

**Statement of Basis - Narrative**  
**NSR SSM Permit**

**Company:** Williams Four Corners LLC  
**Facility:** Chaco Compressor Station  
**Permit No(s):** 0759M4 and P236R1  
**Tempo/IDEA ID No.:** 1189 - PRN20110001  
**Permit Writer:** Joseph Kimbrell

**Fee Tracking (not required for Title V)**

|                 |  |
|-----------------|--|
| <b>Tracking</b> | <b>NSR tracking entries completed:</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No                             |
|                 | <b>NSR tracking page attached to front cover of permit folder:</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
|                 | <b>Paid Invoice Attached:</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No                                      |
|                 | <b>Balance Due Invoice Attached:</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                               |
|                 | <b>Invoice Comments:</b> Sent 8/12/11, Paid in full on 8/25/2011.  |

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|----------------------|--|--|
| <b>Permit Review</b> | <b>Date to Enforcement:</b> NA, conditions previously reviewed | <b>Inspector Reviewing:</b> Robert Samaniego |
|                      | <b>Date Enf. Review Completed:</b>                             | <b>Date of Reply:</b> (if necessary)         |
|                      | <b>Date to Applicant:</b> 8/12/11                              | <b>Date of Reply:</b>                        |
|                      | <b>Date of Comments from EPA:</b> NR                           | <b>Date to EPA:</b> NR                       |
|                      | <b>Date to Supervisor:</b> 9/16/2011                           |  |

**1.0 Plant Process Description:**

The Chaco Compressor Station compresses pipeline quality natural gas for pipeline transmission using compressors driven by natural gas-fired turbines.

Natural gas is received from independent producers and is metered as it enters the facility. The natural gas stream typically contains condensate and/or produced water, which is separated from the gas stream via an inlet separator. The resulting condensate and/or produced water is stored in above ground storage tanks. The natural gas is then compressed for pipeline transmission using compressors driven by natural gas-fired turbines.

Condensate separated from the field gas is intermittently received at Chaco during pigging operations and stored in Tanks T-4 and T-5, releasing flash emissions. The tanks are unloaded by truck as necessary.

The facility is permitted for operation of four natural gas-fired turbines and one diesel generator, and two condensate storage tanks. Other insignificant emission sources at the facility include fugitive emissions from process piping (valves, flanges, seals, etc.), condensate truck loading, and storage tanks. Storage tanks are primarily used to store lubrication oil, methanol and produced/waste water. Waste products are hauled off-site as required.

The facility will operate up to 24 hours per day, seven days per week, 52 weeks per year, 8,760 hours per year.

## 2.0 **Description of this Modification:**

NSR 0759M4: This application is being submitted to add both SSM and malfunction emissions to the construction permit. See complete discussion in last section of this document.

**SSM:** In accordance with 20.2.7.15 NMAC, applying to permit emissions exceeding an emission limitation due to routine and predictable startup, shutdown, and maintenance (SSM). For this facility SSM emissions include venting natural gas from compressors (units 1a through 4a) and associated piping resulting in emissions of 368.0 pph and 19.3 tons per year of VOCs and small quantities of HAPs.

**Malfunction:** Applying for a maximum of 10 tpy of VOC emissions from venting caused by malfunctions as defined in 20.2.7.7.E NMAC. This request is in accordance with AQB's guidance Implementation Guidance for Permitting SSM Emissions and Excess Emissions dated January 1, 2011.

## 3.0 **Source Determination:**

1. The emission sources evaluated include Chaco Compressor Station, a natural gas compressor station.

2. Single Source Analysis:

A. SIC Code: Do the facilities belong to the same industrial grouping (i.e., same two-digit SIC code grouping, or support activity)? Yes, sic 1389

B. Common Ownership or Control: Are the facilities under common ownership or control? Yes

C. Contiguous or Adjacent: Are the facilities located on one or more contiguous or adjacent properties? Yes

3. Is the source, as described in the application, the entire source for 20.2.70, 20.2.72, or 20.2.74 NMAC applicability purposes? Yes

## 4.0 **PSD Applicability:**

Once a source is PSD major for any single pollutant, all other pollutants, other than non-attainment pollutants, must be evaluated against Table 20.2.74.502 Significant Emission Rate for applicability regardless if that pollutant is over the 100/250 tpy threshold. See Section A, PSD Applicability, of the 1990 Workshop Manual for details, but keep in mind that the regulation has changed since the guidance was published.]

### **[For the PSD Major Sources:]**

A. The source, as determined in the Source Determination above, is an existing major PSD source.

Except for the 1.7% safety factor, SSM emissions are existing and none are due to a modification. A portion or all of the 10 tpy malfunction emissions may be in addition to existing malfunction emissions but none are due to a modification. Regardless, the

combined emission rates from SSM and Malfunction are less than 40 tpy VOC, which is less than the significant emission rate in Table 2, 20.2.74.502 NMAC.

B. Netting is not required, emissions are not significant.

**[For PSDs with no existing BACT]**

C. BACT is not required for this permit revision since this is not a PSD major modification.

5.0 **History (In descending chronological order, showing NSR and TV):** \*The asterisk denotes the current active NSR and Title V permits that have not been superseded.

