

Administrative Record In Support Of CAA Title V Operating Permit
 El Paso Natural Gas Company
 Laguna Compressor Station
 Laguna Pueblo, Cibola County, New Mexico
 Permit Number R6NM-02-09R1

Document Number	Date	Description
1	03/19/2004	Title V Permit Number R6FOPP71-02, as issued, 28 pages
2A	09/11/2008	Application for Renewal of Title V Permit Renewal, Part 1 of 2, 61 pages
2B	09/11/2008	Application for Renewal of Title V Permit Renewal, Part 2 of 2, 58 pages
3	10/22/2008	Letter, EPA Request for additional information, 30 pages
4	10/31/2008	Letter, EPNG Supporting Information for Permit Renewal Application, 23 pages
5	11/07/2008	Letter, EPA Completeness Determination, 1 page
6	07/09/2009	Email, EPNG Response to EPA's June 26, 2009 call and follow-up email and EPA's July 1, 2009 email (includes 3 attachments), xx pages
7	07/09/2009	Email, EPNG follow-up email to email of same date, 1 page
8	07/16/2009	Email, EPNG Response to EPA's July 10, 2009 email (includes 1 attachment), xx pages
9	10/25/2012	Letter, EPA's Request for information related to source determination, 8 pages
10	12/19/2012	Letter, EPNG Response to EPA's Oct 25, 2012 information request, 6 pages
11	01/17/2013	Email, EPA Request for additional information, 1 page (see Doc 13)
12	02/19/2013	Email, EPNG Response to EPA's January 17, 2013 email, 2 pages
13	02/19/2013	Map, attached to EPNG's February 19, 2013 email, 1 page
14	02/26/2013	Email, EPA Request for additional information, 1 page
15	03/28/2013	Letter, EPNG Response to EPA's February 26, 2013 Email, 61 pp. (CBI included)
16	04/05/13	Email, EPNG additional information in response to EPA's February 26, 2013 Email, and clarification to December 19, 2012 Response (references 4 attachments), 6 pgs.
17	04/05/2013	Attachment to EPNG's April 5, 2013 Email (labeled as KM Natural gas Pipelines), 1 pg
18	04/05/2013	Attachment to EPNG's April 5, 2013 Email (labeled as Cortez Pipeline Map), 1 page
19	04/05/2013	Attachment to EPNG's April 5, 2013 Email (labeled as Natural Gas PFD), 1 page
20	04/05/2013	Attachment to EPNG's April 5, 2013 Email (labeled as RCG_11_17.gif), 1 page
21	05/20/2013	Email, EPA to EPNG Concerning PTE, 1 page
22	05/30/2013	Email, EPNG Response to EPA's May 20, 2013 email, 1 page
23	12/30/2014	Draft Statement of Basis, 28 pages
24	12/30/2014	Draft Title V Permit, 44 pages
25	12/30/2014	Draft Source Determination, 7 pages
26		Public Notice of Draft Permit, 2 pages

*****PUBLIC NOTICE*****

El Paso Natural Gas Company

Laguna Compressor Station

**ANNOUNCEMENT OF PROPOSED PERMIT AND PUBLIC HEARING,
AND REQUEST FOR PUBLIC COMMENT OF PROPOSED CLEAN AIR ACT
TITLE V PERMIT**

Public Comment Period January 13, 2015 to February 12, 2015

Notice of Intent to Issue a Clean Air Act, Title V, Federal Operating Permit, United States Environmental Protection Agency (EPA), Region 6, Multimedia Planning and Permitting Division.

Take notice that the United States Environmental Protection Agency has received an application for an operating permit that regulates air pollution emissions from the following source:

The El Paso Natural Gas Company, Laguna Compressor Station, located 5 miles southeast of Laguna, New Mexico. The mailing address is: El Paso Natural Gas Company, 8725 Alameda Park Drive NE, Albuquerque, New Mexico 87113.

The El Paso Natural Gas Company is located on the Pueblo of Laguna Reservation, Cibola County, New Mexico. The source is a natural gas compression and transmission facility with pressurized natural gas as its principal products. The source emits the following pollutants: carbon dioxide, particulate matter with diameters 2.5 and 10 microns or less, oxides of nitrogen, volatile organic compounds, and hazardous air pollutants. This action proposes the following annual emission increases to the facility's potential to emit (PTE) on a ton per year (tpy) basis at the El Paso Natural Gas Company - Laguna Compressor Station: 0.6 tpy of nitrogen oxides (NO_x), 7.0 tpy of sulfur dioxide (SO₂), 1.1 tpy of carbon monoxide (CO), 22.4 tpy of particulate matter less than 10 micrometers in diameter (PM₁₀), 22.4 tpy of particulate matter less than 2.5 micrometers in diameter (PM_{2.5}), 3.2 tpy of Volatile Organic Compounds (VOC), and 13.13 tpy of Hazardous Air Pollutants (HAPs). These increases are not associated or due to a physical change or modification at the facility.

This source is subject to the provisions of EPA permit R6FOPP71-02 and is required to obtain a Clean Air Act Title V Renewal Permit to Operate in accordance with Part 71 of Title 40 of the Code of Federal Regulations. The permit will contain all the Clean Air Act requirements that apply to the source and is subject to the administrative requirements of 40 Code of Federal Regulations 71.11.

Members of the public may review a copy of the draft permit prepared by EPA, the statement of basis for the draft permit, the application, and all supporting materials at the EPA Region 6 web site, <http://yosemite.epa.gov/r6/Apermit.nsf/Part71>, or by contacting Randy Pitre at Air Permits Section,

Multimedia Planning and Permitting Division, U.S. EPA Region 6, Suite 1200, 1445 Ross Avenue, Dallas, Texas 75202, or at (214) 665-7299, or by email to pitre.randy@epa.gov. All documents will be available for review at the EPA Region 6 office, Monday – Friday, from 7:30 a.m. -4:30 p.m., excluding Federal holidays. Documents will also be available at the Laguna Public Library, 29 Rodeo Drive, Laguna, New Mexico, 87026, phone 505-552-6280. Please call in advance to arrange viewing times.

If you have comments on the draft permit, you must submit them on or before February 12, 2015. You have the right to request a public hearing on the draft permit. Requests for a public hearing must be made by February 12, 2015, and must contain your reasons for requesting a hearing. If a public hearing is granted, the comment period will be extended through the date of the public hearing. All comments and public hearing requests should be addressed to Randy Pitre, Air Permits Section, Multimedia Planning and Permitting Division, U.S. EPA Region 6, Suite 1200, 1445 Ross Avenue, Dallas, Texas 75202, or by email to pitre.randy@epa.gov. All comments received prior to February 12, 2015, and all comments made during a public hearing will be considered in arriving at a final decision on the permit. Additionally, all comments will be included in the administrative record without change, and may be made available to the public, including any personal information provided, unless the comment includes Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Thus, CBI or other protected information should be clearly identified as such, and should not be submitted through email. Emails sent directly to the EPA will capture your email address automatically and will be included as a part of the public comment. Please note that an email or postal address must be provided with your comments if you wish to receive a statement of reasons for changes made to the draft permit and responses to comments submitted during the public comment period.

If you believe any condition of the draft permit is inappropriate or that our initial decision to deny an application, terminate a permit, or prepare a draft permit is inappropriate, you must raise all reasonably ascertainable issues and submit all reasonably ascertainable arguments supporting your position by the end of the comment period. Any supporting materials that you submit must be included in full and may not be incorporated by reference, unless they are already part of the administrative record for this permit proceeding or consist of State, tribal, or Federal statutes and regulations, EPA documents of general availability, or other generally available reference materials.

Leslie

From: Pitre, Randy [<mailto:Pitre.Randy@epa.gov>]
Sent: Thursday, March 21, 2013 9:05 AM
To: Nolting, Leslie R
Cc: Bartley, Richard; Robinson, Jeffrey
Subject: RE: El Paso Natural Gas Company's Laguna Compressor Station

Leslie,

Your request for an additional week to complete the EPA Region 6 request for information is authorized.

Randy L. Pitre
Air Permits Section
U.S. EPA Region 6
Office: (214) 665-7299

From: Nolting, Leslie R. [mailto:Leslie_Nolting@KinderMorgan.com]
Sent: Wednesday, March 20, 2013 4:49 PM
To: Pitre, Randy
Subject: RE: El Paso Natural Gas Company's Laguna Compressor Station

Good afternoon Randy,

We are compiling this information as quickly as we can, but respectfully request one more week to provide a complete response by March 29, 2013. Please let me know if this will be acceptable, thank you!

Leslie

From: Pitre, Randy [<mailto:Pitre.Randy@epa.gov>]
Sent: Tuesday, February 26, 2013 1:37 PM
To: Nolting, Leslie R
Cc: Bartley, Richard; Robinson, Jeffrey
Subject: El Paso Natural Gas Company's Laguna Compressor Station

Ms. Nolting :

As a follow-up to our conference call on February 21, 2013, please provide responses to the following items:

- (1) Please provide a list of the participants (and their titles) who were representing El Paso Natural Gas Company during the February 21, 2013 conference call;
- (2) Please review and update the information submitted in El Paso Natural Gas Company's application, dated September 11, 2008, for the renewal of the Title V permit for the Laguna Compressor Station; specifically, the Table 4.1 List of Insignificant Activities, the revised Applicability of Determination for NSPS and MACT requirements, and changes to the General Information and Summary Portion. Additionally, please note that the serial number for AUX A-02 Engine in the application is the same serial number as the AUX A-01 Engine; therefore please verify these serial numbers.
- (3) Please provide a more detailed description of the "delivery meters" referenced in your email, dated February 19, 2013; including; (a) provide the number and location (in terms of distance from the Laguna compressor station as well as whether the meter is on tribal land) of the delivery meters between the Bluewater and Laguna compressor stations as well as those between the Laguna and Belen compressor stations; and (b) for each delivery meter, describe the frequency and amount of natural gas delivered, who receives the deliveries, and whether any of the deliveries are (or have the potential to be) received by any Kinder Morgan company or any of its affiliates.

No correction is needed to our original response.

7. *A description of operations at the Laguna Compressor Station facility. Where does the natural gas from the Laguna Compressor Station move to next in the natural gas pipeline?*

No correction is needed to our original response.

Thank you again for your work on our permit. We look forward to hearing from you.

Sincerely,

Leslie Nolting

Kinder Morgan, Inc.

Air Compliance - West

(719) 520-4652 (office)

(719) 355-9416 (cell)

(719) 667-7757 (fax)

Leslie_Nolting@KinderMorgan.com



"No trees were harmed in the sending of this email; however, a large number of electrons were terribly inconvenienced."

From: Pitre, Randy [mailto:Pitre.Randy@epa.gov]
Sent: Tuesday, April 02, 2013 11:41 AM
To: Nolting, Leslie R
Cc: Bartley, Richard; Robinson, Jeffrey
Subject: RE: El Paso Natural Gas Company's Laguna Compressor Station

Leslie,

Please advise how much additional time may be required for the information concerning question No. 5.

Randy L. Pitre
Air Permits Section
U.S. EPA Region 6
Office: (214) 665-7299

From: Nolting, Leslie R [mailto:Leslie_Nolting@KinderMorgan.com]
Sent: Friday, March 29, 2013 4:43 PM
To: Pitre, Randy
Cc: Bartley, Richard; Robinson, Jeffrey
Subject: RE: El Paso Natural Gas Company's Laguna Compressor Station

Good afternoon Randy,

Our responses to the items listed below are attached. We are requesting some additional time for the answer to #5 as Kinder Morgan (the parent company of EPNG) operates other business entities in the San Juan Basin unrelated to EPNG and we are in the process of getting some further clarification on these operations.

Thank you for your assistance,

(4) Provide confirmation that no gas is currently received by the pipeline(s) which connect the Bluewater and Laguna compressor stations nor the pipeline(s) which connect the Laguna and Belen compressor stations. Provide a detailed description of what changes would have to be effectuate before any gas could be received by these pipelines.

(5) In your letter dated December 19, 2012, you state, "EPNG, along with its parents, subsidiaries, and partners, do not have any *ownership* interest in [field operations and production field facilities in the San Juan Basin]. Please confirm that these business entities do not have any ownership *or operational* interest in such operations or facilities.

Complete responses to these items will help facilitate our continuing review of EPNG's application for the renewal of the Title V permit for the Laguna compressor station. Please provide your responses by March 22, 2013, or contact me should you need additional time for your response.

Randy L. Pitre
Air Permits Section
U.S. EPA Region 6
Office: (214) 665-7299

Pitre, Randy

From: Nolting, Leslie R <Leslie_Nolting@KinderMorgan.com>
Sent: Friday, April 05, 2013 5:49 PM
To: Pitre, Randy
Cc: Bartley, Richard; Robinson, Jeffrey
Subject: RE: El Paso Natural Gas Company's Laguna Compressor Station
Attachments: RCG_11_17.gif; KM Natural Gas Pipelines.pdf; Cortez_Pipeline_Map.pdf; Natural Gas PFD.pdf

Dear Mr. Pitre,

In our most recent correspondence, we asked for some additional time (until April 5) to research question #5 in your email below. Based on our additional research we provide the following clarification of our prior response and additional information. We would also welcome the opportunity for an additional conference call with EPA if any further clarification is needed than that provided below.

Kinder Morgan CO₂ Company, L.P. (Kinder Morgan CO₂) owns interests in CO₂ pipelines that deliver carbon dioxide gas (CO₂) from Southwest Colorado to the Permian Basin, Utah, and Oklahoma for use in Enhanced Oil Recovery. Kinder Morgan CO₂ operates CO₂ production facilities in the McElmo Dome source field and Doe Canyon Field. These operations are related to CO₂ and are not natural gas production field operations and are wholly unrelated to any EPNG operations. The CO₂ is transported by a separate pipeline called the Cortez pipeline that does not interconnect with the EPNG pipeline.

