New Mexico
ENVIRONMENT DEPARTMENT

525 Camino de los Marquez Suite 1
Santa Fe, NM 87505-1816
Phone (505) 476-4300
Fax (505) 476-4375
www.nmenv.state.nm.us

SUSANA MARTINEZ
GOVERNOR

JOHN A. SANCHEZ
LIEUTENANT GOVERNOR

RYAN FLYNN
CABINET SECRETARY

BUTCH TONGATE
DEPUTY SECRETARY

Air Quality Bureau
Response Letter

March 17, 2015

Clement J. Frost
Chairman Southern Ute Indian Tribal Council
PO Box 737
Ignacio, CO 81137

SUBJECT: Response to comments on Draft-Proposed Permit from Southern Ute Indian Tribe Title V Air Quality Operating Permit No. P116-R2 Chaco Natural Gas Processing Plant and Notification of the Issuance of Title V Air Quality Permit No. P116-R2

Dear Mr. Frost:

On February 9, 2015, the New Mexico Environment Department (Department) – Air Quality Bureau (AQB) received your comments regarding the Draft-Proposed Title V Air Quality Operating Permit No. P116-R2, for the Chaco Natural Gas Processing Plant. This response is intended to address your concerns regarding compliance with the National Ambient Air Quality Standards (NAAQS) for Nitrogen Dioxide (NOx).

This letter is also to notify you that the Title V Operating permit for the Chaco Gas Processing Plant was issued on March 13, 2015. This letter constitutes the Department's notification mentioned at 20.2.70.403.A(2) NMAC and initiates the associated 30-day petition period.

Comments and Responses:
To follow are the comments from your February 9, 2015 letter (attached) and the Department's responses.

> **Comments:** Based on our review of the draft permit and statement of basis (SOB), as outlined in Section 10.0 of the SOB, the facility was unable to demonstrate, through refined modeling, compliance with the National Ambient Air Quality Standards (NAAQS) primary annual standard for nitrogen dioxide (NO_2). The modeling was performed in conjunction with an October 2010 New Source Review

permit revision using the primary annual (53 ppb) NAAQS NO_2 standard. Also, this modeling omitted evaluation of NO_2 emissions against the one-hour NAAQS NO_2 standard of 100 ppb effective April 12, 2010.

There is concern that a source exceeding the NAAQS located in close proximity to the Southern Ute Indian Reservation may impact the Tribe's efforts to improve air quality within the reservation air shed.

Department Response:
If an existing facility's modeling shows that they cannot meet a current NAAQS and the facility does not trigger nonattainment permitting required by our nonattainment regulation 20.2.79 NMAC, then the proposed revision is subject to the minor source nonattainment permit regulation at 20.2.72.216 NMAC, which requires that the proposed permit revision demonstrate a net air quality benefit of at least a 20 percent reduction in ambient impact.

The facility's modeling submittal in their 2010 application for a pre-construction permit stated that the facility showed exceedences for both the NOx annual NAAQS standard and the 1-hr NOx NAAQS standard. Therefore, the facility was subject to the minor NSR nonattainment permit provision at 20.2.72.216.C NMAC. After verifying that there was at least a 20% net air quality benefit, by showing a 49% benefit, the AQB issued the permit.

This reduction in NOx emissions was primarily due to the retiring of five (5) Cooper-Bessemer GMVC-10 compressor engines, which resulted in a net reduction of over 1000 tpy in NOx emissions.

In response to your comments, we recently (2015) re-evaluated the 2010 modeling to determine what the net air quality benefit was in 2010 for the 1 hr NOx standard. Based on this modeling analysis (see attached), the AQB found a 56% net air quality benefit for the 1-hr NOx standard for the 2010 permit.

The nonattainment permit requirements are listed in Table 103.A of the Title V permit as an applicable requirement in accordance with the State's Title V regulation at 20.2.70.7.E(2) NMAC and 20.2.70.302(1)(a) NMAC.

Since the 2010 minor pre-construction permit was issued in accordance with the minor nonattainment regulation at 20.2.72.216 NMAC and the Title V permit includes all applicable requirements, the AQB finds that we have addressed all regulatory requirements in this Title V Operating Permit.

