Air Pollution Control
40 CFR 52.21(i)
Prevention of Significant Deterioration Permit to Construct
Statement of Basis For Permit No. PSD-SU-00027-01.00
December 22, 2010

Williams Four Corners LLC
(Formerly Williams Field Services Company)
Ignacio Gas Plant
Southern Ute Indian Reservation
La Plata County, Colorado

In accordance with requirements at 40 CFR 124.7, the Region 8 office of the U.S. Environmental Protection Agency (EPA) has prepared this Statement of Basis describing the issuance of a Prevention of Significant Deterioration (PSD) permit to the Williams Four Corners LLC (Williams). This Statement of Basis discusses the background and analysis for the PSD permit for the Ignacio Gas Plant, and presents information that is germane to this permit action.

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I. Introduction

This Federal permit has been issued under authority of 40 CFR 52.21, Prevention of Significant Deterioration (PSD) and reflects the incorporation of provisions of two Federal Consent Decrees (CDs), incorporation of requests in two PSD permit applications (submitted as required by the CDs) for approval of facility modifications that already occurred, and incorporation of a request in a third permit application, for approval of a further amendment to the PSD permit. The CDs and associated permit applications address historical compliance issues at the currently existing and operating gas plant for modifications that occurred at the facility in 1984, 1991, and 1992. The attainment of this permit was a required element of the Consent Decrees (CDs) dated March 28, 2001 and April 22, 2002.

This permit action did not authorize the construction of any new emission sources, or emission increases from existing units, nor did it otherwise authorize any other physical modifications to the facility or its operations. This permit is intended only to incorporate provisions of the following documents:

A. A "Conditional Permit to Construct and Operate" issued by EPA Region 8 on February 24, 1984, pursuant to the Federal Prevention of Significant Deterioration (PSD) regulations at 40 CFR 52.21 for two 10,500 hp turbine re-compressors.

B. A 1998 request by Williams to the Colorado Department of Public Health and Environment (CDPHE) to increase the horsepower of the two turbine re-compressors permitted by EPA in 1984 to 10,700 hp each. The requested increase was incorporated into the initial Part 71 Permit to Operate for the Ignacio Gas Plant until such time that a PSD permit was issued.

C. A May 22, 2001 PSD application submitted by Williams as required by the Consent Decree in United States of America and State of Colorado v. William Field Services Co, et al., Civil Action No. 01-S-0113, dated March 28, 2001. The application consisted of the August 7, 1998 submittal of additional data to the Colorado Department of Public Health and Environment (CDPHE) clarifying the fugitive volatile organic compound (VOC) emissions for the facility, and the August 18, 2000 application to CDPHE to modify the Thermal Oxidizer emissions based on compliance test results.

D. A January 18, 2002 PSD application submitted by Williams as required by the CD in United States of America v. Williams Field Services Company and Williams Gas Processing Company, Inc., Civil Action No. 02-B-0199, dated April 22, 2002.

E. A September 15, 2003, application submitted by Williams requesting to amend SO_2 emission limits from the Thermal Oxidizer controlling the Amine Treatment system and the East Dehydrator emissions. In addition, Williams requested an amendment to the VOC emissions limit for the West Dehydrator. EPA required that Williams submit an application requesting an amendment to the emission limits set forth in the CDs, and the applications for part 71 and PSD permits EPA had received from Williams at that time.

II. Consent Decrees

Civil Action No. 01-S-0113: EPA determined that the Turbo-Expansion Unit and the Amine Treatment System constructed in 1984 should have been subject to PSD review for VOC emissions. On February 8, 2001, EPA published a Notice of Lodging of Consent Decree under the Clean Air Act (66 FR 9597). The CD was entered in the United States District Court in Denver, Colorado on March 28, 2001. The CD required that Williams meet emission standards and other terms and conditions set forth in the CD regarding emissions of VOCs until such time that a PSD permit has been issued by EPA or other duly authorized State or Tribal agency or commission to which EPA has delegated Federal PSD permitting authority. The CD required that Williams submit a PSD application to EPA no later than 30 days after the effective date of the CD.

Civil Action No. 02-B-0199: EPA determined that the East and West Dehydrators constructed in 1991 and 1992, respectively, should have been subject to PSD review for VOC emissions. On March 11, 2002, EPA published a Notice of Lodging of Consent Decree under the Clean Air Act (67 FR 10933). The CD was entered in the United States District Court in Denver, Colorado on April 22, 2002. The CD required that Williams meet emission standards and other terms and conditions set forth in the CD regarding emissions of VOCs until such time that a PSD permit has been issued by EPA or other duly authorized State or Tribal agency or commission to which EPA has delegated Federal PSD permitting authority. The CD required that Williams submit a PSD application to EPA no later than 30 days after the effective date of the CD.

III. Application Submittals and Addendums

On May 22, 2001, Williams submitted a PSD application for the Turbo-Expansion Unit and the Amine Treatment System as required by Civil Action No. 01-S-0113. The application consisted of the April 1997 PSD application submitted to the CDPHE, the July 1998 supplemental data (re-evaluation of BACT as per CDPHE request for additional analysis), the August 7, 1998 submittal of additional data to CDPHE clarifying the fugitive VOC emissions for the facility, and the August 18, 2000 application to CDPHE to modify the thermal oxidizer emissions based on compliance test results.

On January 18, 2002, Williams submitted a PSD application for the East and West Dehydrators as required by Civil Action No. 02-B-0199.

On September 15, 2003, Williams submitted a proposal to amend the SO_2 Emission limitations for the Thermal Oxidizer and the VOC emissions for the West Dehydrator.

IV. Requirements of the Consent Decree

Several conditions in *Section III.Conditional Permit to Construct* of the permit have already been met prior to the issuance of this permit as a requirement of March 28, 2001, and April 22, 2002. Those conditions are as follows:

A. Condition D.5a: Processing (inlet flow) of natural gas shall not exceed 15,208 MMscf/month. This requirement only applied during the first twelve (12) months of the issuance of the March 28, 2001 CD.

B. Condition D.9: The permittee shall submit to EPA Region 8 the record keeping format that outlines how it is maintaining compliance on an ongoing basis with the requirements for the Amine Treatment System. A one time requirement of the March 28, 2001 CD.

C. Condition E.8: The permittee shall submit to EPA Region 8 the record keeping format that outlines how it is maintaining compliance on an ongoing basis with the requirements for the Turbo-Expansion Unit. A one time requirement of the March 28, 2001 CD.

D. Condition F.9: The permittee shall submit to EPA Region 8 the record keeping format that outlines how it is maintaining compliance on an ongoing basis with the requirements for the West Dehydrator. A one time requirement of the April 22, 2002 CD.

E. Condition G.4a-d: Except as provided below, within 60 days of the date that the East Dehydrator commences operation, the Permittee shall perform a stack test to determine if the emissions from the Thermal Oxidizer meet the emission limits set forth.

i. The stack test shall be performed using EPA-approved methods. The permittee shall submit a testing protocol to EPA for comment 30 days before the stack test. This protocol also shall serve as notification to EPA of the pending test in order to allow a representative to be present at the test.

ii. If EPA objects to the test protocol or any part of it, the Permittee's obligation to conduct the stack test is suspended until EPA and the Permittee agree on the terms of a test protocol. Once agreement is reached, the Permittee shall conduct the stack test within 45 days.

iii. The Amine Treatment System and the East Dehydrator shall operate at 90% or more of the permitted facility's current operation capacity for the test.

iiii. The results of the stack test shall be reported to EPA within 45 days of the date of the test.

F. Condition G.10: The permittee shall submit to EPA Region 8 the record keeping format that outlines how it is maintaining compliance on an ongoing basis with the requirements for the East Dehydrator. A one time requirement of the April 22, 2002 CD.

V. Requirements of the General Conditions

Several conditions in *Section IV.General Conditions* of the permit are not directly applicable as the source has already constructed. Those conditions are as follows:

A. Condition IV.A: The Permittee shall take all reasonable precautions to prevent and or minimize fugitive emissions during the construction period.

B. Condition IV.B: The Permittee shall submit a notification of the anticipated date of initial start-up of the Source to EPA not more than 60 days or less than 15 days prior to such date. A notification of the actual date of initial startup shall be submitted within 15 days after such date.