Kinder Morgan Operating L.P. "A," a subsidiary of Kinder Morgan Energy Partners, L.P. (KMP), owns a 49% interest in the Red Cedar Gathering Company (Red Cedar) in the Northern San Juan Basin. Red Cedar owns and operates natural gas gathering, compression, and treating facilities in the Ignacio Blanco Field in La Plata County, Colorado. It is jointly owned by Kinder Morgan Operating L.P. "A" and the Southern Ute Indian Tribe, with the Tribe being the majority owner (51%). Red Cedar is independently managed and holds its own air permits. Major decisions for Red Cedar are approved by a Management Committee (similar to a board of directors) that has 7 members: 4 appointed by the Tribe and 3 appointed by Kinder Morgan Operating L.P. "A." The Chairman of the Management Committee is a Tribal employee. Thus the Tribe and not Kinder Morgan has ultimate decision making authority. For these reasons, Red Cedar and EPNG are not subject to common ownership and control.

It is also important to note that Red Cedar is not a producer of natural gas; i.e., it does not own the production wells. Nor does it own or operate gas processing (i.e., fractionating) facilities. It operates a gathering pipeline, treating facilities, and compression for delivery to the transmission pipelines, including EPNG and TransColorado. Although Red Cedar does not engage in natural gas production or fractionation, we believe the Red Cedar facilities may constitute natural gas field operations. We apologize for not clarifying Kinder Morgan's ownership of Red Cedar in our prior response. Given that Kinder Morgan does not operate Red Cedar it was inadvertently overlooked.

From our December 19, 2012 response, we would like to make the following corrections.

1. *A map showing the location of the field operations and production field facilities associated with production unit(s) in the San Juan Basin which gather and/or transport natural gas directly or indirectly to the Laguna Compressor Station or from that station to other facilities. This would include well sites that are connected to gathering pipelines, tank batteries, compressor stations, gas plants, etc. Include latitude and longitude coordinates for each field operation and production field component identified on said map.*

In addition to the maps previously provided, we are attaching a map of the Red Cedar gathering system (RCG_11_17.gif). Again, these facilities do not include the production wells as these are not owned or operated by Red

Cedar or any Kinder Morgan company. On this map, Red Cedar interconnects with EPNG at the outlet of the Arkansas Loop plant in the center of the system.

We are also attaching a map (filename "KM Natural Gas Pipelines.pdf") that shows the relative location of Red Cedar's system (in red) to EPNG (purple) and Transcolorado (blue).

We are also attaching a map of the Cortez Pipeline ("Cortez Pipeline Map.pdf), owned and operated by Kinder Morgan CO₂ Company, L.P. Again, these operations are completely unrelated to EPNG or other Kinder Morgan natural gas operations.

- 2. For each field operation and production field component identified on the above referenced map, confirm El Paso Natural Gas Company's ownership or operational interest (or indicate the name and address of the owner and/or operator of those operations or components for which El Paso Natural Gas Company does not have any interest) and provide the Standard Industrial Classification (SIC) Code.*

Our original response was correct in that EPNG does not have any ownership or operational interest in field operation or production field components in the San Juan Basin. We can add, however, that the owner/operator of the Red Cedar components are: Red Cedar Gathering Company, 125 Mercado Street, Suite 201, Durango, CO 81301. The SIC Code is 1311.

- 3. A simple process flow diagram of the gas flow among the field components identified on the above referenced map.*

{ATTACHED AS Natural Gas PFD.pptx}

- 4. A description of the operations associated with each production facility on the above referenced map.*

Red Cedar's gathering pipelines collect gas from multiple wellheads in the gas field. Gas is collected into common pipes leading to treating plants and system outlet points.

Red Cedar's three treating facilities (including Arkansas Loop and Coyote Treating Plants) consist of carbon dioxide (CO₂) removal via amine units and water removal via triethylene glycol dehydrators. After treatment, the gas is considered "pipeline quality."

Gathering compression takes place in various locations throughout the Red Cedar's gathering system (e.g., Bondad and Coyote Compressor Stations). In general, it is the process of boosting the gas pressure in the pipeline from wellhead pressure (<100 psi) to pipeline pressure (>1000 psi).

- 5. A description of how the pipeline gathering systems that serve the Laguna Compressor Station are utilized. Are they exclusive to El Paso Natural Gas Company? Or are they a shared resource with other companies? Is natural gas from the gathering pipeline transferred to other third party compressor stations? Are there any gathering pipelines used exclusively by El Paso Natural Gas Company?*

Our initial response was correct in that no pipeline gathering system specifically serves Laguna Compressor Station. However, EPNG does receive gas from Red Cedar (as we noted in our original response), as does TransColorado, and as do other transmission lines. Red Cedar is not exclusively served by either EPNG or TransColorado. Indeed, the majority (approximately 75%) of the gas in Red Cedar's gathering system is sent to transmission lines and local distribution companies (LDCs) that are owned and operated by third-parties completely unaffiliated with EPNG or any other Kinder Morgan company.

- 6. Operational agreements between El Paso Natural Gas Company and other gas production and gathering companies that are relevant to or discuss the Laguna Compressor Station.*

Pitre, Randy

From: Bartley, Richard
Sent: Thursday, November 06, 2014 5:18 PM
To: Pitre, Randy
Subject: Re: Part 71 Permit - EPNG Laguna

Hi Randy -

Thanks for your draft analysis. In preparing the analysis of "common control," did you consider the information in Item #5 in EPNG's March 28, 2013 letter or in their April 5, 2013 email to you, including the corrections to EPNG's original December 19, 2012 response? More specifically, I think it is important that we include in our "common control" analysis a discussion of all the entities owned by Kinder Morgan, Inc., including their interest in the Red Cedar Gathering Company.

In general, I was thinking that the "common control" analysis would include a description of all the pollutant-emitting activities in the San Juan Basin that EPNG, its parent, or related entities own or control. Then, in the SIC Code section, we could identify which activities (identified in the first part as being under common control) have the same major SIC code, or have different SIC codes but serve as support facilities for the Laguna Compressor Station or other activities with the same SIC Code as the Laguna station (e.g., the Belen and Bluewater compressor stations). Then, under the "contiguous or adjacent" section, we would focus on those activities that meet the first two criteria and determine which of those activities meet the "contiguous or adjacent" component.

My belief is that while emissions from the Belen and Bluewater compressor stations would be grouped with Laguna in both the "common control" and "SIC Code" criteria, those other two compressor stations would fall out in our analysis of the "contiguous or adjacent" component. We would point to the language in the preamble to the 1980 PSD rules (whose concepts of "stationary source" are the same under the Title V, as stated in the preamble to the Title V regs) and note where EPA stated that emissions from long-line operations, such as mid-stream compressor stations (e.g., Belen, Laguna, and Bluewater) should not be aggregated. We would also add that such aggregation would not comport with the D.C. Circuit's *Alabama Power* statements concerning the "common sense notion of a plant."

Would you like to take a stab at pulling together the analysis along these lines or would you like to meet and discuss it first? I'm open to your suggestions.

Thanks,

Rick

From: Pitre, Randy
Sent: Wednesday, November 05, 2014 11:56 AM
To: Bartley, Richard
Subject: RE: Part 71 Permit - EPNG Laguna

Rick,

That's fine. I am also available tomorrow. Thanks, for letting me know.

Randy

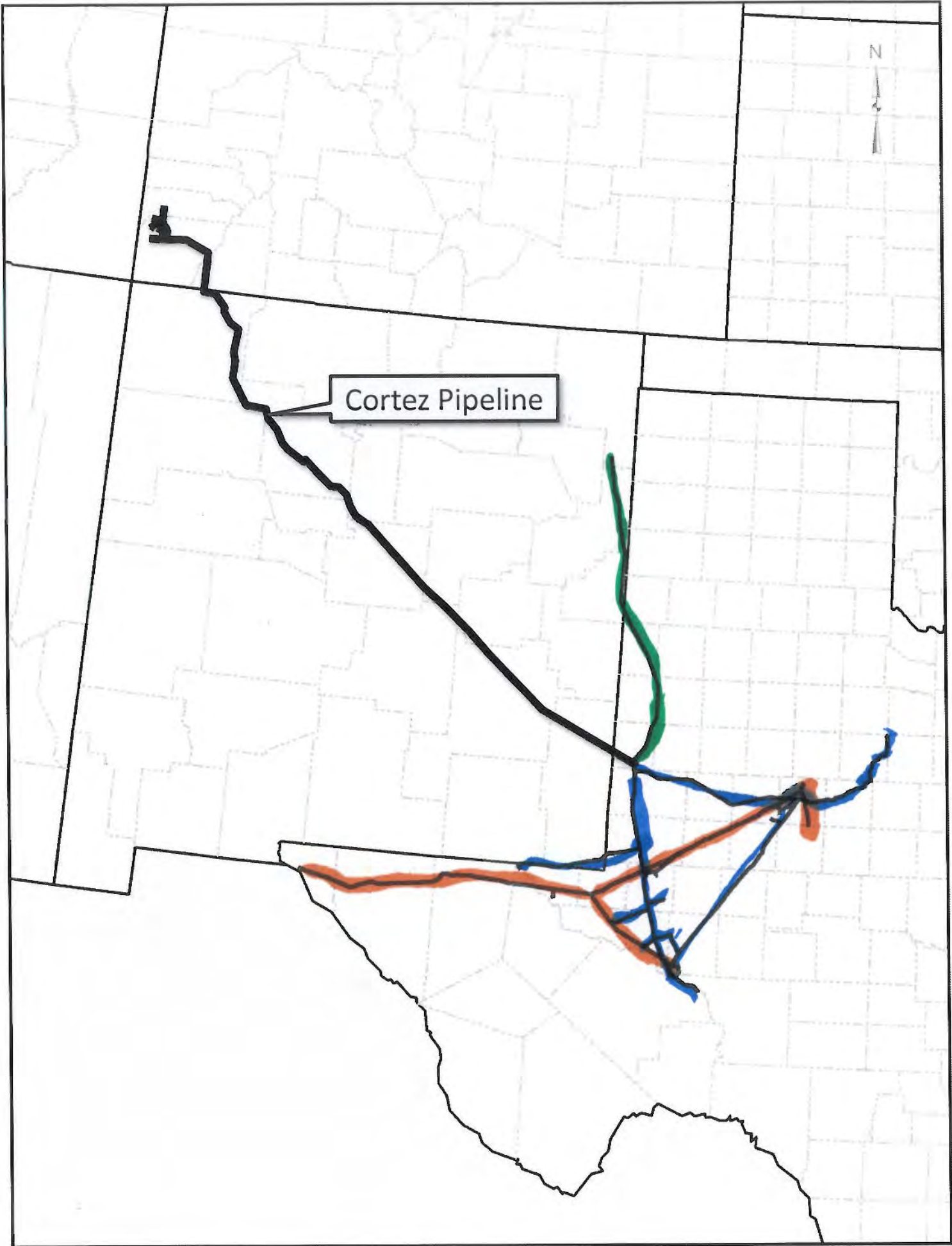
From: Bartley, Richard
Sent: Tuesday, November 04, 2014 2:40 PM
To: Pitre, Randy
Subject: Part 71 Permit - EPNG Laguna

Hi Randy –

Sorry, I haven't had much a chance to review your revisions to the Source Determination write-up. I got side-tracked on a Title V petition project with Brad Touns; however, I should be able to get back to it sometime tomorrow afternoon. I'll send you an email tomorrow letting you know where I am in my review and when we might be able to meet, okay.

