined in §52.21(b)(1)(i).
- 8. For replacement of a permitted engine with an engine of the same make, model, horsepower rating, and configured to operate in the same manner as the engine being replaced, in addition to satisfying all other provisions for Off Permit Changes, the permittee satisfies the following provisions:
  - (a) The replacement engine employs air emissions control devices, monitoring, record keeping and reporting that are equivalent to those employed by the engine being replaced;
  - (b) The replacement of the permitted engine does not constitute a major modification or major new source as defined in Federal PSD regulations (40 CFR 52.21);
  - (c) No new applicable requirements, as defined in 40 CFR 71.2, are triggered by the replacement; and
  - (d) The following information is provided in a written notice to EPA, prior to installation of the replacement engine, in addition to the standard information listed above for contemporaneous written notices for off permit changes:
    - (i) Make, model number, serial number, horsepower rating and configuration of the permitted engine and the replacement engine;
    - (ii) Manufacture date, all rebuild dates, and installation date of the replacement engine;
    - (iii) If applicable, documentation of the cost to rebuild a replacement engine versus the cost to purchase a new engine in order to support claims that an engine is not "reconstructed," as defined in 40 CFR 60.15 and 63.2;

- (iv) 40 CFR part 60, subpart IIII (CI Engine NSPS) non-applicability documentation as, appropriate;
- (v) 40 CFR part 60, subpart JJJJ (SI Engine NSPS) non-applicability documentation, as appropriate;
- (vi) 40 CFR part 63, subpart ZZZZ (RICE MACT) non-applicability documentation for major HAP sources, as appropriate;
- (vii) 40 CFR part 63, subpart ZZZZ (RICE MACT) non-applicability documentation for <u>area</u> sources, as appropriate; and
- (viii) Documentation to demonstrate that the replacement does not constitute a major new source or major modification, as defined in Federal PSD rules (40 CFR 52.21), as follows:
  - (A) If the replacement will not constitute a "physical change or change in the method of operation" as described in §52.21(b)(2)(i), an explanation of how that conclusion was reached shall be provided.
  - (B) If the replacement will constitute a "physical change or change in the method of operation" as described §52.21(b)(2)(i), the following information shall be provided:
    - (1) If the existing source is a "major stationary source" as defined in §52.21(b)(1): For each "regulated NSR pollutant" as defined in §52.21(b)(50), a demonstration (including all calculations) that the replacement will not be a "major modification" as defined in §52.21(b)(2). A modification is major only if it causes a "significant emissions increase" as defined in §52.21(b)(40), and also causes a "significant net emissions increase" as defined in §§52.21(b)(3) and (b)(23).

The procedures of \$52.21(a)(2)(iv) shall be used to calculate whether or not there will be a significant emissions increase. If there will be a significant emissions increase, then calculations shall be provided to demonstrate there will not be a significant <u>net</u> emissions increase. These latter calculations shall include all source-wide contemporaneous and creditable emission increases and decreases, as defined in \$52.21(b)(3), summed with the PTE of the replacement unit(s).

If netting is used to demonstrate that the replacement will not constitute a "major modification," verification shall be provided that the replacement engine(s) or turbine(s) employ emission controls at least equivalent in control effectiveness to those employed by the engine(s) or turbine(s) being replaced.

PTE of replacement unit(s) shall be determined based on the definition of PTE in §52.21(b)(4). For each "regulated NSR pollutant" for which the PTE is not "significant," calculations used to reach that conclusion shall be provided.

- (2) If the existing source is not a "major stationary source" as defined in §52.21(b)(1): For each "regulated NSR pollutant," a demonstration (including all calculations) that the replacement engine(s) or turbine(s), by itself, will not constitute a "major stationary source" as defined in §52.21(b)(1)(i).
- 9. The notice shall be kept at the Operations Center and made available to EPA on request, in accordance with the general recordkeeping provision of this permit.
- 10. Submittal of the written notice required above shall not constitute a waiver, exemption, or shield from applicability of any applicable standard or PSD permitting requirements under 40 CFR 52.21 that would be triggered by the replacement of any one turbine, by replacement of multiple turbines, by the replacement of any one engine, or by the replacement of multiple engines.

**VII.R. Permit Expiration and Renewal** [40 CFR 71.5(a)(1)(iii), 71.5(a)(2), 71.5(c)(5), 71.6(a)(11), 71.7(b), 71.7(c)(1), and 71.7(c)(3)]

- 1. This permit shall expire upon the earlier occurrence of the following events:
  - (a) Five (5) years elapses from the date of issuance; or
  - (b) The source is issued a part 70 or part 71 permit under an EPA approved or delegated permit program.

[40 CFR 71.6(a)(11)]

2. Expiration of this permit terminates the permittee's right to operate unless a timely and complete permit renewal application has been submitted at least 6 months but not more than 18 months prior to the date of expiration of this permit.

[40 CFR 71.5(a)(1)(iii)]

3. If the permittee submits a timely and complete permit application for renewal, consistent with §71.5(a)(2), but EPA has failed to issue or deny the renewal permit, then all the terms and conditions of the permit, including any permit shield granted pursuant to §71.6(f) shall remain in effect until the renewal permit has been issued or denied.

[40 CFR 71.7(c)(3)]

4. The permittee's failure to have a part 71 permit is not a violation of this part until EPA takes final action on the permit renewal application. This protection shall cease to apply if, subsequent to the completeness determination, the permittee fails to submit any additional information identified as being needed to process the application by the deadline specified in writing by EPA.