| Permit Number      | Issue Date             | Action Type              | Description of Action (Changes)  |
|--------------------|------------------------|--------------------------|--|
| *P236R1            | TBD                    | Title V renewal          | There are no significant changes from the current operating permit and the following are incorporated into this permit: Routine Startup, Shutdown and Maintenance blow down emissions of volatile organic compounds (VOC) from the compressors and associated piping (Units 1a-4a); emissions of sulfur dioxide (SO <sub>2</sub> ) and particulate matter for permitted combustion equipment (Units 1-4); existing emissions from condensate truck loading; change the capacity of Used Oil Storage Tank (T-2) from 1000 gal to 840 gal; and remove Methanol Storage Tank (T-9).   |
| 0759M4             | TBD                    | Significant Revision     | SSM: In accordance with 20.2.7.15 NMAC, applying to permit emissions exceeding an emission limitation due to routine and predictable startup, shutdown, and maintenance (SSM). For this facility SSM emissions include venting natural gas from compressors (units 1a through 4a) and associated piping resulting in emissions of 368 pph and 19.3 tons per year of VOCs and small quantities of HAPs.<br><br>Malfunction: Applying for a maximum of 10 tpy of VOC emissions from venting caused by malfunctions as defined in 20.2.7.7.E NMAC. This request is in accordance with AQB's guidance Implementation Guidance for Permitting SSM Emissions and Excess Emissions dated January 1, 2011. |
|                    | 3/1/2010               | RO Change                | Allen Johnson new RO, Don Wicburg, FCA Area General Manager, is new Alternate RO. Don's title changed also.  |
| 0759M3R2<br>P236M2 | 8/22/2006<br>9/20/2006 | Administrative Amendment | Owner Name Change from Williams Fields Services Company to Williams Four Corners, LLC.   |
| P236M1             | 6/26/2006              | Administrative Amendment | Don Wicburg, Director, Four Corners Area assigned as RO.   |
| *P236              | 4/27//2006             | Title V new              | Includes all NSR actions resulting from modifications.   |
| 0759M3R1           | 11/16/2004             | Administrative Amendment | Part of a permitting action to update the serial numbers of Williams Equipment in all facilities.  |
| 0759M3             | 8/31/2004              | Significant Revision     | Set limits on condensate tanks and increased emission on the engines, giving the facility major status. Title V application received 10/20/05.   |

| Permit Number | Issue Date | Action Type          | Description of Action (Changes)                |
|---------------|------------|----------------------|--|
| 0759M2        | 4/22/1994  | Significant Revision | Added an emergency standby generator           |
| 0759M1        | 10/13/1992 | Significant Revision | Added two more engines, Units 003 and 004      |
| 0759          | 4/9/1990   | NSR                  | Permitted two Solar Engines, Units 001 and 002 |

#### 6.0 **Public Response/Concerns:**

To date, this permit writer is not aware of any other public comments or concerns with this permit application.

#### **[For NSR permit 0759M4]**

On August 22, 2011, WildEarth Guardians (WEG) and San Juan Citizens Alliance (SJCA) submitted written comments specifically regarding the application to permit startup, shutdown, maintenance, and malfunction emissions. Submittal of written comments was before the end of the 30-day comment period. They have also requested to review the draft permits before issuance.

The Department's analysis was made available on: September 16, 2011

WEG & SJCA were provided a copy of the analysis on: September 16, 2011. Thirty days will be provided for review in accordance with 20.2.72.206.A(3) NMAC.

WEG & SJCA were provided a copy of the draft permit on: September 16, 2011

The applicant has met the public notice requirements in 20.2.72.203.B, C, and D NMAC.

[For TV permit P236R1]

The Department's public notice was posted on 7-25-10.

As requested, draft permit and supporting documents were provided to WEG on 7-01-10 with notification that draft permit changes were not yet finalized. The revised draft permits were provided again on TBD-11

#### 7.0 **Compliance Testing:**

| Unit No.   | Compliance Test   | Test Dates              |
|------------|---|-------------------------|
|            | Not applicable to this permitting action, 759M4   |                         |
| 1, 2, 3, 4 | Annually tested in accordance with EPA test methods for NOx and CO as required by Title V permit P236 | 7/21-22/2009            |
| 5          | 40CFR62.6620, Subpart ZZZZ, and Table 4   | Not later than 5/3/2013 |

#### 8.0 **Startup and Shutdown:**

A. If applicable, did the applicant indicate that a startup, shutdown, and emergency operational plan was developed in accordance with 20.2.70.300.D(5)(g) NMAC? **YES, for TV and not applicable for NSR.**

- B. If applicable, did the applicant indicate that a malfunction, startup, or shutdown operational plan was developed in accordance with 20.2.72.203.A.5 NMAC? **YES**
- C. Did the applicant indicate that a startup, shutdown, and scheduled maintenance plan was developed and implemented in accordance with 20.2.7.14.A and B NMAC? **YES**
- D. Were emissions from startup, shutdown, and scheduled maintenance operations calculated and included in the emission tables? **YES, they were calculated and were greater than 1 tpy and therefore emission limits were established. Yes, in accordance with 20.2.7.15 NMAC, the applicant has submitted an application to permit emissions from routine and predictable startup, shutdown, and maintenance.**

For the turbines, generator, truck loading, fugitives (valves, connectors, seals, etc.), and storage tanks, it is concluded that either there are no SSM emissions in excess of those identified for steady-state operation as seen in Section 2 of Table 2-E or the SSM emissions are not quantifiable. Discussions justifying this conclusion are provided in Section 6.

SSM emissions from the blowdown of the compressors and associated piping at the station are calculated from the quantity of gas vented during each event, the composition of the gas in the compressors, and the number of events. The number of blowdown events is estimated based on operations during 2006 through 2008. A safety factor is included. See complete discussion in last section of this document.

“Regardless of the permitted SSM and malfunction emissions, the permittee is still required to minimize and/or mitigate emissions during SSM and malfunction events regardless if the resulting emissions would be below the permitted limits (20.2.7.14.A, 20.2.7.109, 20.2.72.203.A(5), and 20.2.70.300.D(5)(g) NMAC). The SSM and malfunction emission limits do not supersede these requirements.”

9.0 **Compliance and Enforcement Status [Title V only]: Not required for this action.**

10.0 **Modeling:**

The emissions subject to this permit revision are VOCs and HAPS which are not subject to air dispersion modeling. This is not a PSD major modification.