Notice of Permit Decision:
The Title V Operating Permit was issued on March 13, 2015.

Hearing Before the Environmental Improvement Board
In accordance with 20.2.70.403.A NMAC Hearing before the board:

1) Any person who participated in a permitting action before the department and who is adversely affected by such permitting action may file a petition for hearing before the board. For the purposes of this section, permitting action shall include the failure of the department to take final action on an application for a permit (including renewal) or permit modification within the time specified in this part.
2) The petition shall be made in writing to the board within thirty (30) days from the date notice is given of the department's action and shall specify the portions of the permitting action to which the petitioner objects, certify that a copy of the petition has been mailed or hand-delivered as required by this paragraph, and attach a copy of the permitting action for which review is sought. Unless a timely request for hearing is made, the decision of the department shall be final. The petition shall be copied simultaneously to the department upon receipt of the appeal notice. If the petitioner is not the applicant or permittee, the petitioner shall mail or hand-deliver a copy of the petition to the applicant or permittee. The department shall certify the administrative record to the board.

Petition to the Administrator (EPA)
In accordance with 20.2.70.402.B(2) NMAC Responses to Objections:

2) If the Administrator does not object in writing under paragraph (1) of subsection B of 20.2.70.402 NMAC, any person may, within sixty (60) days after the expiration of the Administrator's 45-day review period, petition the Administrator to make such objection. Any such petition shall be based only on objections to the permit that were raised with reasonable specificity during the public comment period provided for in 20.2.70.401 NMAC, unless the petitioner demonstrates that it was impracticable to raise such objections within such period, or unless the grounds for such objection arose after such period. If the Administrator objects to the permit as a result of a petition filed under this paragraph, the Department shall not issue the permit until the Administrator's objection has been resolved, except that a petition for review does not stay the effectiveness of a permit or its requirements if the permit was issued after the end of the 45-day review period and prior to the Administrator's objection.

EPA's (the Administrator's) 45-day review ended (expired) on March 4, 2015. EPA did not object to the issuance of this permit.

The final permit, comments, responses, and other information are located, or will soon be located, in the Permitting Section of the Air Quality Bureau (AQB) website under Current Permitting Activities at the Applications and Permits with public interest, meetings, or hearings link.

Thank you for your interest and comments in this Title V Draft-Proposed permit. If there are questions, please do not hesitate to contact me.

Sincerely,

Daren K. Zigich, P.E.
Air Quality Bureau – Major Source Permit Section
(505) 476-4366 office
darenk.zigich@state.nm.us

Attachments: February 9, 2015 letter from Southern Ute Tribe
Air Dispersion Modeling Summary for Permit No. 1555M4, November 1, 2010 (revised March 11, 2015)

cc: James Neely Ashe Enterprise Product Operating, LLC permit contact via email: JNASHE@eprod.com
Randy Pitre, US EPA Region-6 via email: Pitre.Randy@epamail.epa.gov

SOUTHERN UTE INDIAN TRIBE

RECEIVED
FEB 17 2015
Air Quality Bureau

February 9, 2015

New Mexico Environment Department
Air Quality Bureau
525 Camino de los Marquez Suite 1
Santa Fe, NM 87505-1816

Re: Response to Notification to affected Programs, Air Quality Operating Permit Application P116-R2, NSR Permit No. 1555-M5R5, TEMPO/IDEA No. 1148-PRT20130003

Dear Sir or Madam:

The Southern Ute Indian Tribe, Air Quality Program (AQP) appreciates the opportunity to provide comments to the New Mexico Environment Department, Air Quality Bureau on the proposed renewal of Operating Permit No. P116R2 for Enterprise Field Services, LLC's Chaco Natural Gas Processing Plant.

Based on our review of the draft permit and statement of basis (SOB), as outlined in Section 10.0 of the SOB, the facility was unable to demonstrate, through refined modeling, compliance with the National Ambient Air Quality Standards (NAAQS) primary annual standard for nitrogen dioxide (NO_2). The modeling was performed in conjunction with an October 2010 New Source Review permit revision using the primary annual (53 ppb) NAAQS NO_2 standard. Also, this modeling omitted evaluation of NO_2 emissions against the one-hour NAAQS NO_2 standard of 100 ppb effective April 12, 2010.