C. Condition IV.J: Approval to construct shall become invalid if construction is not commenced within 18 months after receipt of such approval, if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time. The Administrator may extend the 18-month period upon a satisfactory showing that an extension is justified. This provision does not apply to the time period between construction of the approved phases of a phased construction project; each phase must commence construction within 18 months of the projected and approved commencement date.

VI. Authority

40 CFR 52.21, Prevention of Significant Deterioration (PSD): Requirements under §52.21 to obtain a Federal PSD preconstruction permit apply to construction of new major stationary sources ("major" as defined in §52.21), as well as to major modifications of existing major stationary sources ("major modification" as defined in §52.21). EPA is charged with direct implementation of these provisions where there is no approved State or Tribal implementation plan for implementation of the PSD regulations. Pursuant to section 301(d)(4) of the Clean Air Act (42 U.S.C. §7601(d)), EPA is authorized to implement the PSD regulations at §52.21 in Indian country. The Williams Ignacio Gas Plant is located on fee lands within the exterior boundaries of the Southern Ute Indian Reservation in the southwestern part of the State of Colorado. It is sited approximately 10 miles south-southeast of Durango, Colorado in La Plata County.

40 CFR 124, Procedures for Decision Making: Federal administrative permitting standards at 40 CFR part 124, *Procedures for Decision Making*, provide requirements for several environmental permit programs, including the PSD program. General administrative procedures are codified in this part, including those that relate to the PSD program. EPA PSD permit actions, such as issuing, modifying, reissuing, or terminating permits, are addressed in 40 CFR 124.1, subpart A, *General Program Requirements*. Part 124 also includes requirements that pertain to draft permits, Statement of Basis, Fact Sheets, public notices of permit actions and public comment periods, public comments and requests for public hearings, public hearings, and appeals of the PSD permit decision. Requirements in part 124 that provide for public review and involvement in this proposed action shall be used by EPA in its decision making. In particular, the administrative requirements at 40 CFR Part 124, Subpart C, *Specific Procedures Applicable to PSD Permits*, will be followed. Specifically, whenever a major source=s air emissions might affect a Class I area, 40 CFR 124.42, *Additional Procedures for PSD Permits Affecting Class I Areas*, states that the Regional Administrator must provide notice of receipt of a permit application to the Federal Land Manager and the Federal official charged with direct responsibility for management of lands within such area.

VII. Public Notice

Public notice for this draft PSD permit was published in the Durango Herald. The public comment period extended until November 21, 2010. States, Tribes, local governmental agencies, and the public had the opportunity to comment on the draft permit prepared by EPA during the public comment period.

Written comments were received by the United States Department of Agriculture, Forest Service, the Southern Ute Indian Tribe, and Williams Midstream. These comments did not require any changes to the final permit.

A copy of the application, analysis, and draft permit prepared by EPA was made available at the following locations:

U.S. EPA Region 8
Air Program Office
1595 Wynkoop Street (8P-AR)
Denver, Colorado 80202-2466
Email: paser.kathleen@EPA.gov
Phone: 303-312-6526
Fax: 303-312-6064

and

La Plata County Clerk's Office
98 Everett Street, Suite C
Durango, Colorado 81303

and

Southern Ute Indian Tribe
Environmental Programs Office
205 Ouray Drive, Building #293
Ignacio, Colorado 81137

All documents were available for review at the U.S. EPA Region 8 office Monday through Friday from 8:00 a.m. to 4:00 p.m. (excluding federal holidays). Electronic copies of the draft permit and Statement of Basis were also provided at: http://www.epa.gov/region8/air/permitting/#pco.

In accordance with 40 CFR 52.21(q), *Public participation*, any interested person may submit written comments on the draft permit during the public comment period and may request a public hearing. All comments and requests for public hearing should be addressed to the Permit Contact at the US EPA Region 8 address above.

In accordance with 40 CFR 124.13, *Obligation to raise issues and provide information during the public comment period*, anyone, including the permit applicant, who believes any condition of the draft permit is inappropriate, must raise all reasonable ascertainable issues and submit all arguments supporting the commenter's position, by the close of the public comment period.

Any supporting materials submitted must be included in full and may not be incorporated by reference, unless the material has been already submitted as part of the administrative record in the same proceeding or consists of state or federal statues and regulations, EPA documents of general applicability, or other generally available reference material. An extension of the 30-day public comment period may be granted if the request of an extension adequately explains why more time is needed to prepare comments.

In accordance with §124.15, *Issuance and Effective Date of Permit*, the permit shall become effective immediately upon issuance if no comments request a change in the proposed permit. If changes are requested, the permit shall become effective thirty days after a final permit decision. Notice of the final

permit decision shall be provided to the permit applicant and to each person who submitted written comments or requested notice of the final permit decision.

In accordance with requirements at §124.19, *Appeal of RCRA, UIC, and PSD Permits*, any person who filed comments on the draft permit or participated in the public hearing may petition the Environmental Appeals Board, within 30 days after the final permit decision, to review any condition of the permit decision. Any person who failed to file comments or failed to participate in the public hearing on the draft permit may petition for administrative review only to the extent of changes from the draft to the final permit decision.

The draft permit and Statement of Basis represent a proposed Agency action to issue a Federal PSD permit to Williams for the Ignacio Gas Plant, under Title I, part A, *Air quality Emission Limitations*, and part C, *Prevention of Significant Deterioration of Air Quality*, of the Clean Air Act, as amended. For completeness, this Statement of Basis should be read in conjunction with the draft PSD permit.

Any requirements established by this permit for the gathering and reporting of information are not subject to review by the Office of Management and Budget (OMB) under the Paperwork Reduction Act, because this permit is not an "information collection request" within the meaning of 44 U.S.C. §§ 3502(4), 3502(11), 3507m 3512 and 3518. Furthermore, this permit and any information gathering and reporting requirements established by this permit are exempt from OMB review under the Paperwork Reduction Act because it is directed to fewer than ten persons, 44 U.S.C. §§ 3502(4) and 3502(11); 5 CFR 1320.5(a).

VIII. Facility Description

A. Source Definition

The Ignacio Gas Plant's Standard Industrial Classification code is 1321- Oil and Gas Extraction/Natural Gas Liquids. Such establishments are primarily engaged in producing liquid hydrocarbons from oil and gas field gases. The Ignacio Gas plant is not considered one of the 28 listed source categories. Therefore, the potential-to-emit (PTE) threshold for determining whether this source is a major stationary source is 250 tons per year (tpy).

B. Facility Location

The Williams Ignacio Gas Plant is located within the exterior boundaries of the Southern Ute Indian Reservation in the southwestern part of the State of Colorado. It is sited approximately 10 miles south-southeast of Durango, Colorado in La Plata County, at 3746 County Road 307 in the SE 1/4 Section 35 and SW 1/4 Section 36, Township 34 North, Range 9 West. The latitude and longitude are 37° 08.43' North and -107° 47.04' West, and the UTM coordinates are Zone 13,252.700 km Easting, 4114.400 km Northing. The facility is located approximately 6,600 feet above mean sea level. The area is rural and the topography is a nearly flat eroded plateau. The air basin is defined by the Mesa Mountains to the south, Bridge Timber Mountains to the west, Missionary Ridge to the north, and Piedra Peak and Ridge to the east.

Permittee: Williams Four Corners, LLC
188 County Road 4900
Bloomfield, NM 87413

C. Process Description

The Ignacio Gas Plant provides compression, dehydration, sweetening, and natural gas liquids recovery for San Juan Gathering Systems, a 5,300 mile pipeline system gathering gas from the San Juan Basin which spans the southwest corner of Colorado and the northwest corner of New Mexico.
The plant conditions approximately 500 to 650 million standard cubic feet (MMscfd) of field gas per day into saleable natural gas liquids and residue gas. The primary plant operations include inlet compression, dehydration, carbon dioxide removal, natural gas liquids removal, fractionation, and storage.

i. Inlet Compression

Inlet Compression is accomplished through an arrangement of compressors driven by gas turbines and reciprocating engines at the three plants: Plant A, Plant B, and Plant C. Plant A includes seven Clark TLA-6 reciprocating engine-driven compressors. Each engine is rated at 2,000 horsepower (hp). Plant B includes a General Electric M3142 Gas Turbine-driven Compressor rated at 10,500 hp and is equipped with a waste heat recovery unit. Plant C includes a Solar Centaur 40-T4700S ($SoLoNO_x$) Gas Turbine-driven Compressor rated at 3,659 hp. Together these compressors provided approximately 27,809 hp of inlet compression.