VOC is a precursor to the criteria pollutant, ozone. The AQB tracks compliance with the ozone National Ambient Air Quality Standards through monitoring and does not require pre-construction single source ozone modeling. Ozone modeling is too cost prohibitive to attach to a typical permit application. However, applications for PSD major new or modifications may require ozone modeling if the facility-wide VOC emissions are 100 tpy or more. These applicants are required to contact AQB and EPA to determine if ozone modeling is required.

Regional ozone modeling for the Four Corners area was done in 2009 (see <http://www.nmenv.state.nm.us/aqb/4C/Modeling.html>) and the Air Quality Bureau is continuing to analyze ozone in the region.

Last modeling accomplished for NSR Permit 0759M3: “Facility was modeled for CO and NOx 8/30/04. The facility met all NAAQS standards and all significance levels. Compliance with the annual NO<sub>2</sub> PSD Class II increment has been demonstrated. There is no significant impact on a Class 1 area.”

11.0 **State Regulatory Analysis(NMAC/AQCR):**

The permit writer verified the state and federal regulatory applicability determinations that applied to the units and the activity of venting from SSM and Malfunction emissions in permit application number 0759M5. Some determinations are taken from the Title V Permit P236R1 statement of basis.

According to the applicant's applicability determination and verification by the department, the venting of natural gas due to SSM or malfunction and any units from which this venting would occur are not currently subject to any NSPS or NESHAP. Regardless, the permitting of SSM and or malfunction emissions do not supersede any other federal or state regulation. The most stringent requirement applies.

| <b>STATE REGULATIONS CITATION</b> | <b>Title</b>                             | <b>Applies to Entire Facility</b> | <b>Applies to Unit No(s).</b> | <b>Federally Enforceable</b> | <b>Does Not Apply</b> | <b>JUSTIFICATION:</b>   |
|-----------------------------------|--|-----------------------------------|-------------------------------|------------------------------|-----------------------|---|
| 20.2.1 NMAC                       | General Provisions                       | ✓                                 |                               |                              |                       | The facility is subject to Title 20 Environmental Protection Chapter 2 Air Quality of the New Mexico Administrative Code so is subject to Part 1 General Provisions, Update to Section 116 of regulation for Significant figures & rounding. Applicable with no permitting requirements.  |
| 20.2.3 NMAC                       | Ambient Air Quality Standards NMAAQs     |                                   |                               |                              | ✓                     | This regulation is <u>applicable</u> because it establishes the ambient air quality standards for all sources in New Mexico.  |
| 20.2.7 NMAC                       | Excess Emissions                         | ✓                                 |                               | ✓                            |                       | All Title V major sources are <u>subject to Air Quality Control Regulations</u> , as defined in 20.2.7 NMAC, and are thus subject to the requirements of this regulation. Also listed as applicable in NSR Permit <b>759-M3</b> .   |
| 20.2.33 NMAC                      | Gas Burning Equipment - Nitrogen Dioxide |                                   |                               |                              | ✓                     | This regulation is <u>not applicable</u> because the facility does not include new or existing gas burning equipment (external combustion emission sources, such as gas fired boilers and heaters) having a heat input of greater than 1,000,000 million British Thermal Units per year per unit  |
| 20.2.34 NMAC                      | Oil Burning Equipment: NO <sub>2</sub>   |                                   |                               |                              | ✓                     | This regulation is <u>not applicable</u> because the station does not have oil burning equipment.   |
| 20.2.35 NMAC                      | Natural Gas Processing Plant – Sulfur    |                                   |                               |                              | ✓                     | The regulation is <u>not applicable</u> to the station because the facility is not a natural gas processing plant   |
| 20.2.37 NMAC                      | Petroleum Processing Facilities          |                                   |                               |                              | ✓                     | This regulation is <u>not applicable</u> because the facility is not a petroleum processing facility.   |
| <u>20.2.38</u> NMAC               | Hydrocarbon Storage                      |                                   |                               |                              | ✓                     | This regulation is <u>not applicable</u> because the facility does not store hydrocarbons containing hydrogen sulfide, nor is there a tank battery with a storage capacity of 65,000 gallons or greater of hydrocarbon liquids.   |
| 20.2.61.10 9 NMAC                 | Smoke & Visible Emissions                |                                   | 1-4                           | ✓                            |                       | 20.2.61 NMAC, <i>Smoke and Visible Emissions</i> , is <u>applicable</u> to stationary combustion equipment at the facility including: turbines (Units 1-4) and a standby generator (Unit 5). The regulation limits visible emissions from the equipment to less than 20 percent opacity.<br><br>Unit 5 is an Insignificant Activity and not regulated in this permit. |