There is concern that a source exceeding the NAAQS located in close proximity to the Southern Ute Indian Reservation may impact the Tribe's efforts to improve air quality within the reservation air shed.

Sincerely,

Clement J. Frost

Clement J. Frost, Chairman
Southern Ute Indian Tribal Council

P.O. Box 737 ✦ Ignacio, CO 81137 ✦ Phone: 970-563-0100

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Air Dispersion Modeling Summary for Permit No. 1555M4 (revised March 12, 2015)

November 1, 2010 (revised March 12, 2015)
Gi-Dong Kim

Project: Enterprise Field Services, LLC – Chaco Natural Gas Processing Plant
Section 16, Township 26N, Range 12W, San Juan County
UTM Coordinates: 758,000 m East, 4,041,200 m North, zone 12
Elevation = 6020 feet

Brief: This is a revised modeling analysis only for 1-hour and annual NO_2 modeling. In the course of reviewing the modeling, the Bureau found multiple discrepancies between the company's and the Bureau's modeling. The discrepancies do not change the outcome of the modeling since the net air quality benefit of at least 20% (56 percent), as required by 20.2.72.216.C NMAC, for the 1-hour NO_2 modeling is met. The Bureau's annual NO_2 modeling shows compliance with State and National Ambient Air Quality Standards, and therefore, 20% net benefit is not required for this standard.

The company desires that the New Mexico Air Quality Bureau issue air quality permit 1555M4 for Chaco Natural Gas Processing Plant. The facility is located approximately 14 miles southwest of Bloomfield in San Juan County, New Mexico. The company proposes a number of changes incorporating Startup, Shutdown and Maintenance (SSM) activities, adding PM emissions from regulated units including the cooling towers, and removing five Cooper-Bessemer GMVC-10 compressor engines (units 1, 2, 3, 4, and 5). The facility has emission sources of Carbon Monoxide (CO), Nitrogen Oxide (NOx), Sulfur Dioxide (SO_2), H_2S, Total Suspended Particulates (TSP), and Particulates less than 10 micrometers in aerodynamic diameter (PM_{10}) and Particulates less than 2.5 micrometers in aerodynamic diameter ($PM_{2.5}$). Since the facility is located in air quality control region 014, the minor source baseline dates for NO_2, SO_2, and PM_{10} have been triggered. Impacts for all the pollutants are reviewed here. The emissions and stack parameters for the facility are shown in Table 1.

Conclusion: This modeling analysis demonstrates that operation of the facility described in this report neither causes nor contributes to any exceedances of applicable air quality standards except for 1-hour NO_2 NAAQS, 24-hour NO_2 NMAAQS, and annual NO_2 PSD Class II Increment.

The minor NSR nonattainment permit requirements for 1-hour NO_2 NAAQS, 24-hour NO_2 NMAAQS, and annual NO_2 PSD Class II Increment at 20.2.72.216.C NMAC were met as there was at least a 20% net air quality benefit from the reduction in NOx emissions.

The standards relevant at this facility are NAAQS for CO, NO_2, SO_2, PM_{10}, and $PM_{2.5}$; NMAAQS for CO, NO_2, SO_2, H_2S, and TSP; and PSD Class I and II Increment for NO_2, SO_2, and PM_{10}.

Action: The permit (NSR 1555-M4) was properly issued based on this modeling analysis showing a greater than 20 percent net air quality benefit for the 1-hour NO_2 NAAQS, 24-hour NO_2 NMAAQS and PSD Class II increment for NO_2.