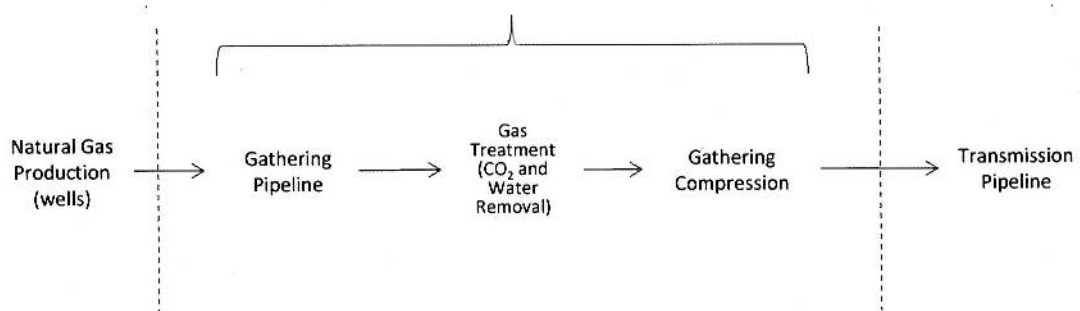
Thanks for your patience,

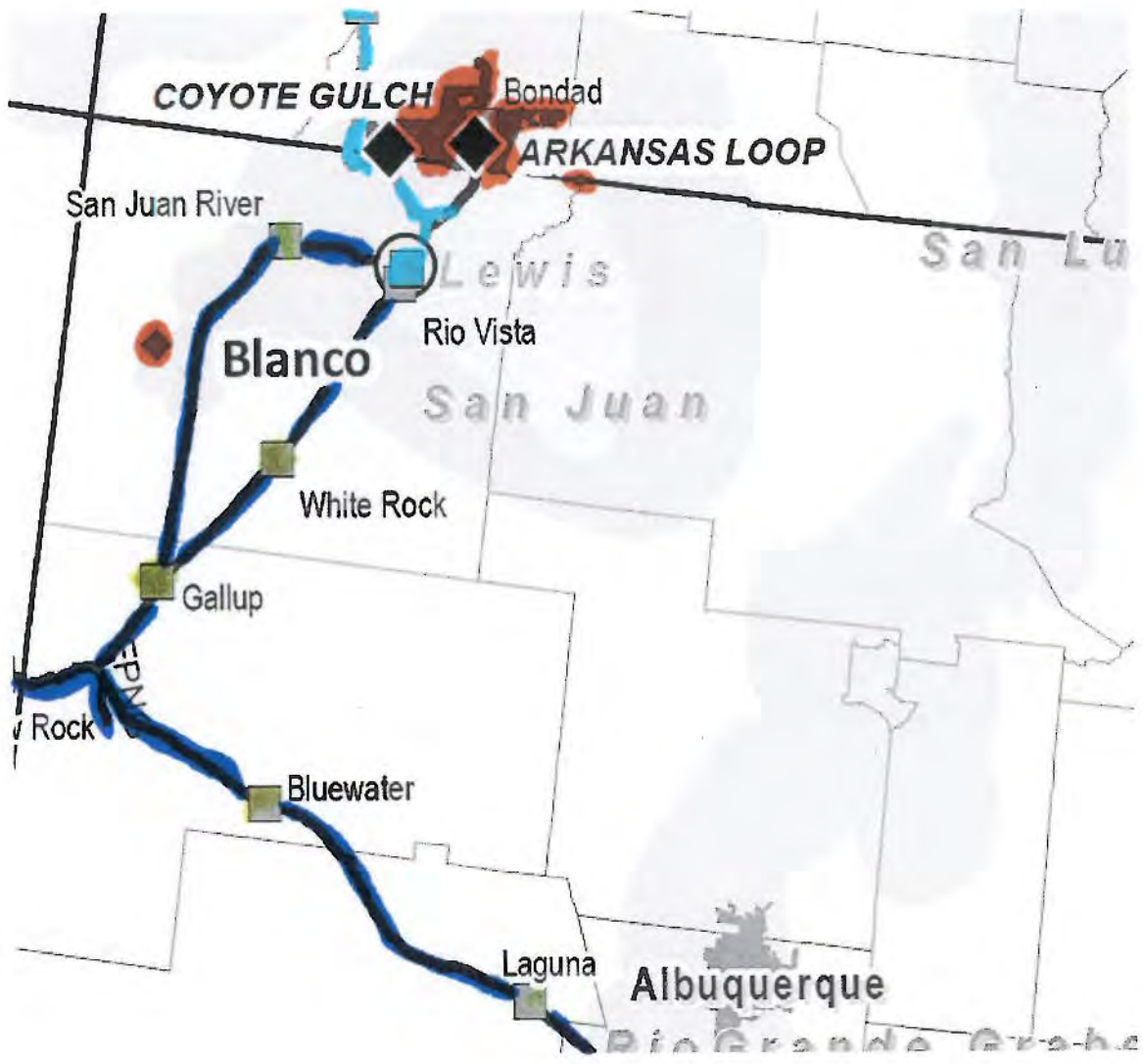
Rick



Cortez Pipeline

Red Cedar Operations





KINDER MORGAN

Natural Gas Pipelines – San Juan Basin

Pitre, Randy

Document
Number: 22
05/30/2013

From: Nolting, Leslie R <Leslie_Nolting@KinderMorgan.com>
Sent: Thursday, May 30, 2013 1:11 PM
To: Pitre, Randy
Cc: Bartley, Richard; Robinson, Jeffrey
Subject: RE: El Paso Natural Gas Company's Laguna Compressor St
Attachments: Laguna PTE 2013.pdf

Hi Randy,

I'm not sure if you're referring to the application form "PTE" or our calculation spreadsheets? The application form does not have a space for PM2.5. I am attaching the PTE calculation methodology with PM2.5 added (which is equal to the PM10 emissions). Please let me know if this is what you're looking for, thank you!

Leslie

From: Pitre, Randy [mailto:Pitre.Randy@epa.gov]
Sent: Monday, May 20, 2013 8:22 AM
To: Nolting, Leslie R
Cc: Bartley, Richard; Robinson, Jeffrey
Subject: RE: El Paso Natural Gas Company's Laguna Compressor Station

Leslie,

Please note that Page 1 of your September 11, 2008 Application is titled "Potential to Emit" and does not contain emission estimates for PM2.5. Therefore, please revise the PTE on Page 1 of your Application to include PM2.5 and any other proposed changes to emission estimates.

Randy L. Pitre
Air Permits Section
U.S. EPA Region 6
Office: (214) 665-7299

From: Nolting, Leslie R [mailto:Leslie_Nolting@KinderMorgan.com]
Sent: Friday, March 29, 2013 4:43 PM
To: Pitre, Randy
Cc: Bartley, Richard; Robinson, Jeffrey
Subject: RE: El Paso Natural Gas Company's Laguna Compressor Station

Good afternoon Randy,

Our responses to the items listed below are attached. We are requesting some additional time for the answer to #5 as Kinder Morgan (the parent company of EPNG) operates other business entities in the San Juan Basin unrelated to EPNG and we are in the process of getting some further clarification on these operations.

Thank you for your assistance,

Leslie

From: Pitre, Randy [mailto:Pitre.Randy@epa.gov]
Sent: Thursday, March 21, 2013 9:05 AM
To: Nolting, Leslie R

Cc: Bartley, Richard; Robinson, Jeffrey

Subject: RE: El Paso Natural Gas Company's Laguna Compressor Station

Leslie,

Your request for an additional week to complete the EPA Region 6 request for information is authorized.

Randy L. Pitre

Air Permits Section

U.S. EPA Region 6

Office: (214) 665-7299

From: Nolting, Leslie R [mailto:Leslie_Nolting@KinderMorgan.com]

Sent: Wednesday, March 20, 2013 4:49 PM

To: Pitre, Randy

Subject: RE: El Paso Natural Gas Company's Laguna Compressor Station

Good afternoon Randy,

We are compiling this information as quickly as we can, but respectfully request one more week to provide a complete response by March 29, 2013. Please let me know if this will be acceptable, thank you!

Leslie

From: Pitre, Randy [<mailto:Pitre.Randy@epa.gov>]

Sent: Tuesday, February 26, 2013 1:37 PM

To: Nolting, Leslie R

Cc: Bartley, Richard; Robinson, Jeffrey

Subject: El Paso Natural Gas Company's Laguna Compressor Station

Ms. Nolting :

As a follow-up to our conference call on February 21, 2013, please provide responses to the following items:

- (1) Please provide a list of the participants (and their titles) who were representing El Paso Natural Gas Company during the February 21, 2013 conference call;
- (2) Please review and update the information submitted in El Paso Natural Gas Company's application, dated September 11, 2008, for the renewal of the Title V permit for the Laguna Compressor Station; specifically, the Table 4.1 List of Insignificant Activities, the revised Applicability of Determination for NSPS and MACT requirements, and changes to the General Information and Summary Portion. Additionally, please note that the serial number for AUX A-02 Engine in the application is the same serial number as the AUX A-01 Engine; therefore please verify these serial numbers.
- (3) Please provide a more detailed description of the "delivery meters" referenced in your email, dated February 19, 2013; including; (a) provide the number and location (in terms of distance from the Laguna compressor station as well as whether the meter is on tribal land) of the delivery meters between the Bluewater and Laguna compressor stations as well as those between the Laguna and Belen compressor stations; and (b) for each delivery meter, describe the frequency and amount of natural gas delivered, who receives the deliveries, and whether any of the deliveries are (or have the potential to be) received by any Kinder Morgan company or any of its affiliates.
- (4) Provide confirmation that no gas is currently received by the pipeline(s) which connect the Bluewater and Laguna compressor stations nor the pipeline(s) which connect the Laguna and Belen compressor stations. Provide a detailed description of what changes would have to be effectuate before any gas could be received by these pipelines.

(5) In your letter dated December 19, 2012, you state, "EPNG, along with its parents, subsidiaries, and partners, do not have any *ownership* interest in [field operations and production field facilities in the San Juan Basin]. Please confirm that these business entities do not have any *ownership or operational* interest in such operations or facilities.

Complete responses to these items will help facilitate our continuing review of EPNG's application for the renewal of the Title V permit for the Laguna compressor station. Please provide your responses by March 22, 2013, or contact me should you need additional time for your response.

Randy L. Pitre
Air Permits Section
U.S. EPA Region 6
Office: (214) 665-7299

Emission Calculation Methodology
El Paso Natural Gas
Laguna Compressor Station
Potential to Emit Summary

Emission Unit ID	Site Rating		Hours of Operation	Emission Factors				Emission Rate (lb/hr)				Annual Emissions (tpy)							
	hp	MMBtu/hr		NO _x	CO	VOC	SO ₂	PM ₁₀	NO _x	CO	VOC	SO ₂	PM ₁₀	NO _x	CO	VOC	SO ₂	PM _{2.5}	PM ₁₀
A-01	3,400	33.26	8,760	139.58 lb/hr	32.25 lb/hr	5.852 lb/hr	5 gr/100scf	0.0483 lb/MMBtu	139.58	32.25	5.85	0.47	1.61	611.4	141.3	25.6	2.0	7.0	7.0
A-02	3,400	33.26	8,760	139.58 lb/hr	32.25 lb/hr	5.852 lb/hr	5 gr/100scf	0.0483 lb/MMBtu	139.58	32.25	5.85	0.47	1.61	611.4	141.3	25.6	2.0	7.0	7.0
A-03	3,400	33.26	8,760	139.58 lb/hr	32.25 lb/hr	5.852 lb/hr	5 gr/100scf	0.0483 lb/MMBtu	139.58	32.25	5.85	0.47	1.61	611.4	141.3	25.6	2.0	7.0	7.0
AUX A-01	544	8.13	8,760	32.81 lb/hr	34.04 lb/hr*	2.65 lb/Mhp-hr	5 gr/100scf	0.0194 lb/MMBtu	32.81	34.04	1.44	0.11	0.16	143.7	149.1	6.3	0.5	0.7	0.7
AUX A-02	544	8.13	8,760	32.81 lb/hr	34.04 lb/hr*	2.65 lb/Mhp-hr	5 gr/100scf	0.0194 lb/MMBtu	32.81	34.04	1.44	0.11	0.16	143.7	149.1	6.3	0.5	0.7	0.7
TOTAL				484.36	164.83	20.44	1.63	5.13	484.36	164.83	20.44	1.63	5.13	2,121.6	722.1	89.4	7.0	22.4	22.4

Emission Factor Basis:

Units A-01 through A-03 (2-stroke lean-burn reciprocating engines)
 NO_x: Based on testing performance on similar equipment
 CO: Based on testing performance on similar equipment
 VOC: Based on testing performance on similar equipment
 SO₂: Based on 5 grains per 100 scf
 PM_{2.5}: AP-42 (7/00 version) emission factor for 2-stroke lean-burn engines
 PM₁₀: AP-42 (7/00 version) emission factor for 2-stroke lean-burn engines

Units AUX A-01 and AUX A-02 (4-stroke rich-burn reciprocating engines)
 NO_x: Based on testing performance on similar equipment
 CO: Based on testing performance on similar equipment
 VOC: Based on testing performance on similar equipment
 SO₂: Based on 5 grains per 100 scf
 PM_{2.5}: AP-42 (7/00 version) emission factor for 4-stroke rich-burn engines
 PM₁₀: AP-42 (7/00 version) emission factor for 4-stroke rich-burn engines

Sample Calculations:

Unit A-01 (all tpy values rounded up to nearest tenth)
 NO_x: 139.6 lb/hr * 8760 hrs/yr + 2000 lb/ton = 611.4 tpy
 CO: 32.25 lb/hr * 8760 hrs/yr + 2000 lb/ton = 141.3 tpy
 VOC: 2.65 lb/Mhp-hr * 544 hp * 500 hrs/yr * 1 Mhp/1,000 hp + 2000 lb/ton = 360.4 tpy
 SO₂: 5 gr/100scf * 33.26 MMBtu/hr * 10⁶ Btu/MMBtu * 64 MW_{scf} * 8760 hrs/yr, 32 MW₅ + 1020 Btu/scf = 7000 gr/lb + 2000 lb/ton = 2.0 tpy
 PM_{2.5}: 0.0483 lb/MMBtu * 33.26 MMBtu/hr * 8760 hrs/yr, 2000 lb/ton = 7.0 tpy
 PM₁₀: 0.0483 lb/MMBtu * 33.26 MMBtu/hr * 8760 hrs/yr + 2000 lb/ton = 7.0 tpy

Pitre, Randy

Document

Number: 6

07/09/2009

From: Nolting, Leslie R <Leslie_Nolting@kindermorgan.com>
Sent: Tuesday, February 25, 2014 11:46 AM
To: Pitre, Randy
Cc: Duarte, Ricardo (Richard)
Subject: FW: Information request for Laguna Station (permit R6)
Attachments: 20030717 T5 application updates.pdf; LAGUNA_ORIGINAL SPEC1-3.pdf; Laguna EF backup documentation.pdf

Hi Randy, per your email of a few moments ago, I am forwarding the original email that I sent to Ms. Penland on July 9, 2009.

From: Nolting, Leslie R
Sent: Thursday, July 09, 2009 2:03 PM
To: 'Penland.Catherine@epamail.epa.gov'
Cc: Duarte, Ricardo (Richard)
Subject: RE: Information request for Laguna Station (permit R6FOPP71-02)

Hi Cathy,

This email contains our responses to your information requests for the subject permit. The three bullet items below address your three requests.

- Your first request was by phone on June 26, 2009 in which you indicated that there was a discrepancy in the heat rates between the initial application (which stated that the heat rates for the Clarks was listed as 8.65 MMBtu/hr) and the renewal application (which lists the heat rates for the Clarks as 33.26 MMBtu/hr). We agree that the initial application lists the heat rates as 8.65 MMBtu/hr, but this was clearly a computational error and was corrected in a subsequent submittal dated July 17, 2003 (copy attached, "20030717 T5 application updates.pdf").

As I mentioned before, we do not have manufacturer's emissions specifications for these engines (in terms of g/hp-hr), as they are 50's vintage. A discussion of the factors that we used to develop our potential-to-emit (PTE) is given within the 3rd bullet item later in this email.

- Your follow-up questions by email on June 26 and our responses are below:

1. The actual status of each of the engines as either rich-burn or lean-burn, as there are major discrepancies in the permitting record between what was sent in the application and what is in the permitting file. There are also discrepancies in the fee filing forms over the years, from year to year. Please verify from manufacturer what status each is, as the applicability determination under the MACT ZZZZ does make a difference for both.

Response: The Clark engines (A-01 through A-03) are 2-stroke lean-burn engines. The Ingersolls (AUX A-01 and AUX A-02) are 4-stroke rich burn engines. As we indicated in our renewal application, and in our December 10, 2004 notification to your office of MACT applicability, the Ingersolls are indeed affected units under the RICE MACT. We would be happy to address any specific discrepancies in the permitting file or fee filing forms.

2. Have the plant manager check for decals and specific marking plates on the engines that identify them, for manufacturer, model, variation of model, horse power, heat input, serial number, etc. Provide all information from these identification decals and any historical file material from the purchase. We will need this information to match them up with existing EPA tested engines.