| <b>STATE<br/>REGU-<br/>LATIONS<br/>CITATION</b> | <b>Title</b>  | <b>Applies<br/>to<br/>Entire<br/>Facility</b> | <b>Applies<br/>to Unit<br/>No(s).</b> | <b>Federally<br/>Enforce-<br/>able</b> | <b>Does<br/>Not<br/>Apply</b> | <b>JUSTIFICATION:</b>   |
|---|---|---|---------------------------------------|--|-------------------------------|---|
| 20.2.70<br>NMAC                                 | Operating<br>Permits  | ✓   |                                       | ✓                                      |                               | This regulation <u>is applicable</u> because the facility is major for NOx,, VOCs, and HAPs (n-Hexane).   |
| 20.2.71<br>NMAC                                 | Operating<br>Permit Fees  | ✓   |                                       | ✓                                      |                               | This regulation <u>is applicable</u> because the facility is subject to 20.2.70 NMAC and is in turn subject to 20.2.71 NMAC.  |
| 20.2.72<br>NMAC                                 | Construction<br>Permits   | ✓   |                                       | ✓                                      |                               | This facility <u>is subject</u> to 20.2.72 NMAC and NSR Permit number: <b>759-M4</b>  |
| 20.2.73<br>NMAC                                 | NOI &<br>Emissions<br>Inventory<br>Requirements                                 | ✓   |                                       | ✓                                      |                               | This regulation <u>is applicable</u> because it requires the operators of Title V major sources to prepare annual emissions inventories.  |
| 20.2.74<br>NMAC                                 | Permits – PSD   | ✓   |                                       | ✓                                      |                               | This facility is a PSD major source subject to PSD applicability determination in 20.2.74.200 NMAC. According to the applicant and department review, this permitting action is not a PSD major modification nor does it affect existing sources with BACT.   |
| 20.2.75<br>NMAC                                 | Construction<br>Permit Fees   | ✓   |                                       | ✓                                      |                               | This regulation <u>is applicable</u> because the facility is subject to 20.2.72 NMAC and it establishes the fee schedule associated with the filing of construction permits.  |
| 20.2.77<br>NMAC                                 | New Source<br>Performance   |   | 4                                     | ✓                                      |                               | This regulation <u>is applicable</u> because the state regulation adopts by reference the federal NSPS codified in 40 CFR 60. Unit 4 is subject to 40 CFR 60, Subpart GG.   |
| 20.2.78<br>NMAC                                 | Emission<br>Standards for<br>HAPS   |   |                                       |  | ✓                             | The regulation is <u>not applicable</u> because the facility does not emit hazardous air pollutants which are subject to the requirements of 40 CFR Part 61, as amended through November 30, 2006.  |
| 20.2.79<br>NMAC                                 | Permits –<br>Nonattainment<br>Areas   |   |                                       |  | ✓                             | This facility is not located in, nor does it affect an adjacent nonattainment area.   |
| 20.2.80<br>NMAC                                 | Stack Heights   |   | 1-5                                   | ✓                                      |                               | This regulation <u>is applicable</u> because it establishes guidelines for the selection of an appropriate stack height for the purposes of atmospheric dispersion modeling.<br>Equipment is installed, therefore no current requirements.<br>Unit 5 is an Insignificant Activity and not regulated in this permit. |
| 20.2.82<br>NMAC                                 | MACT<br>Standards for<br>source<br>categories of<br>HAPS                        |   | 1-5                                   | ✓                                      |                               | This regulation <u>is applicable</u> because it adopts by reference the federal MACT Standards for source categories codified in 40 CFR 63. The facility is subject to 40 CFR 63, Subparts A & ZZZZ.<br>Unit 5 is an Insignificant Activity and not regulated in this permit.                                       |
| <b>2.300</b>                                    | Reporting<br>of<br>Greenhouse<br>Gas<br>Emissions –<br>Effective<br>Jan 1, 2011 |   |                                       | <b>Y</b>                               |                               | <b>Units are subject</b> as electricity generation sources as defined by incorporated reference at 40 CFR 98.2(a)(1), Table A-3 and 98.40(a).   |

| <u>STATE REGULATIONS CITATION</u> | Title                                 | Applies to Entire Facility | Applies to Unit No(s). | Federally Enforceable | Does Not Apply | JUSTIFICATION:  |
|-----------------------------------|---------------------------------------|----------------------------|------------------------|-----------------------|----------------|---|
|                                   |                                       |                            |                        |                       |                | <p>First reporting will be for 2011 emissions: reports due by April 1 2012. 10,000 metric tons CO2e or more in combined emissions from all applicable source categories. (20.2.300.101.A &amp; B)</p> <p><b>“20.2.300.100 ADOPTION OF 40 CFR PART 98:</b> Except as otherwise provided, the following subparts of 40 CFR Part 98, as amended in the federal register through October 28, 2010 (75 FR 66434), are hereby incorporated by reference.</p> <p>A. 40 CFR Part 98 Subpart A - General Provisions, which includes Sections 98.1 through 98.8 and Tables A-1 through A-5 of Subpart A.</p> <p>C. 40 CFR Part 98 Subpart D - Electricity Generation, which includes Sections 98.40 through 98.48.”</p> <p>20.2.300 <u>does not</u> incorporate 40 CFR 98 Mandatory Greenhouse Gas Reporting rule into the NM State SIP, but references citations from 40 CFR 98 with revisions to create AQB’s greenhouse gas reporting rule 20.2.300 NMAC. 40 CFR 98 is a stand alone rule, therefore facilities may be subject to both 20.2.300 and 40 CFR 98.</p> |
| <b>2.300</b>                      | Reporting of Greenhouse Gas Emissions |                            |                        |                       |                |   |

## 12.0 Federal Regulatory Analysis:

| <u>FEDERAL REGULATIONS CITATION</u> | Title   | Applies to Entire Facility | Applies to Unit No(s). | Federally Enforceable | Does Not Apply | JUSTIFICATION:   |
|-------------------------------------|---|----------------------------|------------------------|-----------------------|----------------|--|
| 40 CFR 50                           | NAAQS   | ✓                          |                        | ✓                     |                | Defined as <u>applicable</u> at 20.2.70.7.E.11, the requirement to comply with the National Ambient Air Quality Standards applies to all sources operating within the State of New Mexico, including the station.  |
| 40 CFR 52                           | Approval and Promulgation of Implementation Plans   | ✓                          |                        | ✓                     |                | 40 CFR 52.21 <i>Prevention of Significant Deterioration of Air Quality</i> is <u>applicable</u> because the facility is a major Prevention of Significant Deterioration source. The remainder of 40 CFR 52 is not applicable because it addresses approval and promulgation of implementation plans. |
| NSPS 40 CFR 60, Subpart A           | General Provisions  |                            | 4                      | ✓                     |                | This regulation is <u>applicable</u> since NSPS Subpart GG applies.  |
| NSPS 40 CFR60, Subpart D            | Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971 |                            |                        |                       | ✓              | This regulation is <u>not applicable</u> because the facility is not equipped with fossil-fuel-fired steam generating units with heat input rates greater than the threshold capacity of 250 MMBtu/hr (40 CFR 60.40(a)).   |
| NSPS 40 CFR60.40a, Subpart Da       | Subpart Da, Performance Standards for   |                            |                        |                       | ✓              | The regulation is not applicable because the station is not equipped with electric utility fired steam generating units with heat input rates greater than the threshold capacity of 250 MMBtu/hr (40 CFR 60.40Da(a)).   |