Modeling report submitted by Trinity Consultants. (dated 07/26/2010)

Table 1: Table of Emissions and Stack Parameters[1]
Point Source Stack Parameters and Emission Rates

Stack ID	Description	Stack Height (m)	Stack Diameter (m)	Exit Velocity (m/s)	Temp (K)	Emission Rate (lb/hr)						
						CO	NO_2	SO_2	H_2S	TSP	PM_{10}	$PM_{2.5}$
8	Natural Gas Fired Reciprocating Engine (NGFRE)	6.71	0.7100	30.11	714	1.76	6.44	0.44	0	0.594	0.594	0.594
11	NGFRE	6.71	0.7100	30.11	714	1.76	6.40	0.44	0	0.594	0.594	0.594
12	NGFRE	10.67	0.7437	39.32	613	17.20	49.70	0.43	0	1.119	1.119	1.119
13	NGFRE	10.67	0.7437	39.32	613	1.72	49.70	0.43	0	1.119	1.119	1.119
14	NGFRE	10.67	0.7437	39.32	613	17.20	49.70	0.43	0	1.119	1.119	1.119
17	Natural Gas Fired Turbine (NGFT)	12.50	2.1800	49.38	681	31.51	78.50	2.08	0	1.027	1.027	1.027
18	NGFT	12.27	2.1800	49.07	681	31.51	78.50	2.08	0	1.027	1.027	1.027
30	Diesel-powered standby compressor	5.18	0.2286	54.56	533	3.02	13.95	0.92	0	0.990	0.990	0.990
32	NGFRE	6.71	0.5100	33.53	738	0.87	4.60	0.23	0	0.297	0.297	0.297
33	NGFRE	6.71	0.5100	33.53	738	0.87	4.60	0.23	0	0.297	0.297	0.297
34	NGFRE	6.71	0.5100	33.53	738	0.87	4.60	0.23	0	0.297	0.297	0.297
35	NGFT	15.24	2.2900	29.00	759	2.37	76.20	1.44	0	0.753	0.753	0.753
36	NGFT	15.24	2.2900	29.00	759	2.37	76.20	1.44	0	0.753	0.753	0.753
37	NGFT	15.24	2.2900	29.00	759	2.37	76.20	1.44	0	0.753	0.753	0.753
42	Inlet and Emergency Flare	7.62	1.4436	20.00	1273	1.28	5.80	1.44	0	0.001	0.001	0.001
43	Inlet and Emergency Flare	7.62	2.9948	20.00	1273	44.78	22.43	1.40	0	0.001	0.001	0.001
44	Emergency and Cryogenic Plant Process Flare	39.62	1.4171	20.00	1273	7.45	7.29	0.27	0	0.001	0.001	0.001
46	Thermal Oxidizer	9.14	0.9144	17.68	811	1.30	4.50	6.40	0.41	0.001	0.001	0.001
48	Mole Sieve Regeneration Heater	13.87	0.6858	5.50	578	1.80	1.90	0.15	0	0.057	0.057	0.057
49	NGFT	6.10	1.5240	27.20	723	5.78	7.97	0.75	0	0.388	0.388	0.388
50	NGFRE	6.10	0.6096	39.26	732	1.85	5.14	0.36	0	0.251	0.251	0.251
51	Glycol Dehydrator Burner	4.57	0.1524	3.02	378	1.00	1.19	0.17	0	0.080	0.080	0.080
CTB*	Cooling Tower	6.10	0.6096	39.26	732	0	0	0	0	1.290	0.620	0.080
CTC*	Cooling Tower	6.10	0.6096	39.26	732	0	0	0	0	1.000	0.480	0.060

[1] All values copied or converted from *Enterprise field Services LLC - Chaco Natural Gas Processing Plant's* Permit Application.

* The stack parameters of the cooling towers assumed in the modeling analysis.

Model(s) Used: AERMOD was used to run the modeling analysis.
Note: complete modeling input and output files can be made available and are located on the server *Fates* in the directory *AQB/ModelingArchives/1555M4_EnterpriseFS_ChacoGP*.

Number of Model Runs: AERMOD- 16 modeling runs were reviewed by NMED.

Modeling Parameters: The AERMOD regulatory default parameters were included in assumptions made by the model. Building downwash caused by buildings at the facility was considered.

Complex Terrain Data: Both simple and complex types of terrain were used to model the facility. Elevations of receptors, facility sources, and surrounding sources were obtained from digitized USGS 7.5-minute maps and one degree maps.