Response: The manufacturer's documentation is attached ("LAGUNA_ORIGINAL_SPEC1-3.pdf").

Units A-01 through A-03 are Clark TLA-10, two cycle engines rated at 3400 hp at 300 rpm. The serial numbers are as given in the permit application. The heat input in Btu/bhp-hr (per the manufacturer) is 7000 at full load, 7500 at 75% load, and 9900 at 50% load.

Units AUX A-01 and AUX A-02 are Ingersoll-Rand PSVG-8, four cycle engines rated at 544 hp at 514 rpm. The serial numbers are as given in the permit application. The heat input in Btu/bhp-hr (per the manufacturer) is 8500 at full load, 9100 at 75% load, and 10300 at 50% load.

3. Are the Clark engines 2 or 4-stroke engines? What about the Ingersolls?

Response: The Clark engines (A-01 through A-03) are 2-stroke lean-burn engines. The Ingersolls (AUX A-01 and AUX A-02) are 4-stroke rich burn engines.

4. Have there been any major overhauls of any of the engines that would cause a re-rating of the engines? If so when, and what components were involved?

Response: To the best of our knowledge, there have been no changes to the engines that would cause re-rating.

- With regard to your most recent email dated July 1, 2009, I believe the above information addresses some of your concerns. The design rpm at max load is 300 rpm for the Clarks, and 514 rpm for the Ingersoll's.

In developing our PTE calculations for the Clark units for the initial permit application, we looked at emission test data for all the Clark TLA-10's that we have in our western pipelines system. A summary of the data points is attached ("Laguna EF backup documentation.pdf"). In general, our approach has been to use "worst-case" emission rates for our PTE, which is shown on the first page of this document as 139.58 lb/hr NOx (611 tpy assuming 8760 hours of operation) for the Clarks. This is the PTE that we used in our initial application (via an addendum dated December 22, 1999) and in our renewal application. For comparison to the SIP call document, this equates to 18.6 g/hp-hr (assuming the unit is operating at full load at that point).

For the Ingersoll's, we also looked at test data that we had available for all PSVG-8s. We used the maximum lb/hr (27.34 lb/hr) plus a 20% safety factor to determine the NOx PTE (32.8 lb/hr, 143.7 tpy). This equates to 27.35 g/hp-hr at full load.

To determine the "actual" emission rates which are more representative of operations on an annual basis, we use a more average emission factor. This may vary from year to year based on the best data that is available at that time and is representative of how the unit operated that year. For example, in the initial application, we based our 1998 NOx actual emissions for the Clarks on the average emission factor of 22.68122 pounds per 1000 hp-hour (lb/mhp-hr) from the test data, which is equivalent to 10.29 g/hp-hr. The 1999 through 2006 emission inventories used this same emission factor. In 2007, we updated the factor based on recommendations from our Mechanical Testing Group (MTG) that were more representative of actual operation at the facility. In recommending factors, MTG looks at operating loads and speeds and finds the most representative data in our database. In this case, the NOx emission factor was revised to 8.06 g/hp-hr based on test data for an identical unit at another facility.

For the Ingersolls, we used an average NOx emission factor of 38.5821 lb/mhp-hr to estimate the actual annual emissions, which is equivalent to 17.5 g/hp-hr.

We did conduct reference method testing on all the units except unit A-03 for purposes of developing the initial operating permit application in 1999. This testing was conducted for our internal informational purposes. I will attach the results in a separate email (due to file size considerations). Also, bearing in mind that the auxiliary units are RICE MACT affected units, there is additional emissions information that has been submitted to Region 6 in accordance with these rules. Please let me know if you need me to send any additional copies of this emissions information.

I hope this information is helpful; please call or email me if you have any additional questions or concerns.

Sincerely,

Leslie Nolting
El Paso Corporation
Western Pipelines Environmental Department
(719) 520-4652 (office)
(719) 355-9416 (cell)
(719) 667-7757 (fax)

Leslie.Nolting@Elpaso.com

From: Penland.Catherine@epamail.epa.gov [<mailto:Penland.Catherine@epamail.epa.gov>]
Sent: Wednesday, July 01, 2009 10:01 AM
To: Nolting, Leslie R
Cc: Robinson.Jeffrey@epamail.epa.gov; Bartley.Richard@epamail.epa.gov
Subject: RE: Information request for Laguna Station (permit R6FOPP71-02)

Leslie,

Am working through the application now, and need a little more info on the Clark engines. I need the design rpm at max load, which is usually posted in the description of engines in the Statement of Basis. This too, should be on one of the identifying decals or plates on the engine, and is generally listed in the application for identifying the performance of the engine. The only thing I've found in the enforcement docs is a reference to the fact that they are turbocharged.

Just to let you know, I am on looking over general information on the Clark engines, and have a fairly good amount of information on these engines, with max. uncontrolled emissions from a response doc to the Phase II NOx SIP Call Rulemaking EPA did in 2004. There were 16 data points for the Clark TVA-10, and a lot of industry reports on general engine emissions which tended to build a fairly average range, dependant on add-ons and inherent features. I'm attaching this doc for your review, as this is what I will be comparing your PTEs to. I can find no information in the file on testing of the engines at this site. References to testing of "similar" engines are going to have to be quantified to compare to this document. Please note that the second comment and clarifications of quantification to engines to the document was received from El Paso Corp., which I assume is the parent Co. for your operations. Please provide your PTE for the Clark and Ingersol engines in the units mentioned in this attached document for direct comparison.

I've also spoken to our expert on IC engines for the MACT rules, and she has checked with manufacturers to verify the status of older rich burn engines (the issue with whether the Clarks and Ingersols are rich burn or lean burn). Information proved noted all naturally aspirated, four-cycle SI engines and *some* turbocharged, four-cycle SI engines are rich-burn engines. All other engines, including all two-cycle SI engines and all CI engines, are lean-burn engines. As such, the Clarks appear to be lean burn, as 2-cycle, and you will have to verify the status of the Ingersols. Please keep in mind the MACT ZZZZ implications.

Please let me know if any of these Clark or Ingersol engines at this site have ever been tested and emissions recorded. If so, please provide information on dates, times, test method, and results. I have found the enforcement files with the maintenance records on the Clark engines since the Title V was issued, so I can pretty much see what components of those engines have been replaced during that time frame. Please verify any similar docs before the Title V issuance for the Clarks, and similar docs for the Ingersols for their entire operation at this site.

Please have this and the previously requested info to me by COB 7/9/09, as we are on a very tight time-frame to get permits to public notice, and we need lead time to discuss the changes with you.

Thank you,

Cathy

Catherine G. Penland
EPA Region 6 - 6PD-R
Phone: (214) 665-7122
Fax: (214) 665-6762
penland.catherine@epa.gov

RE: Information request for Laguna Station (permit R6FOPP71-02)

Nolting, Leslie R

to: Catherine Penland

06/30/2009 04:40 PM

Hi Catherine,

I am working on this info. Just a head's up, we will not have manufacturer's emissions specifications for these engines (as they were manufactured before emissions were of concern!). We have typically based our PTE on a collection of emissions data that we have at other facilities, but I'll provide you with a detailed description of our estimates with my response.

Thanks,
Leslie

From: Penland.Catherine@epamail.epa.gov [mailto:Penland.Catherine@epamail.epa.gov]

Sent: Friday, June 26, 2009 12:37 PM

To: Nolting, Leslie R

Subject: Information request for Laguna Station (permit R6FOPP71-02)

Leslie,

In addition to the information I requested by phone this morning to better quantify the Laguna station potential to emit (engine rated emissions by gr-hp/hr, per manufacturer specs for each engine), I will need further information on each engine, as follows:

1. The actual status of each of the engines as either rich-burn or lean-burn, as there are major discrepancies in the permitting record between what was sent in the application and what is in the permitting file. There are also discrepancies in the fee filing forms over the years, from year to year. Please verify from manufacturer what status each is, as the applicability determination under the MACT ZZZZ does make a difference for both.
2. Have the plant manager check for decals and specific marking plates on the engines that identify them, for manufacturer, model, variation of model, horse power, heat input, serial number, etc. Provide all information from these identification decals and any historical file material from the purchase. We will need this information to match them up with existing EPA tested engines.
3. Are the Clark engines 2 or 4-stroke engines? What about the Ingersols?
4. Have there been any major overhauls of any of the engines that would cause a re-rating of the engines? If so when, and what components were involved?

As I am writing up the rationale on this source, I may need to ask for further information. Please feel free to call me if you have questions.

Cathy

Catherine G. Penland
EPA Region 6 - 6PD-R
Phone: (214) 665-7122

Fax: (214) 665-6762
penland.catherine@epa.gov

This email and any files transmitted with it from the El Paso Corporation are confidential and intended solely for the use of the individual or entity to whom they are addressed. If you have received this email in error please notify the sender.



Certified Mail/Return Receipt Requested
7000 1670 0001 6900 2944

July 17, 2003

David Neleigh, Chief
Air Permits Section
US EPA – Region VI
1445 Ross Avenue – Suite 1200
Dallas, TX 75202-2733

**Re: Updated Information Draft Permit – R6FOPP 71-02 - El Paso Natural Gas Company's
Laguna Compressor Station, Laguna Pueblo, New Mexico**

Dear Mr. Neleigh:

Enclosed is updated information for El Paso Natural Gas Company's application for a Federal Title V Operating Permit (40 CFR Part 71) application. Included is an updated set of Emission Unit Description for Fuel Combustion Sources (EUD-1) forms with corrected fuel usages and fuel heat values.

Also included is an updated Insignificant Activities section with updated information specifying two insignificant generators. One is a natural gas fired ONAN 8.3 KW single phase backup generator that is used as backup to a battery bank that is located inside the auxiliary engine room. The other is a propane gas fired, 9 Hp, ONAN generator that is used as backup at a EPNG communication tower that is approximately 100 yards from the plant's security fence.

Should you have any questions regarding the updated information, or need additional information, please contact me at (505) 831-7763. Thank you for your time and consideration.

Sincerely,

Richard Duarte
Environmental Representative
Pipelines West - Environmental Department
El Paso Corporation

Enclosure

Copy (with attachment):

Certified Mail/Return Receipt Requested
7000 1670 0001 6900 3316
Mr. Daron Page, Permit Engineer
Air Permits Section
US EPA – Region VI
1445 Ross Avenue – Suite 1200
Dallas, TX 75202-2733

Certified Mail/Return Receipt Requested
7000 1670 0001 6900 3309
Mr. Carl E. Edlund, P.E., Director
Multimedia Planning & Permitting Division
US EPA – Region VI
1445 Ross Avenue – Suite 1200
Dallas, TX 75202-2733

Certified Mail/Return Receipt Requested
7000 1670 0001 6900 3293
Ms. Barbara Cwynsik-Bernack
Pueblo Of Laguna, Director
Environmental Program
P. O. Box 194
Pueblo of Laguna, NM 87026

Blind Copy

Sandra D. Miller
Naomi Cortez (email)
Donald W. Campbell

File: Laguna Station - Air
R. Duarte's Chron.

Blind Copy

Blind Copy

Blind Copy

Blind Copy

Blind Copy

Blind Copy

Blind Copy

Blind Copy

Blind Copy

Blind Copy

Blind Copy

Blind Copy

Blind Copy

Blind Copy

Blind Copy

Blind Copy

Blind Copy

Blind Copy

Blind Copy

Blind Copy

Blind Copy

U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR FEDERAL OPERATING PERMIT, 40 CFR PART 71

APPLICATION FORM CTAC - CERTIFICATION OF TRUTH, ACCURACY, AND COMPLETENESS BY RESPONSIBLE OFFICIAL

INSTRUCTIONS: One copy of this form must be completed, signed, and sent with each submission of documents (i.e., application forms, updates to applications, reports, or any information required by a part 71 permit).

P. Responsible Official

Name: (Last) Morgan (First) Thomas (MI) P

Title Vice President, Transmission Operations

Street or P.O. Box P.O. Box 1087

City Colorado Springs State CO ZIP 80944 - _____

Telephone (719 520 - 4530 Ext. _____ Facsimile (719) 520 - 4481

Q. Certification of Truth, Accuracy and Completeness (to be signed by the responsible official)

I certify under penalty of law that, based on information and belief formed after reasonable inquiry, the statements and information contained in these documents are true, accurate and complete.

Name (signed) *Thomas P. Morgan*

Name (typed) Thomas P. Morgan Date: 07 / 16 / 2003

Note: This was inserted by R. Duarte. The purpose of this filing is to amend the Laguna Title V Application.

R. Duarte
7/16/03

U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR FEDERAL OPERATING PERMIT, 40 CFR PART 71
APPLICATION FORM EUD-1 - EMISSIONS UNIT DESCRIPTION FOR FUEL COMBUSTION SOURCES

INSTRUCTIONS: Complete this form for each significant emissions unit best described as a fuel combusting unit.

A. General Information

Emissions unit ID A-01 Description Natural gas-fired engine SIC Code (4-digit) 4922 SCC Code 2-02-002-52
Emissions unit ID (air pollution control device) N/A

B. Emissions Unit Description

Primary use natural gas compression Temporary source Yes No Manufacturer Clark
Model TIA-10 Serial Number 79007* Installation date 01 / / 1958
Boiler type Industrial boiler Process burner Electric utility boiler Other (describe) _____
Boiler horsepower rating N/A Boiler steam flow (lb/hr) N/A
Type of fuel burning equipment (coal burning only):
 Hand fired Spreader stoker Underfeed stoker
 Overfeed stoker Traveling grate Shaking grate
 Pulverized, wet bed Pulverized, dry bed
Actual (average) heat input 33.26 MM BTU/hr Maximum design heat input 33.26 MM BTU/hr

C. Fuel Data

Instructions: Describe each fuel expected to be used during the term of the permit.
Primary fuel type(s) natural gas Standby fuel type(s) none

Fuel Type (e.g., natural gas, oil, coal, etc.)	Max Sulfur (%)	Max Ash (%)	BTU Value (per cf, gal, or lb)
Pipeline quality natural gas	<0.08%	N/A	920 Btu/scf (LHV)

D. Fuel Usage Rates

Instructions: For each fuel described above, enter actual and maximum fuel usage rates on a worst-case hourly and annual basis. Indicate the dimension for the fuel usage rate (e.g., gallons, cords, cubic feet).