Plant	Emission Unit	Emission Unit ID
Plant A	Seven Clark TLA-6 Engines	1-7
Plant B	GE M3142 gas turbine	8
Plant C	Solar Centaur 40-T4700S gas Turbine	9

ii. Dehydration

Initial dehydration of the field gas is accomplished at the East Dehydrator prior to the carbon dioxide removal at the Amine Treatment System. The hydrocarbon slip from the dehydrator is vented to the Thermal Oxidizer. The East Dehydrator is equipped with a natural gas-fired reboiler. Additional dehydration of the field gas is accomplished at the West Dehydrator which removes excess moisture to decrease the burden on the molecular sieve dehydrator (the primary dehydrator). The West Dehydrator is equipped with a steam-heated glycol reboiler and hydrocarbon slip is vented to the Flare.

Both dehydrators utilize triethylene glycol in a counter flow contactor tower such that the water in the gas is absorbed by the glycol. The rich glycol (rich in water content) is heated in the glycol regenerator to boil off the water so that the lean glycol (low in water content) can be reused to dry additional gas as part of a closed-loop cycle. The water removed from the glycol during regeneration is typically released to the atmosphere as water vapor. Small amounts of VOCs (primarily heavy hydrocarbons) are emitted from the regenerator vent in addition to water as these compounds are also absorbed by the glycol.

The molecular sieve dehydrator consists of four beds. Three beds are typically active while the fourth undergoes regeneration. Regeneration is accomplished by a natural gas-fired regeneration gas heater which is design-rated at 18.5 MMBtu/hour. A Standby regeneration gas heater also supports the molecular sieve dehydrator. The standby unit is also natural gas-fired and has a design rating of 13.02 MMBtu/hour.

iii. Carbon Dioxide Removal

Carbon dioxide removal occurs by the Amine Treatment System. Because the amine reboiler derives heat from plant steam, it is not a source of combustion emissions. However, hydrocarbons are released from the process during amine regeneration. The hydrocarbons, entrained in the carbon dioxide vent stream, are destroyed in the Thermal Oxidizer, itself a source of air pollutants.

iv. Natural Gas Liquids Removal, Fractionation and Storage

At the Turbo-Expander Unit, the methane stream is separated from the natural gas liquids stream in the demethanizer. The natural gas liquids are sequentially separated into ethane (Y-grade), propane, butane, and natural gasoline (C-5 and higher hydrocarbons) at the fractionation Plant.

The demethanizer, deethanizer, depropanizer, and the debutanizer reboilers use plant steam. (Note: The La Plata B Compressor Station provides steam to the Ignacio Gas Plant from boilers that received waste heat from its two turbines.) The fractionation plant includes the following storage facilities:

Product	No. of Tanks	Tank Size (gallons)	Pressure Rating (psig)
ethane	5	25,200	700
propane	10	42,000	250
butane	2	210,000	85
natural gasoline	2	210,000	30
rundown	2	42,000	85

Rundown is a term given to a bad batch of distillate which is later reprocessed and usually involves natural gasoline.

v. Loading of Natural Gas Liquids

Natural gas liquids are transported off-site via pipelines and tanker trucks. Y-grade ethane, which is approximately 85% to 90% pure ethane, is transported off-site via dedicated pipeline. The loading of the remaining natural gas liquids occurs through loading racks. There are two propane loading racks, one butane loading rack, and two natural gasoline loading racks.

vi. Re-Compression

The methane stream leaving the Turbo-Expansion Unit is recompressed by two GE M3142JA/T gas turbine-driven compressors. Each of these gas turbines, site-rated at 10,700 hp (12,500 hp with steam augmentation), is natural gas-fired and equipped with a heat recovery unit.

vii. Utilities - Combustion sources equipped with waste heat recovery units:

GE M3142 gas turbine
GE M3142J A/T gas turbine re-compressors no. 1
GE M3142J A/T gas turbine re-compressors no. 2
Vogt CL VV-22.5 Boilers

These four waste heat recovery units provide the Ignacio Plant with high pressure steam (600 psig) to drive a steam turbine generator set to produce plant electricity, as well as low pressure process steam (60 psig). Supplemental low pressure steam is produced by Vogt CL.VV-22.5 boilers no. 2 and 3. These units operate only when the GE M3142J A/T re-compressors are not in operation.

viii. Emission Control Equipment

VOCs may be released from various process units, storage tanks and leaking components. Such releases occur throughout the plant and may be controlled or uncontrolled. The controlled releases are collected and routed through a header to the smokeless Flare or the Thermal Oxidizer. The uncontrolled releases are minimized through the implementation of a Leak Detection and Repair (LDAR) program.

Flare: The flare system controls emission releases through a header followed by the smokeless Flare. Releases from the following sources are controlled through the flare system:

- Inlet Separator (Plant C),
- Inlet Gas Cooler,
- West Glycol Dehydration Unit,
- Fuel Gas Line and Filter,
- B Plant Discharge Scrubber,
- Booster Compressor CG-8104 Suction Line (TXP),
- Deethanizer Reflux Condenser-Overhead Off Gas-Reflux Accumulator-Reboiler and Feed Preheater,
- Depropanizer and Depropanizer Reflux Accumulator,
- Debutanizer-Debutanizer Reflux Pumps and Accumulator,
- Ethane/Propane Product Accumulator,
- Vent from Y-grade Storage,
- Propane Storage and Loading,
- Propane Refrigeration System Low Point Drain,
- Butane Storage and Loading,
- Natural Gasoline Loading and Storage,
- Rundown Storage,
- Closed Drain System,
- Chromatography Vent,
- Lube Oil Reservoir, and
- Emergency releases.

Thermal Oxidizer: The Ignacio Gas Plant has a thermal oxidizer with a waste gas preheater, vent stack and forced draft combustion air blower. The system requires auxiliary fuel to preheat the gas. The thermal oxidizer controls emissions from the tri-ethylene glycol East Dehydrator and the Amine Treatment System.

D. Affected Units under this Permit

Origin: February 24, 1984 EPA Issued Conditional Permit to Construct and Operate		
	General Electric GE M3142J A/T Turbine Re-Compressor; 10,500 hp; natural gas fired.	
Turbine Compressor No. 1	Installation Date: 1984	Control: None
	General Electric GE M3142J A/T Turbine Re-Compressor; 10,500 hp; natural gas fired.	
Turbine Compressor No. 2	Installation Date: 1984	Control: None
Origin: March 28, 2001 Consent Decree, Civil Action No. 01-S-0113		
	500 Mmscfd Gas Sweeting System; steam heated amine regenerator still vent.	
	Installation Date: 1984	Control: Thermal Oxidizer
	Piping Component Fugitives: Valves, Pump Seals, Pressure Relief Valves, Connectors, Open Ended Lines.	
Amine Treatment System	Installation Date: 1984	Control: LDAR Program
	Piping Component Fugitives: Valves, Pump Seals, Pressure Relief Valves, Connectors, Open Ended Lines.	
Turbo-Expansion Unit	Installation Date: 1984	Control: LDAR Program
Origin: April 22, 2002 Consent Decree, Civil Action No. 02-B-0199		
	120 MMscfd Sivalls Tri-ethylene Glycol Dehydrator Still Vent; 0.75 MMBtu/hr natural gas fired glycol regenerator reboiler.	
East Dehydrator	Installation Date: 1991	Control: Thermal Oxidizer
	500 MMscfd Sivalls Tri-ethylene Glycol Dehydrator Still Vent; steam heated glycol regenerator reboiler.	
West Dehydrator	Installation Date: 1992	Control: Flare
Control Equipment		
	Callidus Technologies Thermal Oxidizer; 35.0 MMBtu/hr; control for Amine Treatment System and East Dehydrator emissions.	
Thermal Oxidizer	Installation Date: 1999	
	National Air Burner Smokeless Flare; 1.12 MMBtu/hr; control for the Dehydrator and various waste streams.	
Flare	Installation Date: 1975	

IX. Permitting and Construction History

The Ignacio Gas Plant is an existing major stationary source as defined in 40 CFR 52.21(b)(1)(i). The initial construction began in 1956. The plant had additional construction between 1957 and the present.