| <b>FEDERAL REGULATIONS CITATION</b> | <b>Title</b>  | <b>Applies to Entire Facility</b> | <b>Applies to Unit No(s).</b> | <b>Federally Enforceable</b> | <b>Does Not Apply</b> | <b>JUSTIFICATION:</b>  |
|-------------------------------------|---|-----------------------------------|-------------------------------|------------------------------|-----------------------|--|
|                                     | Electric Utility Steam Generating Units   |                                   |                               |                              |                       |  |
| NSPS 40 CFR60.40b Subpart Db        | Electric Utility Steam Generating Units   |                                   |                               |                              | ✓                     | The regulation is <u>not applicable</u> because the facility is not equipped with steam generating units with heat input rates greater than the threshold capacity of 100 MMBtu/hr (40 CFR 60.40b(a)).   |
| NSPS 40 CFR60 Subpart Dc            | Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units   |                                   |                               |                              | ✓                     | This regulation is <u>not applicable</u> because the facility is not equipped with steam generating units with heat input rates greater than the threshold capacity of 10 MMBtu/hr but less than or equal to 100 MMBtu/hr (40 CFR 60.40c(a)).  |
| NSPS 40 CFR 60, Subpart K           | Standards of Performance for Storage Vessels for Petroleum Liquids for which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978 |                                   |                               |                              | ✓                     | This regulation is <u>not applicable</u> because all petroleum liquids storage tanks at the facility have capacities less than the minimum applicability threshold capacity of 40,000 gallons (see 40 CFR 60.110(a)).  |
| NSPS 40 CFR 60, Subpart Ka          | Storage Vessels for Petroleum Liquids for which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984                              |                                   |                               |                              | ✓                     | The regulation is <u>not applicable</u> because all storage tanks at the facility have capacities less than the minimum applicability threshold capacity of 40,000 gallons (see 40 CFR 60.110a(a)).  |
| NSPS 40 CFR 60, Subpart Kb          | Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984          |                                   |                               |                              | ✓                     | The regulation is <u>not applicable</u> to any storage tank at the facility. Storage tanks at the facility have a capacity less than the minimum applicability threshold capacity of 75 cubic meters (19,813 gallons) or store condensate prior to custody transfer (40 CFR 60.110b(a)). |
| NSPS 40 CFR 60.330 Subpart GG       | Stationary Gas Turbines   |                                   | 4                             | ✓                            |                       | The regulation is <u>applicable</u> because to the Solar Centaur, Unit 4, because it is a turbine modified after October 3, 1977 with a heat input of greater than 10 MMBtu/hr. The remaining turbines are not subject to Subpart GG as they   |

| <b>FEDERAL<br/>REGU-<br/>LATIONS<br/>CITATION</b> | <b>Title</b>   | <b>Applies<br/>to<br/>Entire<br/>Facility</b> | <b>Applies to<br/>Unit<br/>No(s).</b> | <b>Federally<br/>Enforce-<br/>able</b> | <b>Does<br/>Not<br/>Apply</b> | <b>JUSTIFICATION:</b>   |
|---|--|---|---------------------------------------|--|-------------------------------|---|
|   |  |   |                                       |  |                               | were constructed prior to applicability date.<br><br>Units 1 and 2 have a heat input = 10.8 MMBtu/hour which is greater than the 10 MMBtu/hour threshold. These units were installed 6/8/1971 which is before the October 3, 1977 applicability date. Unit 3 has a heat input of 10.8 MBtu/hr, and was installed 6/8/1971 which is before the October 3, 1977 applicability date. Unit 4 has a heat input of 51.3 MMBtu/hour which is greater than the 10 MMBtu/hour threshold and was installed in 1994 which is after the October 3, 1977 applicability date. Therefore only unit 4 is subject to GG. |
| NSPS<br>40 CFR 60,<br>Subpart<br>KKK              | Leaks of VOC<br>from Onshore Gas<br>Plants   |   |                                       |  | ✓                             | The regulation is <u>not applicable</u> because the facility is not a natural gas processing plant as defined by the subpart.   |
| NSPS<br>40 CFR Part<br>60 Subpart<br>LLL          | Onshore Natural<br>Gas Processing:<br>SO <sub>2</sub> Emissions  |   |                                       |  | ✓                             | This regulation is <u>not applicable</u> because the plant is not a natural gas processing plant as defined by the subpart.   |
| NSPS<br>40 CFR Part<br>60 Subpart<br>III          | Standards of<br>Performance for<br>Stationary<br>Compression<br>Ignition Internal<br>Combustion<br>Engines |   |                                       |  | ✓                             | This regulation is not applicable because the stationary compression ignition internal combustion engine (Unit 5) commenced construction prior to July 11, 2005.  |
| NSPS<br>40 CFR Part<br>60 Subpart<br>JJJ          | Standards of<br>Performance for<br>Stationary Spark<br>Ignition Internal<br>Combustion<br>Engines          |   |                                       |  | ✓                             | This regulation is <u>not applicable</u> because the stationary RICE currently installed at the facility (Unit 5) is not spark ignition.  |
| NSPS<br>40 CFR 60,<br>Subpart<br>KKKK             | Standards of<br>Performance for<br>Stationary<br>Combustion<br>Turbines                                    |   |                                       |  | ✓                             | This regulation is <u>not applicable</u> because none of the turbines at the facility were constructed after the applicability date of February 18, 2005.   |
| NESHAP<br>40 CFR 61<br>Subpart A                  | General Provisions   |   |                                       |  | ✓                             | The regulation is <u>not applicable</u> as the facility is not subject to any of the standards listed.  |
| MACT<br>40 CFR 63,<br>Subpart A                   | General Provisions   |   |                                       |  | ✓                             | This regulation is <u>not applicable</u> since no other MACT subpart applies.   |
| MACT<br>40 CFR 63,<br>Subpart M                   | National Emission<br>Standard for<br>Asbestos  |   |                                       |  | ✓                             | The subpart includes standards for minimizing asbestos emissions from several operations, including demolition and renovation activities. This regulation is <u>not applicable</u> because there are no existing or planned activities at this facility that trigger applicability.   |
| MACT<br>40 CFR<br>63.760<br>Subpart HH            | Oil and Natural<br>Gas Production<br>Facilities  |   |                                       |  | ✓                             | This regulation is <u>not applicable</u> . The condensate tanks (storage tanks with potential for flash emissions) do not have an actual annual average hydrocarbon liquid throughput equal to or greater than 500 bbl/day.   |