Fuel Type (e.g., natural gas, oil, coal, etc.)	Annual Actual Usage	Maximum Usage	
		Hourly	Annual
Pipeline quality natural gas	182.1 MMSCF	33.26 MSCF	291.37 MMSCF

*NOTE: Serial numbers listed represent current equipment serial number. Please review Section 6 regarding off-permit changes, equipment replacement

E. Applicable Requirements

Instructions: List the specific applicable requirement(s) that apply to this emissions unit. Do not list generic applicable requirements on this form. Include a citation to the requirement and a brief description of the standards, limitations and other requirements imposed by the applicable requirement.

Applicable Requirement	Citation	Text Description of Standards, Limitations, and Other Requirements
N/A		

F. Air Pollution Control Equipment

Emissions unit ID N/A Device type _____ Air pollutant(s) controlled _____
 Manufacturer _____ Model No. _____ Serial No. _____
 Installation date ___/___/___ Control efficiency (%) _____ Efficiency estimation method _____

G. Ambient Impact Assessment Information

Instructions: This information must be completed by temporary sources or when ambient impact assessment is an applicable requirement for this emissions unit.
 Stack height (ft) _____ Inside stack diameter (ft) _____ Stack temp(°F) _____
 Design stack flow rate (ACFM) _____ Actual stack flow rate (ACFM) _____ Velocity (ft/sec) _____

U.S. ENVIRONMENTAL PROTECTION AGENCY
 APPLICATION FOR FEDERAL OPERATING PERMIT, 40 CFR PART 71
APPLICATION FORM EUD-1 - EMISSIONS UNIT DESCRIPTION FOR FUEL COMBUSTION SOURCES

INSTRUCTIONS: Complete this form for each significant emissions unit best described as a fuel combusting unit.

A. General Information

Emissions unit ID A-02 Description Natural gas-fired engine SIC Code (4-digit) 4922 SCC Code 2-02-002-52
 Emissions unit ID (air pollution control device) N/A

B. Emissions Unit Description

Primary use natural gas compression Temporary source Yes No Manufacturer Clark
 Model TLA-10 Serial Number 79008* Installation date 01 / / 1958
 Boiler type Industrial boiler Process burner Electric utility boiler Other (describe) _____
 Boiler horsepower rating N/A Boiler steam flow (lb/hr) N/A
 Type of fuel burning equipment (coal burning only):
 Hand fired Spreader stoker Underfeed stoker
 Overfeed stoker Traveling grate Shaking grate
 Pulverized, wet bed Pulverized, dry bed
 Actual (average) heat input 33.26 MM BTU/hr Maximum design heat input 33.26 MM BTU/hr

C. Fuel Data

Instructions: Describe each fuel expected to be used during the term of the permit.
 Primary fuel type(s) natural gas Standby fuel type(s) none

Fuel Type (e.g., natural gas, oil, coal, etc.)	Max Sulfur (%)	Max Ash (%)	BTU Value (per cf, gal, or lb)
Pipeline quality natural gas	<0.08%	N/A	920 Btu/scf (LHV)

D. Fuel Usage Rates

Instructions: For each fuel described above, enter actual and maximum fuel usage rates on a worst-case hourly and annual basis. Indicate the dimension for the fuel usage rate (e.g., gallons, cords, cubic feet).

Fuel Type (e.g., natural gas, oil, coal, etc.)	Annual Actual Usage	Maximum Usage	
		Hourly	Annual
Pipeline quality natural gas	118.6 MMSCF	33.26 MSCF	291.37 MMSCF

*NOTE: Serial numbers listed represent current equipment serial number. Please review Section 6 regarding off-permit changes, equipment replacement

E. Applicable Requirements

Instructions: List the specific applicable requirement(s) that apply to this emissions unit. Do not list generic applicable requirements on this form. Include a citation to the requirement and a brief description of the standards, limitations and other requirements imposed by the applicable requirement.

Applicable Requirement	Citation	Text Description of Standards, Limitations, and Other Requirements
N/A		

F. Air Pollution Control Equipment

Emissions unit ID N/A Device type _____ Air pollutant(s) controlled _____
 Manufacturer _____ Model No. _____ Serial No. _____
 Installation date / / Control efficiency (%) Efficiency estimation method _____

G. Ambient Impact Assessment Information

Instructions: This information must be completed by temporary sources or when ambient impact assessment is an applicable requirement for this emissions unit.

Stack height (ft) _____ Inside stack diameter (ft) _____ Stack temp(°F) _____
 Design stack flow rate (ACFM) _____ Actual stack flow rate (ACFM) _____ Velocity (ft/sec) _____

U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR FEDERAL OPERATING PERMIT, 40 CFR PART 71

APPLICATION FORM EUD-1 - EMISSIONS UNIT DESCRIPTION FOR FUEL COMBUSTION SOURCES

INSTRUCTIONS: Complete this form for each significant emissions unit best described as a fuel combusting unit.

A. General Information

Emissions unit ID A-03 Description Natural gas-fired engine SIC Code (4-digit) 4922 SCC Code 2-02-002-52
Emissions unit ID (air pollution control device) N/A

B. Emissions Unit Description

Primary use natural gas compression Temporary source Yes No Manufacturer Clark
Model TLA-10 Serial Number 79005* Installation date 09 / / 1958
Boiler type Industrial boiler Process burner Electric utility boiler Other (describe) _____
Boiler horsepower rating N/A Boiler steam flow (lb/hr) N/A
Type of fuel burning equipment (coal burning only):
 Hand fired Spreader stoker Underfeed stoker
 Overfeed stoker Traveling grate Shaking grate
 Pulverized, wet bed Pulverized, dry bed
Actual (average) heat input 33.26 MM BTU/hr Maximum design heat input 33.26 MM BTU/hr

C. Fuel Data

Instructions: Describe each fuel expected to be used during the term of the permit.

Primary fuel type(s) natural gas Standby fuel type(s) none

Fuel Type (e.g., natural gas, oil, coal, etc.)	Max Sulfur (%)	Max Ash (%)	BTU Value (per cf, gal, or lb)
Pipeline quality natural gas	<0.08%	N/A	920 Btu/scf (LHV)

D. Fuel Usage Rates

Instructions: For each fuel described above, enter actual and maximum fuel usage rates on a worst-case hourly and annual basis. Indicate the dimension for the fuel usage rate (e.g., gallons, cords, cubic feet).

Fuel Type (e.g., natural gas, oil, coal, etc.)	Annual Actual Usage	Maximum Usage	
		Hourly	Annual
Pipeline quality natural gas	174.0 MMSCF	33.26 MSCF	291.37 MMSCF

*NOTE: Serial numbers listed represent current equipment serial number. Please review Section 6 regarding off-permit changes, equipment replacement

F. Applicable Requirements

Instructions: List the specific applicable requirement(s) that apply to this emissions unit. Do not list generic applicable requirements on this form. Include a citation to the requirement and a brief description of the standards, limitations and other requirements imposed by the applicable requirement.

Applicable Requirement	Citation	Text Description of Standards, Limitations, and Other Requirements
N/A		

F. Air Pollution Control Equipment

Emissions unit ID N/A Device type _____ Air pollutant(s) controlled _____
 Manufacturer _____ Model No. _____ Serial No. _____
 Installation date / / Control efficiency (%) Efficiency estimation method _____

G. Ambient Impact Assessment Information

Instructions: This information must be completed by temporary sources or when ambient impact assessment is an applicable requirement for this emissions unit.
 Stack height (ft) _____ Inside stack diameter (ft) _____ Stack temp(°F) _____
 Design stack flow rate (ACFM) _____ Actual stack flow rate (ACFM) _____ Velocity (ft/sec) _____

U.S. ENVIRONMENTAL PROTECTION AGENCY
 APPLICATION FOR FEDERAL OPERATING PERMIT, 40 CFR PART 71

APPLICATION FORM EUD-1 - EMISSIONS UNIT DESCRIPTION FOR FUEL COMBUSTION SOURCES

INSTRUCTIONS: Complete this form for each significant emissions unit best described as a fuel combusting unit.

A. General Information

Emissions unit ID AUX A-01 Description Natural gas-fired engine SIC Code (4-digit) 4922 SCC Code 2-02-002-53
 Emissions unit ID (air pollution control device) N/A

B. Emissions Unit Description

Primary use power generation (auxiliary) Temporary source Yes No Manufacturer Ingersoll-Rand
 Model PSVG-8 Serial Number 8CPST227* Installation date 09 / / 1958

Boiler type Industrial boiler Process burner Electric utility boiler Other (describe) _____

Boiler horsepower rating N/A Boiler steam flow (lb/hr) N/A

Type of fuel burning equipment (coal burning only):

- Hand fired Spreader stoker Underfeed stoker
 Overfeed stoker Traveling grate Shaking grate
 Pulverized, wet bed Pulverized, dry bed

Actual (average) heat input 8.13 MM BTU/hr Maximum design heat input 8.13 MM BTU/hr

C. Fuel Data

Instructions: Describe each fuel expected to be used during the term of the permit.

Primary fuel type(s) natural gas Standby fuel type(s) none

Fuel Type (e.g., natural gas, oil, coal, etc.)	Max Sulfur (%)	Max Ash (%)	BTU Value (per cf, gal, or lb)
Pipeline quality natural gas	<0.08%	N/A	920 Btu/scf (LHV)

D. Fuel Usage Rates

Instructions: For each fuel described above, enter actual and maximum fuel usage rates on a worst-case hourly and annual basis. Indicate the dimension for the fuel usage rate (e.g., gallons, cords, cubic feet).

Fuel Type (e.g., natural gas, oil, coal, etc.)	Annual Actual Usage	Maximum Usage	
		Hourly	Annual
Pipeline quality natural gas	12.0 MMSCF	8.13 MSCF	71.22 MMSCF

*NOTE: Serial numbers listed represent current equipment serial number. Please review Section 6 regarding off-permit changes, equipment replacement

E. Applicable Requirements

Instructions: List the specific applicable requirement(s) that apply to this emissions unit. Do not list generic applicable requirements on this form. Include a citation to the requirement and a brief description of the standards, limitations and other requirements imposed by the applicable requirement.

Applicable Requirement	Citation	Text Description of Standards, Limitations, and Other Requirements
N/A		

F. Air Pollution Control Equipment

Emissions unit ID N/A Device type _____ Air pollutant(s) controlled _____
 Manufacturer _____ Model No. _____ Serial No. _____
 Installation date / / Control efficiency (%) Efficiency estimation method _____

G. Ambient Impact Assessment Information

Instructions: This information must be completed by temporary sources or when ambient impact assessment is an applicable requirement for this emissions unit.

Stack height (ft) _____ Inside stack diameter (ft) _____ Stack temp(°F) _____
 Design stack flow rate (ACFM) _____ Actual stack flow rate (ACFM) _____ Velocity (ft/sec) _____

U.S. ENVIRONMENTAL PROTECTION AGENCY
 APPLICATION FOR FEDERAL OPERATING PERMIT, 40 CFR PART 71
APPLICATION FORM EUD-1 - EMISSIONS UNIT DESCRIPTION FOR FUEL COMBUSTION SOURCES

INSTRUCTIONS: Complete this form for each significant emissions unit best described as a fuel combusting unit.

A. General Information

Emissions unit ID AUX A-02 Description Natural gas-fired engine SIC Code (4-digit) 4922 SCC Code 2-02-002-53
 Emissions unit ID (air pollution control device) N/A

B. Emissions Unit Description

Primary use power generation (auxiliary) Temporary source Yes No Manufacturer Ingersoll-Rand
 Model PSVG-8 Serial Number 8CPST228* Installation date 09 / / 1958
 Boiler type Industrial boiler Process burner Electric utility boiler Other (describe) _____
 Boiler horsepower rating N/A Boiler steam flow (lb/hr) N/A
 Type of fuel burning equipment (coal burning only):
 Hand fired Spreader stoker Underfeed stoker
 Overfeed stoker Traveling grate Shaking grate
 Pulverized, wet bed Pulverized, dry bed
 Actual (average) heat input 8.13 MM BTU/hr Maximum design heat input 8.13 MM BTU/hr

C. Fuel Data

Instructions: Describe each fuel expected to be used during the term of the permit.

Primary fuel type(s) natural gas Standby fuel type(s) none

Fuel Type (e.g., natural gas, oil, coal, etc.)	Max Sulfur (%)	Max Ash (%)	BTU Value (per cf, gal, or lb)
Pipeline quality natural gas	<0.08%	N/A	920 Btu/scf (LHV)

D. Fuel Usage Rates

Instructions: For each fuel described above, enter actual and maximum fuel usage rates on a worst-case hourly and annual basis. Indicate the dimension for the fuel usage rate (e.g., gallons, cords, cubic feet).

Fuel Type (e.g., natural gas, oil, coal, etc.)	Annual Actual Usage	Maximum Usage	
		Hourly	Annual
Pipeline quality natural gas	14.5SCF	8.13 MSCF	71.22 MMSCF

*NOTE: Serial numbers listed represent current equipment serial number. Please review Section 6 regarding off-permit changes, equipment replacement

E. Applicable Requirements

Instructions: List the specific applicable requirement(s) that apply to this emissions unit. Do not list generic applicable requirements on this form. Include a citation to the requirement and a brief description of the standards, limitations and other requirements imposed by the applicable requirement.

Applicable Requirement	Citation	Text Description of Standards, Limitations, and Other Requirements
N/A		

F. Air Pollution Control Equipment

Emissions unit ID N/A Device type _____ Air pollutant(s) controlled _____
 Manufacturer _____ Model No. _____ Serial No. _____
 Installation date ___/___/___ Control efficiency (%) _____ Efficiency estimation method _____

G. Ambient Impact Assessment Information

Instructions: This information must be completed by temporary sources or when ambient impact assessment is an applicable requirement for this emissions unit.
 Stack height (ft) _____ Inside stack diameter (ft) _____ Stack temp(°F) _____
 Design stack flow rate (ACFM) _____ Actual stack flow rate (ACFM) _____ Velocity (ft/sec) _____

5 Insignificant Activities and Emissions

EPNG performs certain activities which are considered insignificant based on a de minimis emission level. The de minimis emission levels are as follows:

- 2 tons per year (tpy) for regulated pollutants other than HAPs per 40 CFR 71.5(c)(11)(ii)(A); and,
- 0.5 tpy or the de minimis level established under Section 112(g) of the CAA for HAPs per 40 CFR 71.5(c)(11)(ii)(B).