1984 EPA Issued a PSD Permit for Two Natural Gas Fired Turbines

In July 1983, Northwest Pipeline (previous owners of the gas plant) submitted a PSD permit application to EPA to replace the Gasoline Plant Oil Absorption Process with a more efficient Cryogenic Turbo-Expansion Process. The Turbo-Expansion Process increased the recovery of liquids from 156,000 to 692,000 gallons per day and recovered a greater level of propane and ethane. The construction for this new Turbo-Expansion Process included a Turbo-Expansion Unit, Amine Treatment System and two natural gas-fired turbines. However, the PSD application for this modification only discussed the two natural gas-fired turbines and potential NO_x emissions. According to the applicant, the VOC emissions from the Amine Treatment System were insignificant. The application stated that all other pollutants were below significant emission rates for major modification and not subject to PSD review. On February 24, 1984, EPA issued a PSD permit approving controlled NO_x emissions from the two turbines.

1986 EPA approval of the Colorado Department of Health and Environment (CDPHE) PSD Permitting Program

In 1986, EPA approved CDPHE's State Implementation Plan (SIP) for the implementation of the PSD Permitting Program and the attainment and maintenance of National Ambient Air Quality Standards, pursuant to 40 CFR 52.343. In approving the SIP, EPA did not delegate, but rather reserved to EPA as a federal program, PSD permitting authority with respect to sources on Indian lands and Reservations, and further stated in 51 FR 31125 (September 2, 1986) that EPA's PSD regulations will also remain in effect for sources located on Indian Reservations and for sources that have received earlier PSD permits from EPA.

However, there was an ongoing disagreement between CDPHE, EPA, and the Southern Ute Indian Tribe regarding who had jurisdiction over air pollution sources located on fee lands; the Ignacio Gas Plant is located on fee lands. Fee lands are defined as lands located within the exterior boundaries of the reservation, but are privately-owned (by either Indians or non-Indians), nonpublic lands. During the resolution of this dispute, CDPHE continued to issue pre-construction permits to the Ignacio Gas Plant.

1991 Construction of the East Glycol Dehydration Unit – No Permit Issued

In March 1991, Williams Field Services installed and began operation of an East Dehydrator. VOC emissions were thought by the State to be insignificant at that time. In 1992, a notice submitted to the State of Colorado indicated that the VOC emissions from the East Dehydrator were 25 tons/year, below the 40 ton/year significant level for PSD. The VOC emissions from the East Dehydrator were uncontrolled, vented directly to the atmosphere. EPA Region 8 was not notified by Williams about the construction of the dehydrator.

1992 Construction of West Glycol Dehydration Unit – No Permit Issued

In November 1992 the West Dehydrator was added to the facility. Again, VOC emissions were thought by the State to be insignificant at that time. EPA Region 8 was not notified by Williams about the construction of the dehydrator.

1997 Construction Permit for East Glycol Dehydration Unit and West Glycol Dehydration Unit (CDPHE Issued - #96-LP-506 and #96-LP-505, respectively)

In the August 31, 1995 construction permit applications for the East and West Dehydrators were sent to the CDPHE. In 1997, CDPHE issued both construction permits. The permit for the West Dehydration Unit required that VOC emissions be controlled by a flare. The permit for the East Dehydration Unit required that VOC emissions be controlled by a thermal oxidizer.

1998 Construction Permit for the Amine Treatment System and Turbo-Expansion Unit Fugitive Emissions (CDPHE Issued - # 97-LP-0315 & #97-LP-0316)

In March 1996, CDPHE received a permit modification request from Williams that indicated the Ignacio Gas Plant's amine regeneration unit built in 1984 emits approximately 995 tpy of VOC emissions. On July 18, 1996, CDPHE notified Williams that these were previous unreported emissions that may have triggered PSD requirements during the modification in 1984, and requested additional information. On January 27, 1997, Williams provided CDPHE with a summary of annual VOC emissions from the Amine Treatment System, turbines and Turbo-Expansion Unit. The VOC emissions were determined by the State to be significant, verifying that Williams should have gone through PSD review for VOCs in addition to the PSD review for NO_x that was conducted in 1984.

CDPHE issued construction permits 97-LP-0315 and 97-LP-0316 which defined requirements for the Amine Treatment System and the fugitive emissions from the Turbo-Expansion Unit. The permits required that VOC emissions from the Amine Treatment System be controlled by a thermal oxidizer and a leak detection and repair program as stringent as that found in 40 CFR part 60, subpart KKK be developed and implemented for the fugitive emissions from the Turbo-expansion Unit.

1999 Promulgation of the Federal Title V Permitting Program, 40 CFR Part 71

In 1999, upon promulgation of the Federal Title V Permitting Program (Part 71 Program), EPA notified facilities operating in Indian country of its continuing authority to regulate facilities for purposes of the CAA.

However, since the approval of the CDPHE's PSD Permitting Program, there was an ongoing disagreement between CDPHE, EPA, and the Southern Ute Indian Tribe regarding who had jurisdiction over air pollution sources located on fee lands; the Ignacio Gas Plant is located on fee lands. Fee lands are defined as lands located within the exterior boundaries of the reservation but are privately owned (by either Indians or non-Indians), nonpublic lands.

In 1999, the Tribe and State entered into an intergovernmental agreement to establish a single air quality program applicable to all lands within the exterior boundaries of the Reservation (IGA), and Congress adopted the Act of October 18, 2004, Pub. L. No. 108-336, 118 Stat. 1354 (IGA Implementation Act of 2004), to provide for the implementation of air quality programs developed in

accordance with the IGA. Since that time, state and tribal laws have been amended in accordance with the IGA to create a tribal /state environmental control commission with the authority to promulgate rules and regulations for one air quality program for all lands, all persons, and all pollution sources within the exterior boundaries of the Reservation. The Tribe's application for Treatment as a State pursuant to section 301(d) of the CAA and the IGA Implementation Act of 2004 for the purpose of Approval of the Tribe's Part 70 Operating Permit Program is currently pending before the Agency.

March 28, 2001, Consent Decree Entered into the United States District Court

Civil Action No. 01-S-0113: EPA determined that the Turbo-Expansion Unit and the Amine Treatment System constructed in 1984 should have been subject to PSD review for VOC emissions. On February 8, 2001, EPA published a Notice of Lodging of Consent Decree Under the Clean Air Act (66 FR 9597). The CD was entered in the United States District Court in Denver, Colorado on March 28, 2001. The CD required that Williams meet emission standards and other terms and conditions set forth in the CD regarding emissions of VOCs until such time that a PSD permit has been issued by EPA or other duly authorized State or Tribal agency or commission to which EPA has delegated Federal PSD permitting authority. The CD required that Williams submit a PSD application to EPA no later than 30 days after the effective date of the CD.

May 22, 2001, PSD application submitted by Williams as required by Consent Decree

April 22, 2002, Consent Decree Entered into the United States District Court

Civil Action No. 02-B-0199: EPA determined that the East and West Dehydrators constructed in 1991 and 1992, respectively, should have been subject to PSD review for VOC emissions. On March 11, 2002, EPA published a Notice of Lodging of Consent Decree under the Clean Air Act (67 FR 10933). The CD was entered in the United States District Court in Denver, Colorado on April 22, 2002. The CD required that Williams meet emission standards and other terms and conditions set forth in the CD regarding emissions of VOCs until such time that a PSD permit has been issued by EPA or other duly authorized State or Tribal agency or commission to which EPA has delegated Federal PSD permitting authority. The CD required that Williams submit a PSD application to EPA no later than 30 days after the effective date of the CD.

January 18, 2002, PSD application submitted by Williams as required by Consent Decree

September 15, 2003, application to modify SO_2 and VOC emission limits submitted by Williams

X. Summary of Emission Limits, Operating Requirements, and Control Requirements

A. Compression Turbines No. 1 and No. 2
(From 1984 EPA Issued PSD Permit to Construct and Operate)

i. Control Requirements – None

ii. Emission Limit and Operating Requirements:

a. The maximum NO_x concentration in the exhaust of each turbine is limited to 138 ppm (percent by volume at 15% oxygen and on a dry basis);

b. Both turbines are subject to the New Source Performance Standard for Stationary Combustion Turbines (NSPS Subpart GG); and
c. Good air pollution control practices at all times.