| FEDERAL REGULATIONS CITATION            | Title  | Applies to Entire Facility | Applies to Unit No(s). | Federally Enforceable | Does Not Apply | JUSTIFICATION:   |
|---|--|----------------------------|------------------------|-----------------------|----------------|--|
| MACT 40 CFR 63, Subpart HHH             | NESHAPs From Natural Gas Transmission and Storage Facilities     |                            |                        |                       | ✓              | This regulation is <u>not applicable</u> as the plant is not a natural gas transmission and storage facility as defined by the subpart.  |
| MACT 40 CFR 63, Subpart YYYY            | NESHAPs From Stationary Combustion Turbines                      | ✓                          | 1-4                    |                       |                | This regulation is <u>applicable</u> as the facility is a major HAP source as defined by this subpart. Under paragraph 63.6090(b)(4), existing (commenced construction before January 14, 2003) turbines are not required to meet the requirements of Subparts A or YYYY (including initial notification requirements).  |
| MACT 40 CFR 63 Subpart ZZZZ (RICE MACT) | NESHAPs for Stationary Reciprocating Internal Combustion Engines | ✓                          | 5                      |                       |                | <p>This regulation is <u>applicable</u> because the plant is a major HAP source equipped with an existing (commenced construction prior to December 19, 2002) stationary compression ignition RICE with a site rating of less than or equal to 500 brake horsepower. Unit 5, the 150 kW emergency generator will comply with the applicable operation and maintenance requirements of Tables 2c and 4.</p> <p>Unit 5 is an Insignificant Activity – Standby Emergency Generator, therefore no permit conditions will be entered into the Permit.</p> <p>63.6602 What emission limitations must I meet if I own or operate an existing stationary CI RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions?</p> <p>If you own or operate an existing stationary CI RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2c to this subpart which apply to you. Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart. Unit 5 must be tested not later than May 3, 2013.</p> <p>According to the application, there are compressor engines subject to this part. However, venting natural gas due to SSM and/or malfunction are not to the requirements in ZZZZ.</p> |
| NESHAP 40 CFR 64                        | Compliance Assurance Monitoring                                  |                            |                        |                       | ✓              | This regulation is <u>not applicable</u> because no sources at the station use a control device to achieve compliance with an emission limit or standard where pre control emissions equal or exceed the major source threshold (100 tons per year). Passive control devices such as lean-burn technology are not considered a control device as defined in 40 CFR 64 definitions and as clarified in discussions with EPA.  |
| NESHAP                                  | Chemical Accident Prevention                                     |                            |                        |                       | ✓              | The regulation is <u>not applicable</u> because the station does not store any of the identified toxic and flammable substances in   |

| <b>FEDERAL REGULATIONS CITATION</b> | <b>Title</b>   | <b>Applies to Entire Facility</b> | <b>Applies to Unit No(s).</b> | <b>Federally Enforce-able</b> | <b>Does Not Apply</b> | <b>JUSTIFICATION:</b>  |
|-------------------------------------|--|-----------------------------------|-------------------------------|-------------------------------|-----------------------|--|
| 40 CFR 68                           |  |                                   |                               |                               |                       | quantities exceeding the applicability thresholds.   |
| 40 CFR 70                           | State Operating Permit Programs                      |                                   |                               |                               | ✓                     | This regulation is <u>not applicable</u> , as the requirements associated with Title V are delegated to the State of New Mexico and implemented under 20 NMAC 2.70.  |
| Title IV – Acid Rain<br>40 CFR 72   | Acid Rain  |                                   |                               |                               | ✓                     | The regulation is <u>not applicable</u> because the station does not operate a source subject to Title IV of the CAA.  |
| Title IV – Acid Rain<br>40 CFR 73   | Sulfur Dioxide Allowance Emissions                   |                                   |                               |                               | ✓                     | The regulation is <u>not applicable</u> because the station does not operate a source subject to Title IV of the CAA.  |
| Title IV – Acid Rain<br>40 CFR 76   | Acid Rain Nitrogen Oxides Emission Reduction Program |                                   |                               |                               | ✓                     | The regulation is <u>not applicable</u> because the station does not operate a source subject to Title IV of the CAA.  |
| Title VI –<br>40 CFR 82             | Protection of Stratospheric Ozone                    |                                   |                               |                               | ✓                     | This regulation is <u>not applicable</u> to the station because the compressor station does not produce, manufacture, transform, destroy, import, or export ozone-depleting substances; does not maintain or service motor vehicle air conditioning units or refrigeration equipment; and does not sell, distribute, or offer for sale or distribution any product that contains ozone-depleting substances. |