Other emission units are considered insignificant based on their size. These emission units are listed in Table 5-1. Those activities listed under the category "Compressor Station Operations & Activities" are activities which occur at the facility on a somewhat regular basis, and the emissions have been estimated based on operational data and are insignificant. The remaining categories representative of the federally-approved insignificant activities lists for the state operating permit programs of Arizona, New Mexico, and Texas.

EPNG performs, or may perform in the future, certain activities which are exempted from the operating permit regulations under 40 CFR 71.5(c)(11)(i). These units need not be included in the application, but are listed here for informational purposes:

- Mobile sources
- Air conditioning units (not subject to Title VI of the CAA) or ventilating units used for human comfort that do not exhaust air pollutants from any manufacturing or other industrial process
- Heating units used for human comfort
- Non-commercial food preparation
- Consumer use of office equipment and products
- Janitorial services and consumer use of janitorial products
- Internal combustion engines used for landscaping purposes

EPNG performs or may perform other activities (not listed above) for which the emissions are non-quantifiable and, thus, insignificant. In support of this assertion, these activities are included in federally-approved insignificant activities lists from the state operating permit programs of Arizona, New Mexico, and Texas. These activities are listed in Table 5-2. Based on the best available information, EPNG believes that some or all of the insignificant activities listed in this table may be performed at this facility as part of normal operations.

EPA has also established a list of activities that may be considered "trivial activities" (refer to "White Paper for Streamlined Development of Part 70 Permit Applications", 07/10/95). Although these activities need not be included in an operating permit application, EPNG has compiled a list of trivial activities for informational purposes. This list is combined with the insignificant activities (non-quantifiable) listed in Table 5-2. This list includes trivial activities approved by the EPA for use in the Arizona, New Mexico, and Texas state operating permit programs. Note that, any activity for which applicable requirements apply, other than ambient air standards, is not trivial, regardless of whether the activity meets the criteria listed in Table 5-2. Based on the best

available information, EPNG believes that some or all of the trivial activities associated with natural gas transmission operations may be performed at this facility as part of normal operations.

Note that the table below may not encompass all activities at the facility that may be considered insignificant and/or trivial.

Table 5-1 List of Insignificant Activities (Quantifiable)

No.	Category	Description	Basis for Treatment as Insignificant Activity	Est. Total # OR # per year	RAP (non-HAP)	HAP
1	Compressor Station Operations & Activities	Fugitive VOC emissions from connections, flanges, open-ended lines, valves, and other components	Estimated emissions < 2 tpy regulated pollutants, < 0.5 tpy HAPs For compressor facilities with 40 or less reciprocating engines and/or turbines, estimated emissions using GRI-HAPCalc v3.0 are less than the de minimis limit. Component estimate is based on GRI-HAPCalc's default estimate for a compressor station (6 turbines and 6 engines), normalized to a per-unit basis. REFER to attached GRI-HAPCalc estimate.	< 40 units	x	x
2	Compressor Station Operations & Activities	Emergency Shut Down system and pressure relief valves	Estimated emissions < 2 tpy regulated pollutants, < 0.5 tpy HAPs	20/yr	x	x
3	Compressor Station Operations & Activities	Blowdown activities (during startup & shutdown)	Estimated emissions < 2 tpy regulated pollutants, < 0.5 tpy HAPs	50/yr	x	x
4	Compressor Station Operations & Activities	Cooling towers that are 3000 ton (9000 gpm) and smaller	ADEQ "List of Insignificant Activities - Quantifiable"	0*	x	
5	General Combustion Activities & Equipment	All natural gas and/or liquefied petroleum gas-fired pieces of equipment, over 300,000 BTU/hour, if their input capacities added together are less than:	ADEQ "List of Insignificant Activities - Quantifiable" and NMED "List of Insignificant Activities"	0*	x	x

No.	Category	Description	Basis for Treatment as Insignificant Activity	Est. Total # OR # per year	RAP (non-HAP)	HAP
		a) 2 MMBTU/hour, if only emissions came from fuel burning; b) 5 MMBTU/hour, if only emissions came from fuel burning and the equipment is used solely for heating buildings for personal comfort or for producing hot water for personal use				
6	General Combustion Activities & Equipment	All oil-fueled heating piece of equipment (except off-spec oil) with a maximum rated input capacity or an aggregated input capacity of less than: a) 0.5 MMBTU/hour, if only emissions came from fuel burning, or b) 1.0 MMBTU/hour, if only emissions came from fuel burning and the equipment is used solely for heating buildings for personal comfort or for producing hot water for personal use.	ADEQ "List of Insignificant Activities - Quantifiable" and NMED "List of Insignificant Activities"	0*	x	x
7	General Combustion Activities & Equipment	IC engine-driven compressors, IC engine-driven electrical generator sets, and IC engine water pumps less than 500-HP used only for emergency replacement or standby service (including testing of same), not to exceed 500 hours of operation per year.	ADEQ "List of Insignificant Activities - Quantifiable" and NMED "List of Insignificant Activities"	2*	x	x
8	General Combustion Activities & Equipment	Gas turbines with a maximum heat input at International Standards Organization (ISO) Standard Day Conditions of less than 3 MMBTU/hour fired exclusively with natural gas and/or liquefied petroleum gas.	ADEQ "List of Insignificant Activities - Quantifiable"	0*	x	x
9	General Combustion Activities & Equipment	Other portable IC engines that have an individual design capacity less than or equal to:	ADEQ "List of Insignificant Activities - Quantifiable"	0*	x	x

7/14/0
121

No.	Category	Description	Basis for Treatment as Insignificant Activity	Est. Total # OR # per year	RAP (non-HAP)	HAP
		a) 200-HP if fueled by diesel, or b) 500-HP if fueled by gasoline.				
10	Surface Coating	The aggregate of all surface coating operations of a source in which no coated product is heat cured and a combined total of one gallon per day or less of all coating materials and solvents are used in processes at the source.	ADEQ "List of Insignificant Activities - Quantifiable"	0*	x	x
11	Surface Coating	Use of hand-held aerosol cans in coating operations.	ADEQ "List of Insignificant Activities - Quantifiable"	0*	x	x
12	Solvent Cleaning Equipment	Unheated non-conveyorized, cleaning or coating equipment that does not include enclosures: a) with an open surface area of one square meter (10.8 square feet) less and an internal volume of 350L (92.5 gallons) or less, having an organic solvent loss of three gallons per day or less, or unless subject to a NESHAPs (one gallon of it contains HAPs) (if it's a VOC organic solvent); b) Using only organic solvents with an initial boiling point of 302F or greater and having an organic solvent loss of 3 gallons per day or less; or c) Using materials with a VOC content of 2% (20 grams per liter) or less by volume.	ADEQ "List of Insignificant Activities - Quantifiable"	0*	x	x
13	Storage & Distribution	Chemical or petroleum storage tanks or containers that hold 250 gallons or less and would have emissions of a regulated air pollutant.	ADEQ "List of Insignificant Activities - Quantifiable"	0*	x	x
14	Storage & Distribution	Any emissions unit, operation, or activity that handles or stores a VOC or	ADEQ "List of Insignificant Activities - Quantifiable"	3 (ethylene glycol)	x	x

No.	Category	Description	Basis for Treatment as Insignificant Activity	Est. Total # OR # per year	RAP (non-HAP)	HAP
		HAP organic liquid with a vapor pressure less than 1.5 psia.				
15	Storage & Distribution	Any stationary gasoline dispensing operation receiving less than 60,000 gallons of gasoline annually which is not for resale, provided that each gasoline dispensing tank is equipped with a permanent submerged fill pipe.	ADEQ "List of Insignificant Activities - Quantifiable"	0*	x	x
16	Storage & Distribution	Diesel and fuel oil storage tanks with capacity of 40,000 gallons or less. ¹	ADEQ "List of Insignificant Activities - Quantifiable"	0*	x	x
17	Storage & Distribution	Gasoline storage tanks with capacity of 10,000 gallons or less	ADEQ "List of Insignificant Activities - Quantifiable"	0*	x	x
18	Storage & Distribution	Petroleum-based solvent tanks less than 10,000 gallons (solvent with a vapor pressure less than gasoline)	Vapor pressure less than gasoline, see above item	1	x	x
19	Storage & Distribution	Tanks less than 105,000 gallons storing condensate prior to custody transfer	TNRCC "Off-Permit Application Sources and Activities"	0*	x	x
20	Miscellaneous Activities	Self-contained, enclosed blast and shot peen equipment where the total internal volume of the blast section is 50 cubic feet or less and where the control equipment vents exclusively such equipment.	ADEQ "List of Insignificant Activities - Quantifiable"	0*	x	
21	Miscellaneous Activities	Acetylene, butane, and propane torches.	ADEQ "List of Insignificant Activities - Quantifiable"	0*	x	x
22	Miscellaneous Activities	Batch mixers with rated capacity of 5 cubic feet or less.	ADEQ "List of Insignificant Activities - Quantifiable"	0*	x	
23	Miscellaneous Activities	Any other activity, not otherwise subject to an applicable requirement, which the Agency determines is not necessary, because of its emissions due to a size or production rate, to be			x	x

¹ Storage tanks of 10,000 gallons or less containing diesel fuel, lubricating oil, transformer oil, used oil, or other non-HAP organic liquids with a vapor pressure less than or equal to 1.5 psia are considered "Trivial" (refer to Table 5-2)

No.	Category	Description	Basis for Treatment as Insignificant Activity	Est. Total # OR # per year	RAP (non-HAP)	HAP
		included in an application in order to determine all applicable requirements or to calculate any fee pursuant to 40 CFR Part 71.				

NOTE(S):

* Currently none but, from time to time, EPNG may utilize such equipment.

Table 5-2 List of Insignificant Activities (Non-Quantifiable) and Trivial Activities

No.	Category	Description
1	Compressor Station Operations & Activities	Cathodic protection systems.
2	Compressor Station Operations & Activities	Condensate truck loading.
3	Compressor Station Operations & Activities	Cooling water systems
4	Compressor Station Operations & Activities	Domestic wastewater systems
5	Compressor Station Operations & Activities	Evaporation ponds (including temporary hydrostatic test water evaporation ponds)
6	Compressor Station Operations & Activities	Exercise of standby equipment
7	Compressor Station Operations & Activities	Fan systems
8	Compressor Station Operations & Activities	Maintenance and use of inertial separators (to filter air intake into gas turbine engines)
9	Compressor Station Operations & Activities	Natural gas odorizing activities.
10	Compressor Station Operations & Activities	Natural gas pressure regulators, excluding venting at oil and gas production facilities.
11	Compressor Station Operations & Activities	Oil/water system
12	Compressor Station Operations & Activities	Pipeline maintenance pigging activities.
13	Compressor Station Operations & Activities	Plant water and wastewater system
14	Compressor Station Operations & Activities	Scrubber liquid systems
15	Compressor Station Operations & Activities	Uninterruptable power supply systems
16	Compressor Station Operations & Activities	Use of chlorination systems
17	Compressor Station Operations & Activities	Used oil systems
18	Compressor Station Operations & Activities	Utility pumps & systems
19	Compressor Station Operations & Activities	Well cellars.
20	Electric Operations & Activities	Electric motors, circuit breakers, station transformers, transformer vents
21	Emergency Activities & Equipment	Fire fighting activities and training conducted in preparation for fighting fires.
22	Emergency Activities & Equipment	Fire suppression systems.
23	Emergency Activities & Equipment	Flares used to indicate danger to the public (including emergency road flares).
24	Emergency Activities & Equipment	Safety devices, including fire extinguishers.
25	Emergency Activities & Equipment	Stormwater and fire sprinkler water holding systems.

No.	Category	Description
26	General Combustion Activities & Equipment	Any natural gas and/or liquefied petroleum gas-fired piece of equipment that individually has an input capacity of less than 300,000 BTU/hour, if only emissions result from fuel burning.
27	General Combustion Activities & Equipment	Open burning activities (with a valid open burning permit).
28	Hand Operated Equipment	Air compressors and pneumatically operated equipment including hand tools.
29	Hand Operated Equipment	Hand-held applicator equipment for hot melt adhesives with no VOC in the adhesive formulation.
30	Hand Operated Equipment	Hand-held equipment for buffing, polishing, cutting, drilling, sawing, grinding, tuning, or machining wood, metal, or plastic.
31	Hand Operated Equipment	Portable electrical generators that can be moved by hand from one location to another ("moved by hand" means that it can be moved without the assistance of any motorized or non-motorized conveyance or device).
32	Miscellaneous Activities	Batteries and battery changing stations.
33	Miscellaneous Activities	Cleaning equipment using water, water and soap (detergent) for the purposes of cleaning or finishing
34	Miscellaneous Activities	Garbage handling, including dumpsters, pails, drums, processing of recyclable materials, bailing, and compacting.
35	Miscellaneous Activities	General construction and transport of materials to and from the station
36	Miscellaneous Activities	Materials, chemicals, and equipment used by an infirmary to care primarily for any personnel at the site.
37	Miscellaneous Activities	Non-anthropogenic wind-blown dust.
38	Miscellaneous Activities	Non-hand held, stationary equipment used for buffing, carving, cutting, drilling, surface grinding, machining, planing, routing, sanding, sawing, shredding, or turning of precision parts, metals, plastics, rubber, fiberboard, masonry, carbon, graphite, or glass.
39	Miscellaneous Activities	Outdoor barbecue pits, campfires, and fireplaces.
40	Miscellaneous Activities	Ozone generators.
41	Miscellaneous Activities	Power generation unit gas vents (sources must provide a description of these vents with their application). (A generation unit gas vent is a gas solenoid valve that vents trapped gas from a generation unit).
42	Miscellaneous Activities	Processing of nearly empty containers (usable product already removed) by rinsing, crushing, shredding, compacting, etc.
43	Miscellaneous Activities	Servicing and use of air conditioning and cooling equipment that are subject to applicable requirements under Title VI of the Act.
44	Miscellaneous Activities	Steam leaks.
45	Miscellaneous Activities	Steam vents and safety relief valves.
46	Miscellaneous Activities	Vacuum pumps.
47	Miscellaneous Activities	Venting of compressed natural gas, butane, or propane gas cylinders with a capacity of 1 gallon or less.
48	Office Activities & Equipment	Tobacco smoking rooms & areas
49	Office Activities & Equipment	Use of consumer products, including hazardous substances as the term is defined in the Federal Hazardous Substances Act (15 USC 261 et. seq.), where the product is used at a source in the same manner as normal consumer use.
50	Repair & Maintenance	Activities at a source associated with the maintenance, repair, or dismantlement of an emissions unit or other equipment installed at the source, including preparation for maintenance, repair, or dismantlement and preparation for subsequent startup, including preparation of a shut down vessel for entry, replacement of insulation, welding, and cutting, surface preparation, painting, and steam purging of a vessel prior to startup; also, includes dismantlement of