[40 CFR 71.7(b)]

5. Renewal of this permit is subject to the same procedural requirements that apply to initial permit issuance, including those for public participation, affected State, and tribal review.

[40 CFR 71.7(c)(1)]

6. The application for renewal shall include the current permit number, description of permit revisions and off permit changes that occurred during the permit term, any applicable requirements that were promulgated and not incorporated into the permit during the permit term, and other information required by the application form.

[40 CFR 71.5(a)(2) and 71.5(c)(5)]

# VIII. Appendix

#### **VIII.A. Inspection Information**

1. Directions to Plant:

Beginning at Vernal, Utah, drive east on US 40 through Naples to mile marker 40, turn right on 1500 East toward Bonanza. Travel south on said road for approximately 20.4 miles (mile marker 20). Turn right on paved road and travel approximately 0.3 mile to "Y" in road. Take left branch and proceed southwest for a distance of 14.4 miles where road "Y"s again prior to the Mountain Fuel White River Bridge pipeline crossing. Again take left branch and travel 1/4 mile to the Fidlar Compressor Station.

2. Global Positioning System

Latitude 40° 02' 23" N Longitude 109° 27' 25" W

3. Safety Considerations

All visitors to the Questar Pipeline Company's Fidlar Compressor Station are required to wear a hard hat, safety glasses, safety shoes, hearing protection and fire retardant clothing.

#### VIII. B. Testing Requirements for Owners and Operators

Sec. 60.4244 What test methods and other procedures must I use if I am an owner or operator of a stationary SI internal combustion engine?

Owners and operators of stationary SI ICE who conduct performance tests must follow the procedures in paragraphs (a) through (f) of this section.

(a) Each performance test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and according to the requirements in Sec. 60.8 and under the specific conditions that are specified by Table 2 to this subpart.

(b) You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in Sec. 60.8(c). If your stationary SI internal combustion engine is non-operational, you do not need to startup the engine solely to conduct a performance test; however, you must conduct the performance test immediately upon startup of the engine.

(c) You must conduct three separate test runs for each performance test required in this section, as specified in Sec. 60.8(f). Each test run must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and last at least 1 hour.

(d) To determine compliance with the  $NO_X$  mass per unit output emission limitation, convert the concentration of  $NO_X$  in the engine exhaust using Equation 1 of this section:

$$ER = \frac{C_d \times 1.912 \times 10^{-3} \times Q \times T}{HP - hr}$$
(Eq. 1)

Where:

 $ER = Emission rate of NO_X in g/HP-hr.$ 

 $C_d$  = Measured NO<sub>X</sub> concentration in parts per million by volume (ppmv). 1.912x10-\3\ = Conversion constant for ppm NO<sub>X</sub> to grams per standard cubic meter at 20 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meter per hour, dry basis.

T = Time of test run, in hours.

HP-hr = Brake work of the engine, horsepower-hour (HP-hr).

(e) To determine compliance with the CO mass per unit output emission limitation, convert the concentration of CO in the engine exhaust using Equation 2 of this section:

$$ER = \frac{C_d \times 1.164 \times 10^{-3} \times Q \times T}{HP - hr}$$
(Eq. 2)

Where:

ER = Emission rate of CO in g/HP-hr.

 $C_d$  = Measured CO concentration in ppmv. 1.164x10-\3\ = Conversion constant for ppm CO to grams per standard cubic meter at 20 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meters per hour, dry basis.

T = Time of test run, in hours.

HP-hr = Brake work of the engine, in HP-hr.

(f) For purposes of this subpart, when calculating emissions of VOC, emissions of formaldehyde should not be included. To determine compliance with the VOC mass per unit output emission limitation, convert the concentration of VOC in the engine exhaust using Equation 3 of this section:

$$ER = \frac{C_d \times 1.833 \times 10^{-3} \times Q \times T}{HP - hr}$$
(Eq. 3)

Where:

ER = Emission rate of VOC in g/HP-hr.

 $C_d$  = VOC concentration measured as propane in ppmv. 1.833x10-\3\ = Conversion constant for ppm VOC measured

as propane, to grams per standard cubic meter at 20 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meters per hour, dry basis.

T = Time of test run, in hours.

HP-hr = Brake work of the engine, in HP-hr.

(g) If the owner/operator chooses to measure VOC emissions using either Method 18 of 40 CFR part 60, appendix A, or Method 320 of 40 CFR part 63, appendix A, then it has the option of correcting the measured VOC emissions to account for the potential differences in measured values between these methods and Method 25A. The results from Method 18 and Method 320 can be corrected for response factor differences using Equations 4 and 5 of this section. The corrected VOC concentration can then be placed on a propane basis using Equation 6 of this section.

$$RF_i = \frac{C_{Mi}}{C_{Ai}} \qquad (\text{Eq. 4})$$

Where:

 $RF_i$  = Response factor of compound i when measured with EPA Method 25A.  $C_{Mi}$  = Measured concentration of compound i in ppmv as carbon.  $C_{Ai}$  = True concentration of compound i in ppmv as carbon.

$$C_{icorr} = RF_i x C_{imeas}$$
 (Eq. 5)

Where:

 $C_{i \text{ corr}}$  = Concentration of compound i corrected to the value that would have been measured by EPA Method 25A, ppmv as carbon.

 $C_{i meas}$  = Concentration of compound i measured by EPA Method 320, ppmv as carbon.

$$C_{Peq} = 0.6098 x C_{icorr}$$
 (Eq. 6)

Where:

 $C_{Peq}$  = Concentration of compound i in mg of propane equivalent per DSCM.