13.0 **Exempt and/or Insignificant Equipment that do not require monitoring:**

**Title V - INSIGNIFICANT ACTIVITIES** (Dated March 24, 2005) as defined by 20.2.70.7.P NMAC:

| <b>INSIGNIFICANT ACTIVITIES</b>           | <b>JUSTIFICATION</b>   |
|---|--|
| 5, 150 Kw Detroit Diesel Generator        | 7. Emergency generators which on a temporary basis replaces equipment used in normal operation, and which either has an allowable emission rate or potential to emit for each fee pollutant that is equal to or less than the equipment replaced, or which does not operate for a period exceeding 500 hours per calendar year. (revised 3/4/05) |
| T-1, 1000 gal lube oil storage tank       | PTE is less than 1 t/y of any regulated air pollutant  |
| T-2, 840 gal Used Oil Tank                | PTE is less than 1 t/y of any regulated air pollutant  |
| T-3, 160 gal diesel oil storage tank      | PTE is less than 1 t/y of any regulated air pollutant  |
| T-6, 3990 gal produced water storage tank | PTE is less than 1 t/y of any regulated air pollutant  |
| T-7, 500 gal methanol storage tank        | PTE is less than 1 t/y of any regulated air pollutant  |
| T-8, 300 gal methanol storage tank        | PTE is less than 1 t/y of any regulated air pollutant  |
| T-10, 125 gal methanol storage tank       | PTE is less than 1 t/y of any regulated air pollutant  |
| T-11, 65 gal methanol storage tank        | PTE is less than 1 t/y of any regulated air pollutant  |
| F-1, Process piping fugitive emissions    | PTE is less than 1 t/y of any regulated air pollutant  |

**NSR Exempt Equipment** (not entered into Tempo database) as shown above.

14.0 **New/Modified/Unique Conditions** (Format: Condition#: Explanation):

**Specific Condition B. SSM VOC Emission Limits** – Condition limits emissions from routine and predictable emissions due to startup, shutdown, and/or maintenance (SSM). SSM emission are due to

venting of field gas. Permittee demonstrates compliance with limits by applying the mol % VOC content from the most recent gas analysis to the amount of field gas vented.

**Specific Condition C. Malfunction Emission Limits** – Malfunction emissions are also from venting field gas. Since they are not predictable, the permittee must identify the source of the malfunction emissions so that enforcement and compliance can determine if any state or federal regulations were violated during the malfunction event. The permittee tracks malfunction emissions in the same manner as for SSM emissions.

**General Condition 1.** Reiterates the requirement that SSM emissions be minimized regardless if the SSM emission limit has been met or not (20.2.72.14.A NMAC).

**General Condition 2.** Emphasizes that although malfunction emission limits may be established, permittees must still minimize emissions during startup, shutdown, and malfunction. This requirement applies regardless if the malfunction limit has been met or not.

**MONITORING SPECIFICATIONS:**

| Emission unit Nos.             | Parameters To Monitor                  | To Comply With   | Monitoring Required   | Monitoring Conditions   |
|--------------------------------|--|--|---|---|
| SSM 01a-04a                    | VOC                                    | Emission Limits specified in Table 106.A                                     | Annual gas analysis, recordkeeping  | A107A&B   |
| M1                             | VOC                                    | Emission Limits specified in Table 106.A                                     | Annual gas analysis, recordkeeping  | A107A&C   |
| 1,2,3,4                        | Visible emissions                      | 20.2.61 NMAC   | Opacity   | A111  |
| <b>Monitoring for Tanks</b>    |  |  |   |   |
| T-4, T-5                       | Tank throughput and separator pressure | Emission Limits specified at Table 106.A and NSR permit 0759M3 condition 3.e | Breathing losses, Flash Emissions   | A203.A  |
| <b>Monitoring for Turbines</b> |  |  |   |   |
| 4                              | NOx emissions and fuel sulfur content  | 40 CFR 60.332, 333, 334, Subpart GG and general provisions in Subpart A      | Specific requirements of 40 CFR 60. 332, 333, 334, Subpart GG and general provisions in Subpart A | A205.A  |
| 1,2,3,4                        | NOx, CO, VOC                           | Emission limits in Table 106.A   | Annual Periodic Emissions Testing   | A205.A  |
| 1,2,3,4                        | Maintenance and Repair Activities      | Emission Limits specified in Table 106.A                                     | Maintenance and Repair  | Delete, not required now since annually tested. [To be added back, 9/16/11] |

Date of Monitoring Protocol used for Turbine and Operating Situation “Monitoring-Turbines text-14April10.doc”  
 Date of Monitoring Protocol used for Tanks and Operating Situation “Monitoring Tanks 2-19-10.doc”

**15.0 For Title V action: Cross Reference Table between NSR Permit 0759M3 and TV Permit P236R1. NSR permit conditions cross referenced to the TV permit are federally enforceable conditions, and therefore brought forward into the TV permit:**

**There have been no NSR Modifications since the last Title V Permit.**

| <b>NSR Changed by TV*</b> | <b>NSR Condition #</b>  | <b>TV Section #</b>   |
|---------------------------|---|---|
|                           | 1.a Regulated equipment list  | A104  |
| XXX                       | SSM and Malfunction emission  | A107A, B, C   |
|                           | 1.b Authorization to operate 8760 hrs / year  | A108  |
|                           | 1.c Table of applicable requirements  | Table A103  |
|                           | 2.a Table of allowable emissions  | Table 106.A   |
|                           | 2.b Statement specifying programs that can be used to determine breathing and working losses and flash emissions              | A203.A  |
|                           | 3.a Requires quarterly measurements for estimating flash emissions  | A203.A  |
|                           | 3.b Requires monitoring according to 40 CFR 60 A and GG   | A205.B  |
|                           | 3.c Allows the use of Department's Fuel Monitoring Schedule to meet requirements of 40 CFR 60, Subpart GG.                    | A205.A  |
|                           | 3.d Requirements for using portable analyzer  | B111  |
|                           | 3.e Requires monitoring the operation of the emergency generator  | Unit 5 is an Insignificant Activity and not regulated in this permit. |
|                           | 4.a Recording requirements for flash emission measurements  | A203.A  |
|                           | 4.b Requires certification of evaluation of parameters for estimating flashing emissions.                                     | A203.A  |
|                           | 4.c Requires compliance of recordkeeping requirements in 40 CFR 60, parts A and GG.   | A205.B  |
|                           | 4.d Requires recording of portable analyzer testing   | B111  |
|                           | 4.e Requires recording of the monitoring of the emergency generator   | Not included, insignificant unit                                      |
|                           | 5.a Requires advanced notification of the emissions estimation model to be used for 3.a, and records required by 4.a and 4.b. | B110  |