B. Amine Treatment System
(From Consent Decree entered in the United States District Court in Denver, Colorado on March 28, 2001; civil Action No. No. 01-S-0113)

i. Control Requirements:

a. Thermal oxidizer with 99% control for the Amine Still Vent; and
b. LDAR program at least as stringent as NSPS Subpart KKK for equipment leaks (This is a PSD BACT requirement as this unit is not subject to NSPS Subpart KKK).

ii. Emission Limits and Operating Requirements:

a. Opacity emission limit of 20% during normal operations;
b. Opacity emission limit of 30% during periods of start-up, process modification, or adjustment of control equipment;
c. Equipment leaks limited to 0.72 tpy of VOCs;
d. Thermal oxidizer emissions with only the amine still vent emissions being controlled limited to 4.11 tpy VOCs, 21.06 tpy NO_x, 20.10 tpy CO, and 6.22 tpy SO_2;
e. Processing (inlet flow) of natural gas not to exceed 15.208 MMscf/month, and 182,500 MMscf/year;
f. Lean Ucarsol (Amine) circulation rate limited to 2,500 gpm; and
g. Supplement natural gas fuel to the thermal oxidizer limited to 8.110 MMscf/month, and 97.230 MMscf/year.

C. Turbo-Expansion Unit
(From Consent Decree entered in the United States District Court in Denver, Colorado on March 28, 2001; Civil Action No. 01-S-0113)

i. Control Requirements - LDAR program at least as stringent as NSPS Subpart KKK for equipment leaks.

ii. Emission Limits and Operating Requirements

a. Overall control efficiency of the LDAR program of 50.2%;
b. Subject to NSPS Subpart KKK;
c. Good air pollution control practices at all times.

D. West Dehydrator
(From Consent Decree entered in the United States District Court in Denver, Colorado on April 22, 2002; Civil Action No. 02-B-0199 and the proposal to amend the SO_2 Emission limitations for the thermal oxidizer and the VOC emissions for the West Dehydrator.)

i. Control Requirements - Dehydrator still vent emissions controlled by a flare.

ii. Emission Limits and Operating Requirements – controlled still vent emissions limited to 6.7 tpy VOCs.

E. East Dehydrator

(From Consent Decree entered in the United States District Court in Denver, Colorado on April 22, 2002; Civil Action No. 02-B-0199 and the proposal to amend the SO_2 Emission limitations for the thermal oxidizer and the VOC emissions for the West Dehydrator.)

i. Control Requirements – Dehydrator still vent emissions controlled by a thermal oxidizer.

ii. Emission Limits and Operating Requirements

a. Fuel flow to the thermal oxidizer not to exceed 55 MMBtu/hr;

b. Thermal oxidizer emissions with both the amine still vent and East Dehydration still vent emissions being controlled limited to:

1. 1.16 lb/hr and 5.1 tpy VOCs;
2. 8.80 lb/hr and 38.52 tpy NO_x;
3. 5.35 lb/hr and 23.45 tpy CO; and
4. 16.0 lb/hr and 37.1 tpy SO_2.

XI. Air Quality Impact Analysis

A. Regulatory Requirement

The Federal PSD rules, at 40 CFR 52.21(k), require the permit applicant to demonstrate that the allowable emission increases (including secondary emissions) from the proposed source modification, in conjunction with all other applicable emission increases or reductions at the source, for all pollutants that would be emitted in excess of the significance thresholds at §52.21(b)(23)(i), would not: (i) cause or contribute to a violation of any National Ambient Air Quality Standard (NAAQS) in any air quality control region, nor (ii) cause or contribute to a violation of any applicable PSD "maximum allowable increase" over the baseline concentration in any area.

The NAAQS is the maximum concentration "ceiling" measured in terms of the total concentration of a pollutant in the atmosphere. The PSD maximum allowable increase is described at §52.21(c) as the ambient air increment, or just "increment." The required demonstration is commonly referred to as the Air Quality Impact Analysis.

The baseline concentration is defined in §52.21(b)(13)(i) as the ambient concentration level that exists in the baseline area at the time of the applicable minor source baseline date. Significant deterioration is said to occur when the amount of new pollution would exceed the applicable PSD increment. PSD increments for particulate matter, sulfur dioxide, and nitrogen dioxide, in micrograms per cubic meter ($\mu g/m^3$), have been established for PSD Class I, Class II, and Class III areas. The PSD significance thresholds for proposed source modifications are listed in the table below.

Significant Emission Rates in Tons Per Year

Pollutant	Emission Rate
Carbon Monoxide	100
Nitrogen Oxides	40
Sulfur Dioxide	40
Particulate Matter (PM/PM_{10})	25/15
Ozone	40 (VOC or NOx)
Sulfuric Acid Mist	7
Fluorides	3

For the 1984 and the 1991/1992 projects at Ignacio plant, the allowable emission increases are considered by EPA as the same as the potential uncontrolled emission rates from the new emitting units, since there were no Federally enforceable restrictions on the emissions units at that time. The allowable emission increases from each of the two projects were found by EPA to be in excess of the PSD significance threshold for ozone (40 tons per year for VOC).

VOC pollutants are of regulatory concern primarily because of their role in the atmospheric formation of ozone, a criteria pollutant. Since no PSD increment has been established for ozone, the required demonstration under 40 CFR 52.21(k), with respect to VOC emissions, is to show only that the Ignacio projects would not cause or contribute to a violation of the ozone NAAQS.

40 CFR 52.21(m) requires the permit application to include an air quality impact analysis for making the demonstration required by §52.21(k). In particular, §52.21(m)(1) requires that the PSD application contain pre-construction ambient air quality data, for each pollutant emitted in significant amounts, for purposes of determining whether emissions of each pollutant from the major stationary source would cause or contribute to a violation of a standard. In addition, §52.21(m)(2) requires that post-construction ambient monitoring be conducted as the Administrator deems necessary, to determine the effect of emissions from the major stationary source on air quality.

A pre-construction air quality impact analysis for a particular pollutant is normally expected to include an estimate of the projected total pollutant concentration at each modeling receptor site. The total pollutant concentration is the sum of: (i) the baseline concentration in the area of the plant due to existing sources of pollution and (ii) the estimated increase in pollutant concentration in the area, caused by the applicant's proposed emission increase and associated growth. To demonstrate that the proposed project will not cause or contribute to a violation of the NAAQS, the applicant is normally expected to show that the total pollutant concentration will not exceed the NAAQS at any receptor site.

B. Air Quality Impact Analyses Submitted by Applicant

Since Williams Field Services did not submit a PSD permit application for the 1984 project until May 22, 2001, and did not submit a PSD permit application for the 1991/1992 project until January 18, 2002, there was no pre-construction air quality impact analysis for VOC. Instead, Williams Field Services submitted an analysis in terms of post-project ambient monitoring data for ozone from the nearest monitoring station (Mesa Verde National Park) for 1993 through 1996, in an effort to show that the projects did not cause or contribute to a violation of the ozone NAAQS.

Williams compared the post-project ambient monitoring data to the ozone NAAQS that was in effect at the time the projects occurred (a one-hour average ozone concentration of 0.12 parts per million), rather than compare the data to the ozone NAAQS that was in effect at the time the PSD permit applications were submitted (an eight hour average ozone concentration of 0.08 parts per million, expressed as the average of the annual fourth-highest daily maximum eight-hour average ozone concentration). The full text of Williams' analysis is shown below.

i. Ozone Impacts from the TXP and Amine Units installed in 1984

The following analysis was submitted by Williams in their May 22, 2001 PSD permit application, submitted in response to the requirements of the March 28, 2001 consent decree. The analysis was agreed to by EPA through the finalization of the consent decree, at that time, to be acceptable.

The increase in VOC emissions from the TXP and amine units combined was 306 tons per year. According to EPA's guidelines, the chemical transformation from VOC to ozone is sufficiently complex that there are no standard dispersion models for estimating ozone impacts in rural areas. However, past monitoring data available at that time indicated that the monitor from the nearest available site, Mesa Verde National Park, showed second-highest one-hour maximum ozone concentrations of 0.065 ppm in 1993, 0.069 ppm in 1994, 0.068 ppm in 1995, and 0.077 ppm in 1996. Because the Amine Regeneration and TXP units had been operational since 1984, the historical monitoring data included the impacts resulting from these sources. Evidence indicated that the impacts were well below the national ambient air quality standard of 0.12 ppm for ozone. Therefore, it was determined that VOC emissions from these sources did not result in an exceedance of the standard. In addition, no ambient impact analysis or pre- or post-ambient air quality monitoring were required in the agreement. And, finally, since no PSD increment had been established for ozone, an increment analysis was not conducted.

ii. Ozone Impacts from the East and West Dehydrators Installed in 1991 and 1992

The following analysis was submitted by Williams in their January 18, 2002 PSD permit application, submitted in response to the requirements of the April 22, 2002 consent decree. Operation of the East and West Dehydrators resulted in VOC emissions to the atmosphere. However, the controlled emissions (though not enforceable) were far below the 40 tons per year VOC significant emission rate at 2.82 and 1.17 tons per year. Therefore, the VOC emissions are not expected to contribute significantly to the ambient air quality and since this area was designated as in attainment for ozone, for which VOCs are a precursor, no dispersion modeling analysis was required. Likewise, these emissions were not expected to have impacts to the Class I Air Quality Related Values or visibility.