Receptor Grid: The radii of significant impact for the facility were established using a Cartesian grid as shown in Table 2. Fenceline receptors were placed at 50-meter intervals around the facility fenceline. A 50-meter spacing for a very fine grid resolution was extended to 0.5-km from the fenceline in each direction. Receptors for a fine grid resolution were defined with 100-meter spacing to a distance of 1-km from the facility. For intermediate and rough grid resolutions, 250-meter spacing and 500-meter spacing were extended to 2.5-km and 5-km from the facility, respectively. Receptors outside of the radii of impact were discarded for the surrounding source runs.

Table 2: Used Grid Resolutions in the Modeling Domain

Grid Type	Description	Shape	Spacing (m)	Length (Km)
Cartesian	Very fine	Square	50	0.5
Cartesian	Fine	Square	100	1.0
Cartesian	Intermediate	Square	250	2.5
Cartesian	Rough	Square	500	5.0

Meteorological Data: AERMOD -- One (1) year of surface (VALVERDE93.SFC) and upper air meteorological data (VALVERDE93.PFL).

Adjacent Sources: All adjacent particulate sources within 65 km were modeled. The entire list of sources can be made available and can be found on the server *Aurora* in the directory *AQB/ModelingArchives/1555M4_EnterpriseFS_ChacoGP*.

Results Discussion: Results are detailed in Table 3.

CO, NO_2, SO_2, H_2S, TSP, PM_{10}, and $PM_{2.5}$ Standards...

1-hr and 8-hr CO Standards
As shown in Table 3, the concentrations are below the significance levels. No further modeling was needed.

Annual, 24-hr, and 1-hr NO_2 NAAQS and NMAAQS…
The NMED's 80% 1-hour conversion of NOx to NO_2, 40% 24-hour conversion of NOx to NO_2 and the 75% annual conversion of NOx to NO_2 from EPA's Ambient Ratio Method (ARM) were applied to calculate concentrations. As shown in Table 3, the annual averaged maximum NO_2 concentration of 55.88 $\mu g/m^3$ shows compliance with the annual NAAQS (99.67 $\mu g/m^3$) and NMAAQS (50 ppb equivalent to 76.38 $\mu g/m^3$).

The facility does not show compliance with the 24-hour NO_2 NMAAQS and the 1-hour NO_2 NAAQS. However, the facility demonstrates net air quality improvement of 49% and 56% for 24-hour and 1-hour NO_2, respectively, by removing the five natural gas fired reciprocating engines. This benefit was calculated as prescribed in NMED Air Dispersion Modeling Guidelines.

Annual NO_2 PSD Class II Increment…
The NMED's 75% annual conversion of NOx to NO_2 from EPA's Ambient Ratio Method (ARM) was applied to calculate concentrations. The facility does not show compliance with the annual NO_2 PSD Class II Increment even if it demonstrates significant net air quality improvement for annual NO_2 by removing the five engines that results in significant NOx emission reduction.

Annual NO_2 PSD Class I Increment…
The nearest PSD Class I area is Mesa Verde National Park which is located 80 km from the facility. The facility will have negligible impacts at this distance.

Annual, 3-hr, and 24-hr SO_2 NAAQS and NMAAQS
As shown in Table 3, the 3-hour, 24-hour, and annual averaged maximum SO_2 concentrations show compliance with the applicable NAAQS and NMAAQS.

Annual, 3-hr, and 24-hr SO_2 PSD Class II Increment…
Compliance with the annual, 3-hour, and 24-hour SO_2 PSD Class II increment has been demonstrated, as detailed in Table 3.

Annual, 3-hr, and 24-hr SO_2 PSD Class I Increment…
The nearest PSD Class I area is Mesa Verde National Park which is located 80 km from the facility. The facility will have negligible impacts at this distance.

1-hr H_2S Standard
Compliance with 1-hour H_2S NMAAQS has been demonstrated, as shown in Table 3.

Annual and 24-hr TSP NMAAQS…
Compliance with the annual and 24-hour TSP NMAAQS has been demonstrated, as detailed in Table 3.