No.	Category	Description
		buildings, utility lines, pipelines, wells, excavations, earthworks, and other structures that do not constitute an emission unit
51	Repair & Maintenance	General maintenance of regulated emissions units, including, but not limited to, oil filter replacement (including drainage of oil filters), and work on engine jacket water system.
52	Repair & Maintenance	General vehicle repair and maintenance activities at the source.
53	Repair & Maintenance	Housekeeping activities and associated products used for cleaning purposes, including collecting spilled and accumulated materials at the source, including operation of fixed vacuum cleaning systems specifically for such purposes
54	Repair & Maintenance	<p>Maintenance and construction (including pipelines) and activities which occur strictly for maintenance of equipment grounds, buildings, and associated support of ancillary equipment, including but not limited to, such activities as:</p> <ul style="list-style-type: none"> • Abrasive blasting (except for abrasive blasting potable water storage tanks with lead based paint) • acid washing • adhesives usage • application of refractory & insulation • brazing • caustic washing • cleaning • cutting • general construction repairs • grinding • groundskeeping • hydraulic or hydrostatic testing • insulation removal • janitorial activities • miscellaneous solvent use • paving and sealing of roads, parking lots, and other areas • painting • pest control • plastic or fiberglass welding or repair • plumbing • roof coating service and repair • sanding • soldering • steam cleaning activities • surface coating operations performed on in-place and on-site equipment or other surfaces which are classified as architectural or "maintenance coating" operations (does not include other surface coating operations) • sweeping • tank seal replacement • water washing or blasting • weed control • welding • wood working
55	Repair & Maintenance	Repair and maintenance shop activities not related to the source's primary business activity (excluding emissions from surface coating or degreasing activities) and not triggering a permit revision.
56	Roadways & Motor Vehicles	Activities associated with the construction, repair or maintenance of roads or other paved or open areas, including operating of street sweepers, vacuum

No.	Category	Description
		trucks, spray trucks and other vehicles related to the control of fugitive emissions of such roads or other areas.
57	Roadways & Motor Vehicles	Fugitive dust emissions from the operation of mobile equipment.
58	Roadways & Motor Vehicles	Fugitive emissions related to movement of passenger vehicles, provided the emissions are not counted for applicability purposes and any fugitive dust control plan or its equivalent is submitted.
59	Roadways & Motor Vehicles	Street and parking lot striping.
60	Roadways & Motor Vehicles	Unpaved public and private roadways. Does not include hauls roads located within stationary source site boundary that are regularly trafficked by heavy trucks, front loaders, and other similar industrial machines.
61	Site Assessment / Remediation	Operation of groundwater remediation wells, including, but not limited to, soil venting, pumps, and collection activities.
62	Site Assessment / Remediation	Petroleum contaminated soil remediation projects, as long as the product has a vapor pressure less than 1.5 psia and no artificial heat is applied.
63	Site Assessment / Remediation	Site assessment work including, but not limited to, the evaluation of waste disposal sites or remediation sites (test and monitoring wells, soil, water, and air sampling).
64	Storage & Distribution	Deminerlized water tanks and deminerlizer vents
65	Storage & Distribution	Inorganic chemical storage and loading facilities
66	Storage & Distribution	Lubricating and hydraulic system reservoirs and vents.
67	Storage & Distribution	Piping and storage systems for natural gas, propane, and liquefied petroleum gas
68	Storage & Distribution	Piping systems for diesel fuel and other fuel oils
69	Storage & Distribution	Storage and handling of drums, cylinders, or other transportable containers where the containers are sealed during storage and transport (includes containers of hazardous waste and used oil).
70	Storage & Distribution	Storage tanks of 10,000 gallons or less containing diesel fuel, lubricating oil, transformer oil, used oil, or other non-HAP organic liquids with a vapor pressure less than or equal to 1.5 psia
71	Storage & Distribution	Storage tanks, vessels, containers holding or storing liquid substances that will not emit any VOC or HAPs (including empty tanks and pressurized tanks).
72	Storage & Distribution	Surface impoundments such as ash ponds, cooling ponds, evaporation ponds, settling ponds, and holding ponds as long as there are only trace amounts of acids and/or solvents in the impoundments.
73	Storage & Distribution	Transferring chemicals from one container to another, provided chemical repackaging is not the source's primary business activity and provided vapor pressure is less than 1.5 psia.
74	Storage & Distribution	Unheated storage tanks of any size containing exclusively aqueous acid or caustic solutions that have minimal fumes (typically less than 10% concentration) which would not emit HAPs.
75	Surface Coating Equipment	Equipment used for surface coating, painting, dipping or spraying operations, except those that will emit volatile organic compounds (VOC), or hazardous air pollutants (HAPs)
76	Testing & Monitoring Equipment	Equipment used for quality control/assurance or inspection purposes, including sampling equipment used to withdraw material for analysis such as soil gas, groundwater, or stack sampling equipment
77	Testing & Monitoring Equipment	Routine calibration & maintenance of laboratory equipment or other analytical instruments.
78	Testing & Monitoring Equipment	Vents from continuous emissions monitors & other analyzers
79	Water & Waste Water	Boiler water treatment operations, not including cooling towers.

No.	Category	Description
	Treatment	
80	Water & Waste Water Treatment	Deionized (DI) water production for process water.
81	Water & Waste Water Treatment	Oxygen scavenging (de-aeration) of water.
82	Water & Waste Water Treatment	Process water filtration systems and demineralizers.
83	Water & Waste Water Treatment	Production of hot/chilled water for on-site use not related to any industrial process, excluding boilers.
84	Water & Waste Water Treatment and Storage	Chemical storage associated with water and wastewater treatment where the water is treated for consumption and/or use within the facility.
85	Water & Waste Water Treatment and Storage	The collection, transmission, liquid treatment, and solids treatment processes at a facility, including septic tank systems, which treat only domestic type wastewater and sewage.
86	Water & Waste Water Treatment and Storage	Waste water neutralization treatment or tanks storage for process waste water.
87	Water & Waste Water Treatment and Storage	Water treatment and storage for use as process water or for use in cooling systems, cooling towers, and scrubbers used to control air contaminants. Emissions from use of chemicals in water treatment are also considered insignificant.



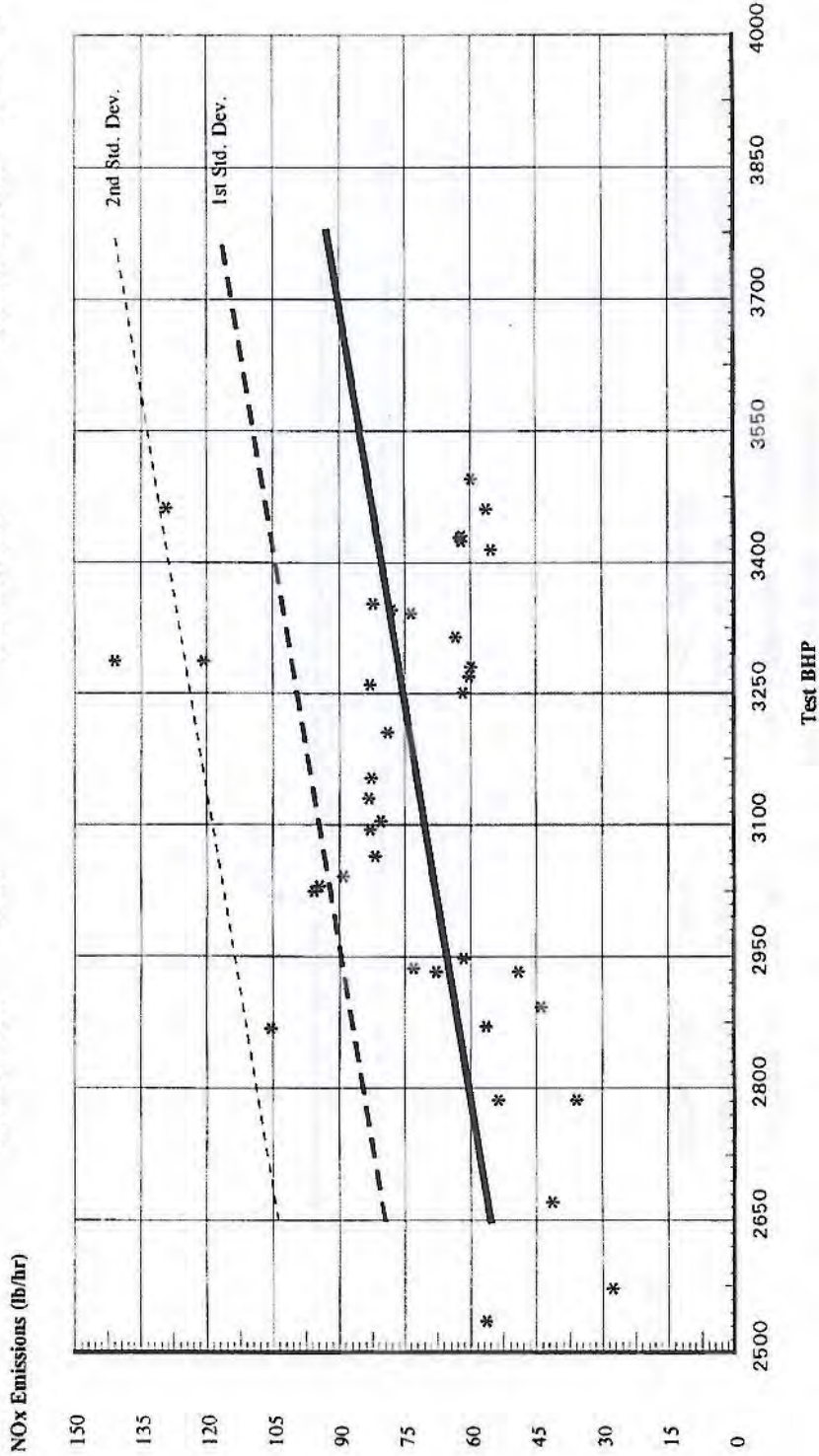
99EI-Laguna (Clark TLA10, A1-A2)

Test Points 38 Of 50 Y = 0.03316479 X -32.4578

MAXIMUM 139.58 LB/HR
 MINIMUM 26.4 LB/HR

Average 71.14185 LB/HR
 Average 22.68122 LB/MHP-HR

Std. Dev. 24.158
 R^2 0.1267936



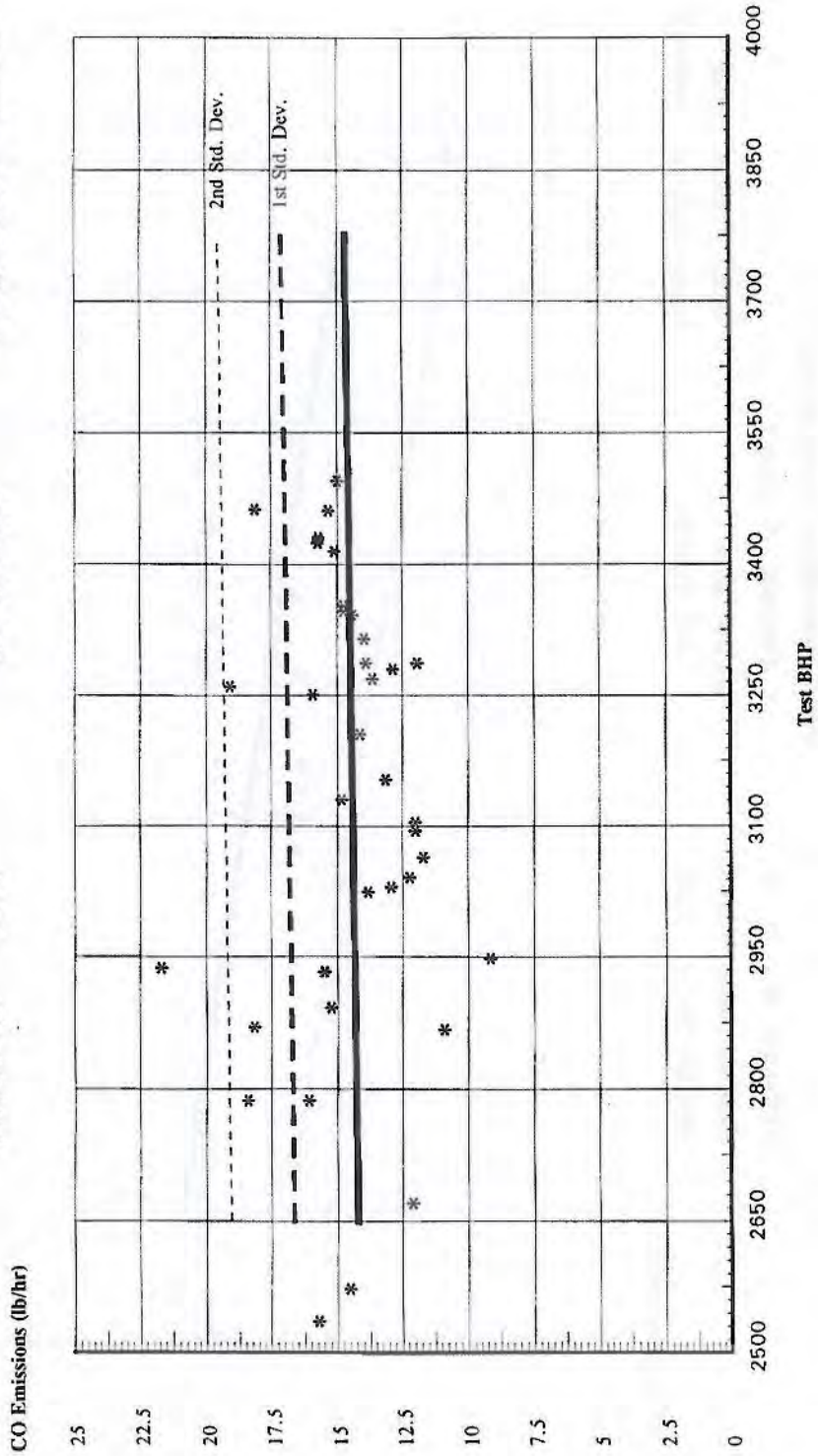
FILE: 4305-LAGUNA
 AUR - EI (1999)