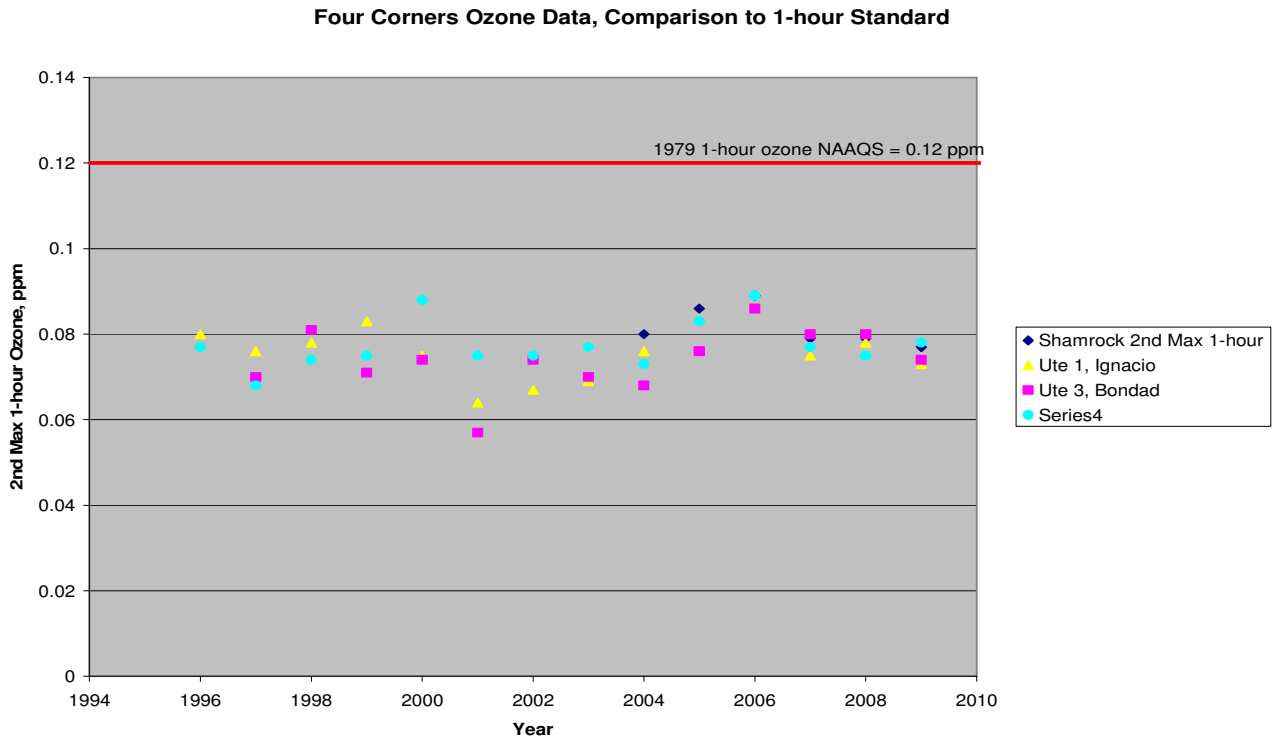
C. Updated Air Quality Impact Analysis by EPA Region 8

Since the Air Quality Impact Analyses submitted by Williams did not address the eight-hour ozone NAAQS established in 1997, or the revised eight-hour ozone NAAQS established in 2008, EPA has generated the analysis described below. The purpose of the analysis is to determine whether or not the projects have caused or contributed to a violation of the one-hour ozone NAAQS (0.12 ppm), the 1997 eight-hour ozone NAAQS (0.080 ppm), or the 2008 eight-hour ozone NAAQS (0.075 ppm).

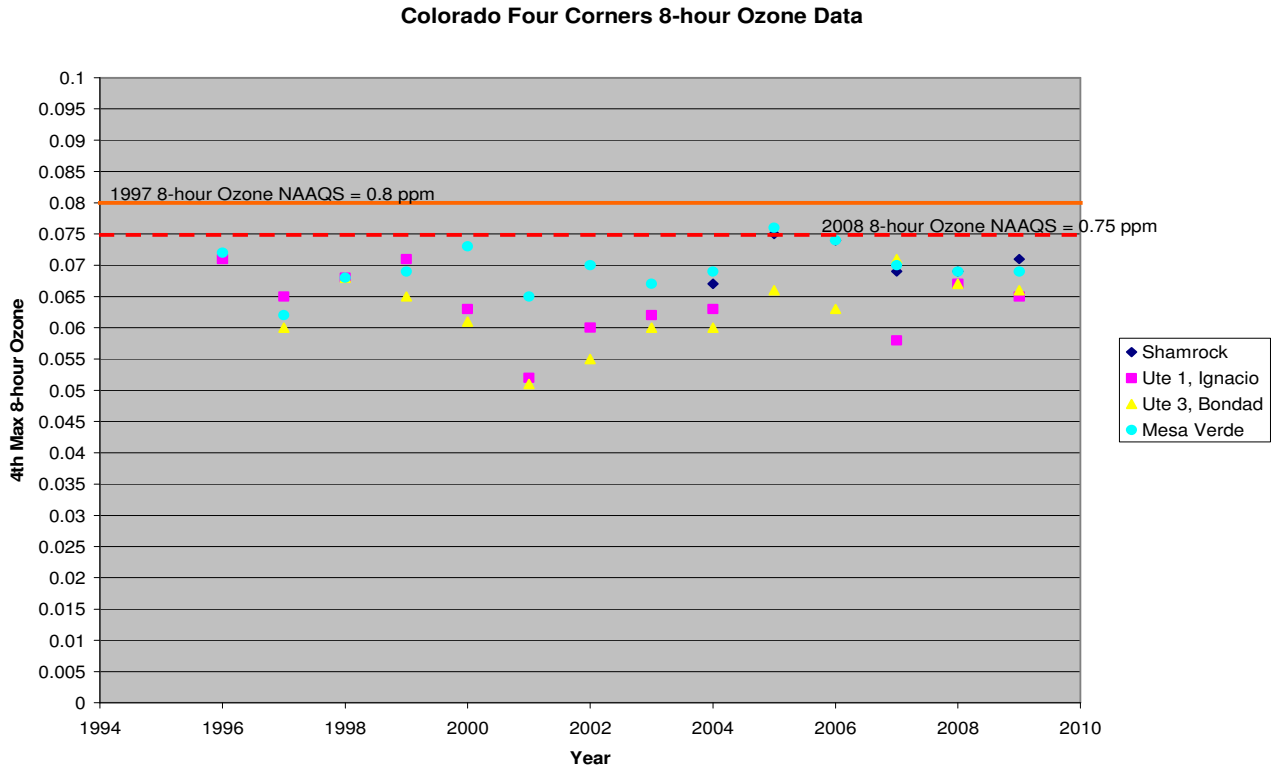
A total of seven ozone monitors have relevant data in EPA's Air Quality Subsystem (AQS) database. The history of these sites is:

Site	Start Date	Data Complete?
Mesa Verde	April 16, 1993	Through Jan. 31, 2010
Ute 1	1 June 1982	Missing 2005-2006
Ute 3	1 April 1997	Through 31 Dec. 2009
Shamrock	18 April 2004	Through 31 Dec. 2009
Farmington, NM	8 May 1997	Through 31 Dec. 2009
Bloomfield, NM	7 June 2000	Through 31 Dec. 2009
Navajo Dam, NM	23 March 2006	Through 31 Dec. 2009

The available Colorado ozone data from the Four Corners region are shown below:



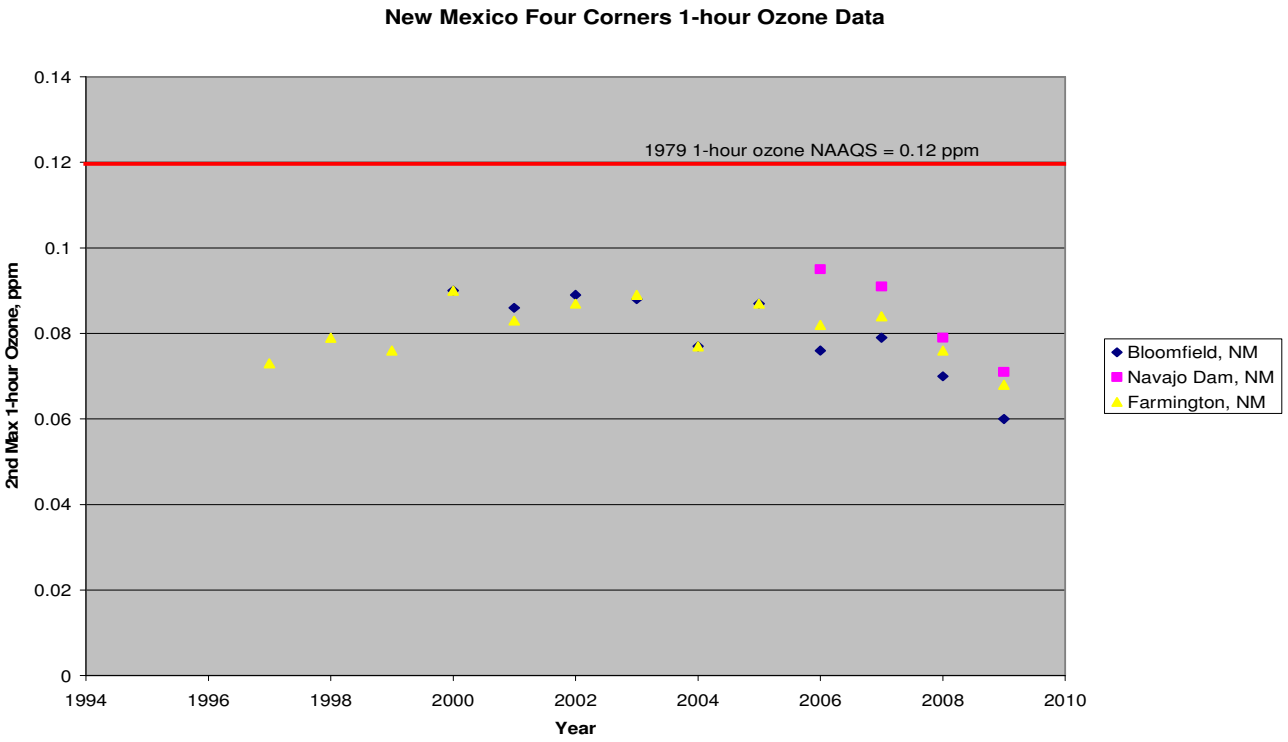
Colorado Monitor 2nd Max 1-hour ozone, 1996-2009



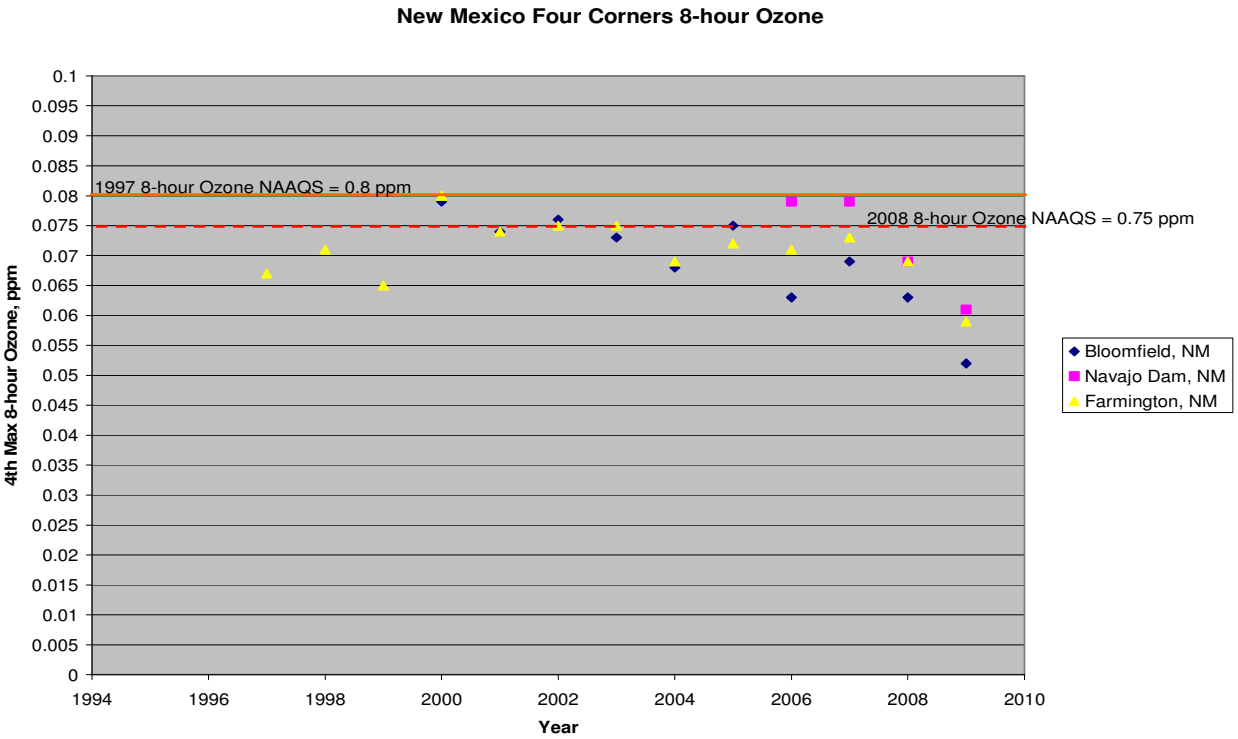
Colorado Monitor 4th Max 8-hour ozone, 1996-2009.

For Colorado, no monitor ever approached the one-hour ozone standard. No Colorado Four Corners monitor ever had a 4th max 8-hour average above the 1997 0.080 ppm standard. Mesa Verde had a 4th max value in 2005 of 0.076 ppm. That was below the NAAQS in place at the time, but above the NAAQS as it was revised in 2008 (to 0.075 ppm).

For New Mexico monitors in the Four Corners region, the data are below:



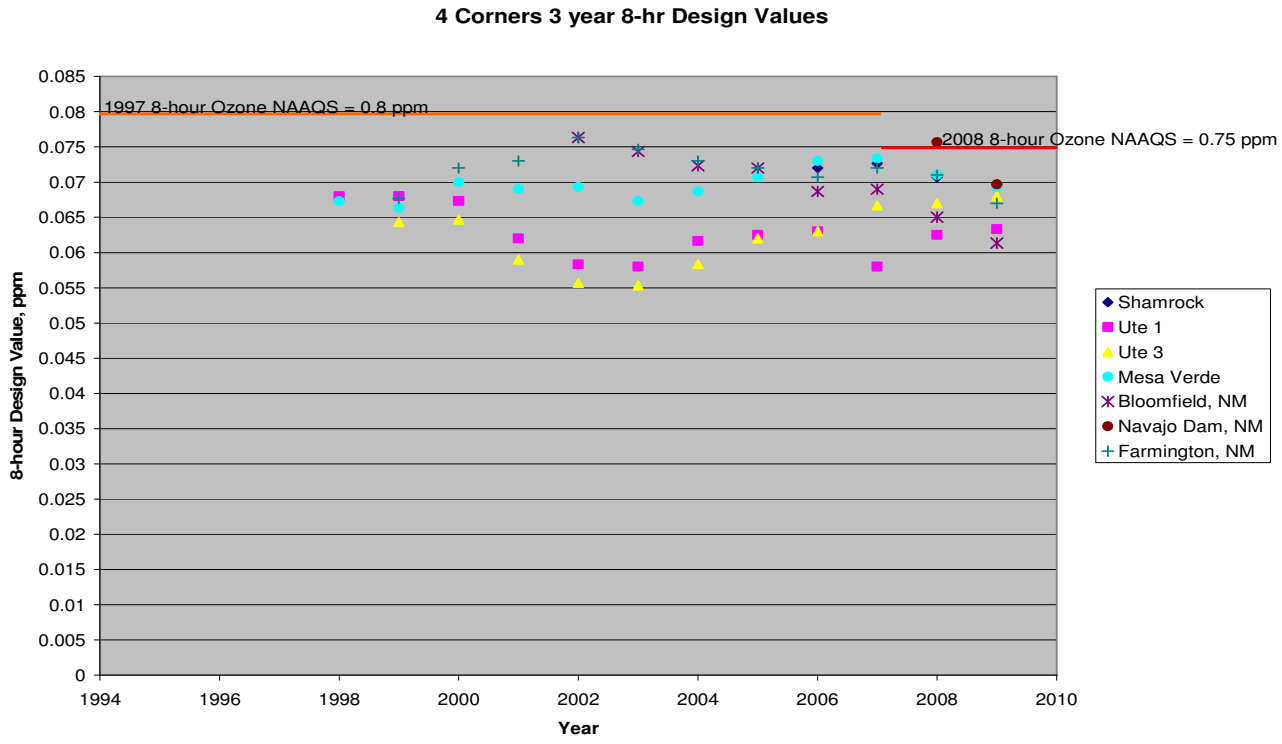
New Mexico 2nd Max 1-hour Data



New Mexico 4th Max 8-hour Data

No New Mexico Four Corners data approached the 1-hour standard. The 2000 8-hour average at Farmington equaled the standard in place at that time, at 0.080 ppm. All three New Mexico monitors have had at least one year between 2000 and 2008 with the 4th max 8-hour average above the revised NAAQS of 2008 (0.075 ppm).

For 8-hour ozone, NAAQS violations occur when the 3 year average of 4th maximum 8-hour average ozone is greater than the NAAQS. The 3-year 8-hour average design values for the region are shown below. No monitor ever had a 3-year average above the 1997 0.080 ppm NAAQS. The Farmington and Bloomfield monitors had a 3 year average for 2000-2002 of 0.076 ppm, not a violation, but above the level of the standard after its revision in 2008. The Navajo Dam monitor had a 3 year average of 0.0757 for 2006-2008, which per CFR truncates to 0.075 ppm (equal to the standard).



In this context, the term design value is being used to refer to the 3-year average of 4th maximum 8-hour ozone concentration calculated in accordance with Appendix I of 40 CFR Part 50. This design value is the value which is compared to the level of the 8-hour ozone standard to determine if an area attains or violates the NAAQS.

Conclusions from EPA's Updated Air Quality Impact Analysis:

For Colorado, no monitor ever approached the 1-hour standard. No Colorado Four Corners monitor ever had a 4th max 8-hour average above the 1997 0.080 ppm standard. Mesa Verde had a 4th max value in 2005 of 0.076 ppm. That was below the NAAQS in place at the time, but above the NAAQS as it was revised in 2008 (to 0.075 ppm).

No New Mexico Four Corners data approached the 1-hour standard. The 2000 8-hour average at Farmington equaled the standard in place at that time, at 0.080 ppm. All three New Mexico monitors

have had at least one year between 2000 and 2008 with the 4th max 8-hour average above the revised NAAQS of 2008 (0.075 ppm).

EPA's overall conclusion is that the Ignacio projects that are the subject of the PSD permit action have not caused or contributed to a violation of the ozone NAAQS.

D. Class I Impact Analysis for the TXP and Amine Units installed in 1984

Although no PSD increment has been established for ozone, the following discussion is included in this Statement of Basis for the Federal PSD permit.

There are two Class I areas located within 100 kilometers (km) of the Ignacio Gas Plant. The Weminuche Wilderness Area managed by the U.S. Forest Service and the Mesa Verde National Park managed by the National Park Service. The Weminuche Wilderness area is within 50 km of the Ignacio Gas Plant.

The U.S. Forest Service and the National Park Service were contacted by EPA on March 4, 2003, regarding the PSD permit applications and the potential impacts the emissions may have had in these two areas. EPA has no record of concern by the Forest Service or the Park Service that the emissions had caused air related impacts.

The pollutants of interest in this analysis were ozone and secondary particulates condensed from the heavier VOCs. According to the Federal Land Managers' Air Quality Related Values Work Group,[1] sensitive air quality related values (AQRVs) in the Weminuche Wilderness Area, the nearest Class 1 area, include visibility at Molas Pass and the Wolf Creek Pass, vascular plant communities at selected sites, soil surveys and soil chemistry of three basins, macroinvertebrate communities at two lakes, fish populations at the lakes, water chemistries at four identified lakes, snow pack chemistry at one lake, plankton communities at six lakes, and lichen communities at several sites. Impacts on these AQRVs were expected to be negligible for the following reasons:

i. Visibility at Molas Pass and at Wolf Creek Pass

Atmospheric particulate carbon, consisting of both elemental and organic carbon, has the potential to adversely affect visibility. One mechanism for formation of organic carbon is the condensation of low vapor pressure products of the gas-phase reactions of hydrocarbons onto the existing aerosol. This condensation only occurs if the species concentration is greater than the saturation concentration. The type of organic carbon formed is referred to as secondary organic carbon. (Secondary Organic Aerosol Formation and Transport, Izumi and Fukuyama, 1990, Atmospheric Environment, Vol. 24A, No. 6, PP 1433-1441).

Using the method outlined by Izumi and Fukuyama, the maximum conversion of VOCs to secondary organic carbon was estimated based on the concentration of VOCs at the Weminuche Wilderness Area Boundary. The VOC concentration was estimated by calculating the plume

[1] The Federal Land Managers' Air Quality Related Values Work Group (FLAG) is comprised of the National Park Service (NPS), the U.S. Fish and Wildlife Service (FWS) and the U.S. Forest Service (USFS). FLAG was formed to evaluate air pollution effects on air quality related values (AQRVs) primarily in Federal Class I air quality areas, but in some instances, in Class II areas; and to provide State permitting authorities and potential permit applicants consistency on how to assess the impacts of new and existing sources on AQRVs. See their web site at http://www.nature.nps.gov/air/Permits/flag/index.cfm.

flux across the boundary under assumed one-hour worst-case dispersion conditions and assuming constant VOC mass (no deposition) in the plume. The VOC concentration at the boundary of the wilderness area was estimated as 0.019 ppm at that time. Ninety eight percent of the VOC was identified as methane through isopentane, which do not contribute to formation of secondary organic carbon. Thus, the VOC condensable concentrations were less than 0.02 ppm, which were considered to be below the saturation concentrations and the VOCs were expected to remain in the vapor phase. Visibility degradation in the Weminuche Wilderness Area was therefore expected to be negligible.

ii. Vascular Plant Communities, Soil Surveys, and Soil Chemistry

A Screening Procedure to Evaluate Air Pollution Effects on Class I Wilderness Areas,[2] by the United States Department of Agriculture, Forest Service specified green and red line screening values for determining ozone effects on terrestrial resources within Class 1 areas. The general green-line value for ozone at that time was 0.075 ppm (second highest one-hour average in a year). This represented the threshold below which no significant impact was expected.

The Mesa Verde National Park second highest one-hour average in 1996 was 0.077 ppm, and for all other data years for the Weminuche Wilderness Area and the Mesa Verde National Park available at that time, the second-highest one-hour average was below the 0.075 ppm threshold. In addition, according to the National Forest Service, in 1997 ozone was not resulting in adverse impacts of terrestrial resources in the Weminuche Wilderness Area. Because the VOC source had been in operation since 1984, the ozone impacts from this source were also not resulting in adverse impacts of terrestrial resources in the area.

iii. Fish Populations, Water Chemistries, Snow Pack Chemistries, and Macroinvertebrate, Plankton, and Lichen Communities

No evidence was found that would indicate there was an adverse effect on water quality, or plankton, fish, and lichen communities from predicted ozone impacts. In addition, the effects on water quality were typically attributed to acidic (H_2SO_4) atmospheric deposition.

E. Impact to General Commercial, Residential, Industrial and Other Growth

As explained above, §52.21(o) requires an analysis of the general commercial, residential, industrial and other growth associated with the source or modification. Since this action will have no air quality or other environmental impacts, EPA believes, there will be no commercial, residential, industrial, or other growth associated with this proposed PSD permit action.

2 United States Department of Agriculture Forest Service; Rocky Mountain Forest and Range Experimental Station; General Technical Report RM-168. See http://www.fs.fed.us/rm/pubs_rm/rm_gtr168.pdf