| NSR Changed by TV* | NSR Condition #   | TV Section #                       |
|--------------------|---|------------------------------------|
|                    | 5.b Requires reporting of the requirements of 40 CFR 60 Subparts A and GG | A205.B                             |
|                    | 5.c Requires emergency generator hours of operation in the annual report  | Not Included Exempt, Insignificant |
| Complete           | 6.a Initial compliance tests for turbines                                 |                                    |

**NSR conditions identified as “NSR Unique” do not establish any applicable requirements or federally enforceable conditions that require adoption in the TV operating permits.**

**16.0 Permit specialist’s notes to other NSR or Title V permitting staff concerning changes and updates to permit conditions.**

A. NSR 0759M4 SSM Permit: On January 10, 2011, the NMAQB issued “Implementation Guidance for Permitting SSM Emissions and Excess Emissions”. This guidance document allows an abbreviated format for applications submitted to incorporate only startup, shutdown, maintenance and malfunction emissions (malfunction emissions are limited to 10 tons per year). Accordingly, this application is presented in an abbreviated format, as reflected in the Table of Contents. The contents are consistent with previous abbreviated applications presented to and approved by the NMAQB. This application explicitly incorporates by reference the existing permit and information contained in the previous permit application that led to permit issuance. Note that with this application, Williams seeks only to add the malfunction VOC emissions that are proposed in this application and does not seek to modify or revise any other portion of the current permit. These changes will not affect station operations, de-bottleneck impacts, or change the station’s major/minor source status (both PSD and Title V).

16.A.1 *Turbines and Compressors (SSM)*: SSM emissions from blowdown of the turbines, compressors and associated piping at the station are calculated from the quantity of gas vented during each event, the composition of the gas in the compressors, and the number of events. The number of blowdowns events are estimated based on operations during 2006 through 2008. A safety factor is included.

SSM emissions from the turbines (Units 1a-4a) result from the blowdown of motive gas used to drive turbine components during startup and shutdown. SSM emissions from the compressors and associated piping (Units 1a-4a) occur during startup and shutdown of a compressor. High pressure gas is used to purge air from the compressors and associated piping at startup and this gas is then vented to atmosphere. After shutdown, high pressure gas in the compressor and associated piping is released to atmosphere as a safety precaution.

One common reason for compressor startup or shutdown is a change in the amount of compression required from the station due to fluctuations in the pipeline. To prolong the life of equipment and reduce emissions, the compressors are shutdown when not needed. It is “routine or predictable” that the compressors at the station will come on-line and drop off-line many times during the course of operation. It is also standard industry practice.

The compressors are also shut down for maintenance of the turbines, compressors or other equipment at the station. This maintenance is scheduled

based on time in service and/or monitoring of equipment (visual and automated) in accordance with company and standard industry practice. This maintenance is also “routine or predictable”.

SSM emissions from blowdown of the compressors and associated piping at the station are calculated from the quantity of gas vented during each event, the composition of the gas in the compressors, and the number of events. The quantity of gas vented during each event is determined by WFC engineering. The composition of the gas is determined from the Thompson extended gas analysis dated May 20, 2009 (for consistency with previous applications). For each compressor, the annual number of blowdown events is estimated as the highest annual blowdown rate that occurred during the years 2006 through 2008. A safety factor is added because VOC and HAP emissions from each blowdown event are dependent on the composition of the gas in the pipeline and because the number of blowdowns in a year may vary. Experience indicates the composition of the gas is likely vary and three years of blowdown data is a small statistical population.

It is estimated each compressor will experience no more than one blowdown per hour. Having all the compressors blowdown during the same hour is a very unlikely event, but possible. The only time the entire site would blow down at once as a planned event is during the annual system shut down. That is part of the permitted activity. If there is an actual emergency, the station would be shut in, but may or may not be blown down depending on the event. If an emergency blow down is required, that would be reportable as excess emissions.

16.A.2 **Malfunctions:** As per NMAQB guidance, this application requests that 10 tons per year VOC be permitted to account for emissions that may occur during upsets and malfunctions (including, but not limited to, unscheduled blowdowns and relief valve release).

**16.A.3 Emission Estimate Verification:**

The permit writer verified the calculations and assumptions used in emission estimates.

SSM emissions are due to venting of field gas from compressors and associated piping during routine and predictable startup or shutdown.

Pound per hour SSM emissions were calculated using a compressor blowdown venting loss **16,400** scf/event which is equal to the compressor with the highest loss during a startup or shutdown.

Ton per year SSM emissions, were determined using the venting loss (**1,680,210 scf/yr**) from the annual number of startups and shutdowns of the area-wide average of the highest annual facility average startup and shutdown rates during 2006 through 2008.

A **0.4%** VOC content was applied to the cubic feet of gas vented to determine VOC emissions. The percent VOCs was determined from a **04-14-11** extended gas analysis. HAPs were determined using the same method. No hydrogen sulfide was detected in the gas.

Added to VOC and HAP emissions was a **1.7%** safety factor to account for variations in gas composition and annual number of venting events.

Malfunction emissions due to venting of field gas apply to all operations at the facility except combustion and dehydrator still vent emissions.

Applicant requested 10 tpy VOC malfunction emissions, which is the allowable limit according to department guidance and does not exceed any permitting threshold.

There are no NESHAP applicable to these activities and so no HAP limits apply.

B.