24-hr PM_{10} NAAQS…
Compliance with the 24-hour PM_{10} NAAQS has been demonstrated, as detailed in Table 3.

Annual and 24-hour PM_{10} PSD Class II increment…
Compliance with the annual and 24-hour PM_{10} PSD Class II increment has been demonstrated, as detailed in Table 3.

PM10 PSD Class I increment…
The nearest PSD Class I area is Mesa Verde National Park which is located 80 km from the facility. The facility will have negligible impacts at this distance.

Annual and 24-hr $PM_{2.5}$ NAAQS…
Compliance with the annual and 24-hour $PM_{2.5}$ NAAQS has been demonstrated, as detailed in Table 3.

Table 3: Ambient Impact from Emissions

Pollutant	Contributing Sources	Averaging Period	Concentration		Standard		Percent of Standard or Significance Level
			μg/m^3	ppm	Applicable	Value	
CO	Alone	1-hour	460.0	0.495	Significance	2000 μg/m^3	23.0
CO	Alone	8-hour	162.0	0.174	Significance	500 μg/m^3	32.4
NO_2	All	annual	55.88	0.037	NAAQS	99.67 μg/m^3	56.1
NO_2	Alone	annual	48.62	0.032	NAAQS	99.67 μg/m^3	48.8
NO_2	All	annual	55.88	0.037	NMAAQS	0.05 ppm	74.0
NO_2	Alone	annual	48.62	0.032	NMAAQS	0.05 ppm	64.0
SO_2	All	3-hour	147.0	0.069	NAAQS	0.5 ppm	13.8
SO_2	Alone	3-hour	41.0	0.019	NAAQS	0.5 ppm	3.8
SO_2	All	24-hour	33.0	0.016	NMAAQS	0.1 ppm	16.0

SO_2	Alone	24-hour	13.8	0.006	NMAAQS	0.1 ppm	6.0
SO_2	All	annual	7.0	0.003	NMAAQS	0.02 ppm	15.0
SO_2	Alone	annual	3.4	0.002	NMAAQS	0.02 ppm	10.0
SO_2	PSD	3-hour	90.0	0.042	PSD Class II	512 $\mu g/m^3$	17.6
SO_2	PSD	24-hour	22.0	0.010	PSD Class II	91 $\mu g/m^3$	24.2
SO_2	PSD	annual	6.0	0.003	PSD Class II	20 $\mu g/m^3$	30.0
H_2S	Alone	1-hour	2.2	0.002	NMAAQS	0.01 ppm	20.0
TSP	Alone	24-hour	16.06	***	NMAAQS	150 $\mu g/m^3$	10.71
TSP	Alone	annual	3.63	***	NMAAQS	60 $\mu g/m^3$	6.05
TSP*	All	24-hour	43.10	***	NMAAQS	150 $\mu g/m^3$	28.73
TSP*	All	annual	31.09	***	NMAAQS	60 $\mu g/m^3$	51.82
PM_{10}	Alone	24-hour	15.31	***	NAAQS	150 $\mu g/m^3$	10.21
PM_{10}*	All	24-hour	35.73	***	NAAQS	150 $\mu g/m^3$	23.82
PM_{10}	PSD	24-hour	15.64	***	PSD Class II	30 $\mu g/m^3$	52.13
PM_{10}	PSD	annual	3.61	***	PSD Class II	17 $\mu g/m^3$	21.24
$PM_{2.5}$	Alone	24-hour	14.75	***	NAAQS	35 $\mu g/m^3$	42.14
$PM_{2.5}$	Alone	annual	3.31	***	NAAQS	35 $\mu g/m^3$	9.46
$PM_{2.5}$*	All	24-hour	22.46	***	NAAQS	35 $\mu g/m^3$	64.17
$PM_{2.5}$*	All	annual	11.23	***	NAAQS	35 $\mu g/m^3$	32.09

*: Background concentrations of 7.3 $\mu g/m^3$ ($PM_{2.5}$), 20 $\mu g/m^3$ (PM_{10}) and 26.6 $\mu g/m^3$ (TSP) were added to the modeled impact of the facility sources and surrounding sources for the NAAQS and the NMAAQS analysis.