99EI-Laguna (Clark TLA10, A1-A2)

Test Points 38 Of 50 $Y = 0.000406539 X + 13.13622$

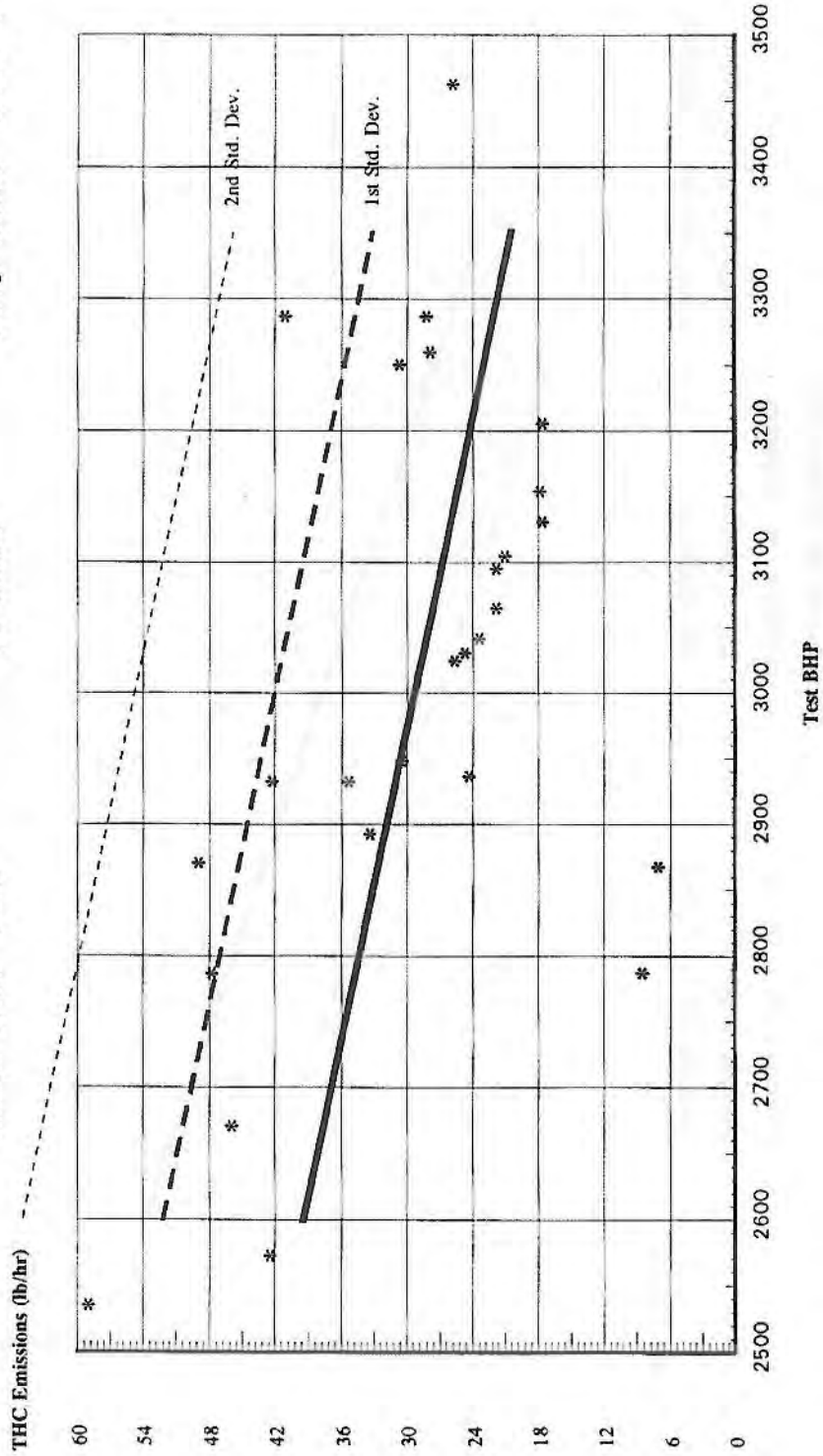
MAXIMUM 21.5 LB/HR Std. Dev. 2.422718 Average 14.40632 LB/HR
MINIMUM 8.93 R^2 0.001894824 Average 4.642998 LB/MHP-HR





99EI-Laguna (Clark TLA10, A1-A2)

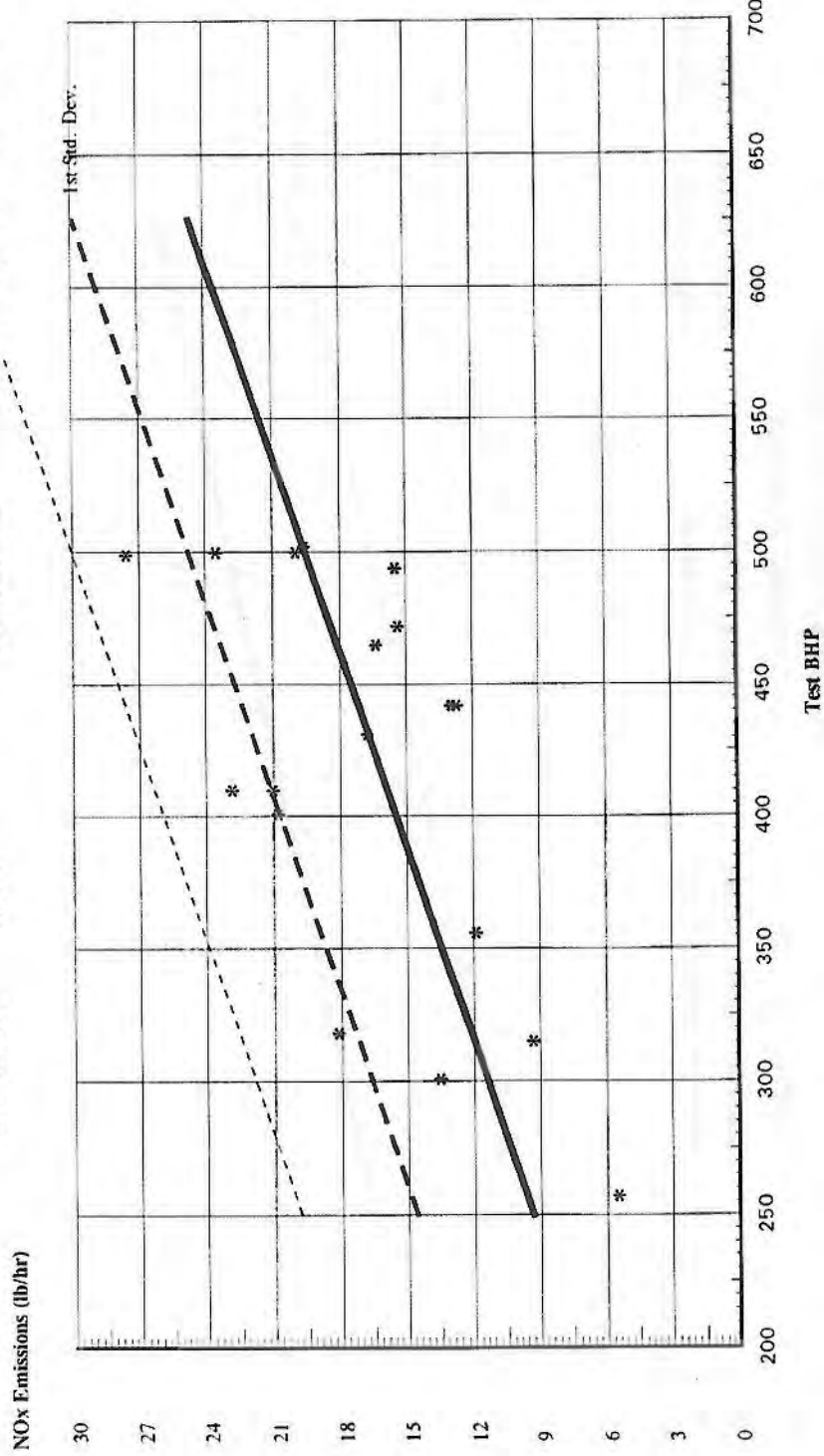
Test Points 26 Of 50
 Y = -0.02531866 X + 105.2416
 Average 29.14853 LB/HR
 Std. Dev. 12.72418
 Average 9.906878 LB/MHP-HR
 MAXIMUM 58.52386 LB/HR
 MINIMUM 6.61363 LB/HR
 R^2 0.202288





99EI-Laguna (IR PSVG8, AUX)

Test Points 20 Of 20
 MAXIMUM 27.34 LB/HR
 MINIMUM 5.23 LB/HR
 Y = 0.04085928 X - 0.8956419
 Std. Dev. 5.251416
 R^2 0.3409929
 Average 16.3245 LB/HR
 Average 38.58205 LB/MHP-HR



99EI-Laguna (IR PSVG8, AUX)



99EI-Laguna (IR PSVG8, AUX)

Test Points 20 Of 20 Y = 0.05149147 X -11.60908

MAXIMUM 34.04 LB/HR

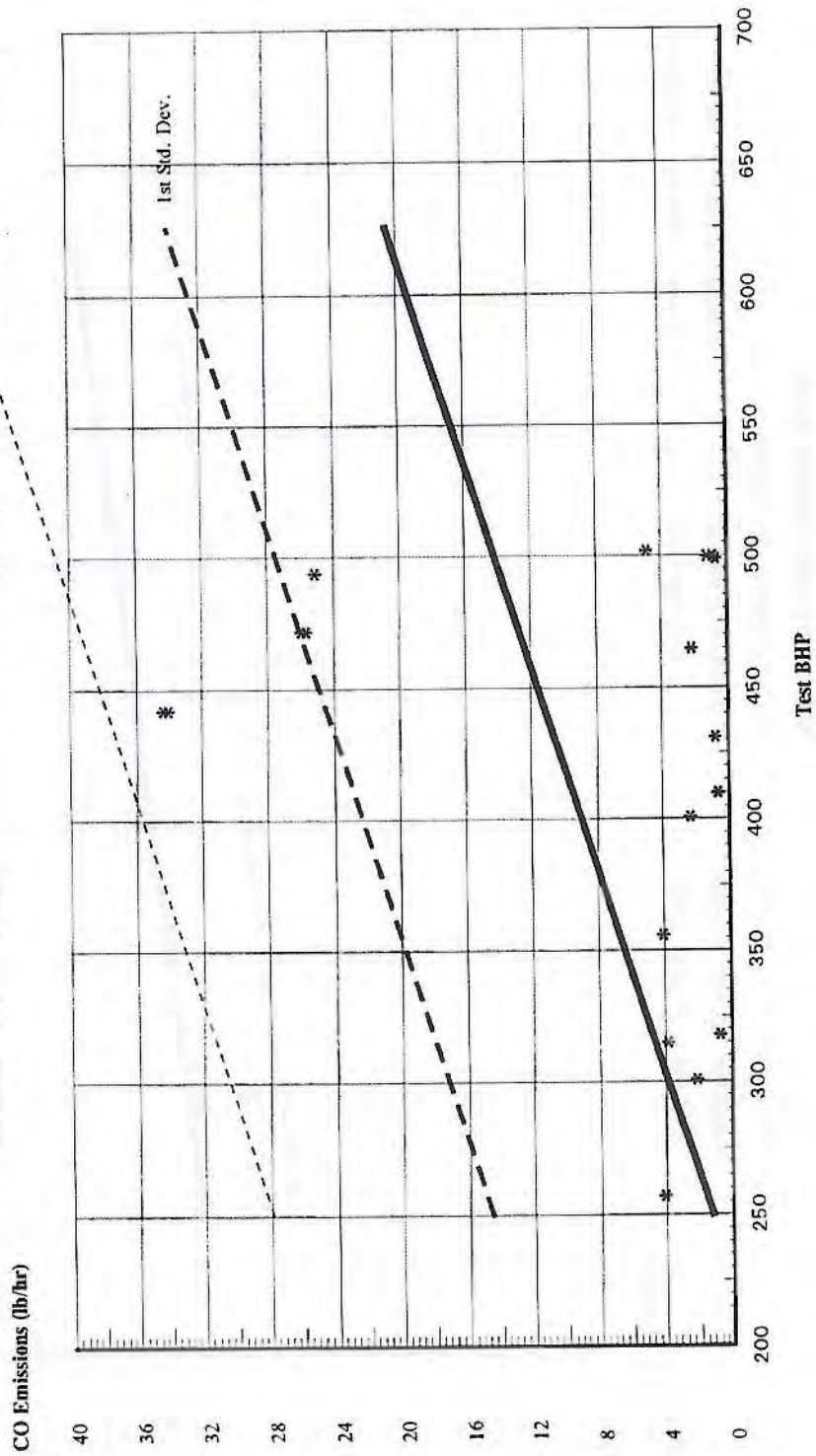
Average 10.082 LB/HR

MINIMUM 0.36 LB/HR

Average 22.78717 LB/MHP-HR

Std. Dev. 13.32845

R² 0.08406716



99EI-Laguna (IR PSVG8, AUX)

09/29/2000



99EI-Laguna (IR PSVG8, AUX)

Test Points 14 Of 20 Y = -0.00103433 X + 1.083994

MAXIMUM 1.15417 LB/HR

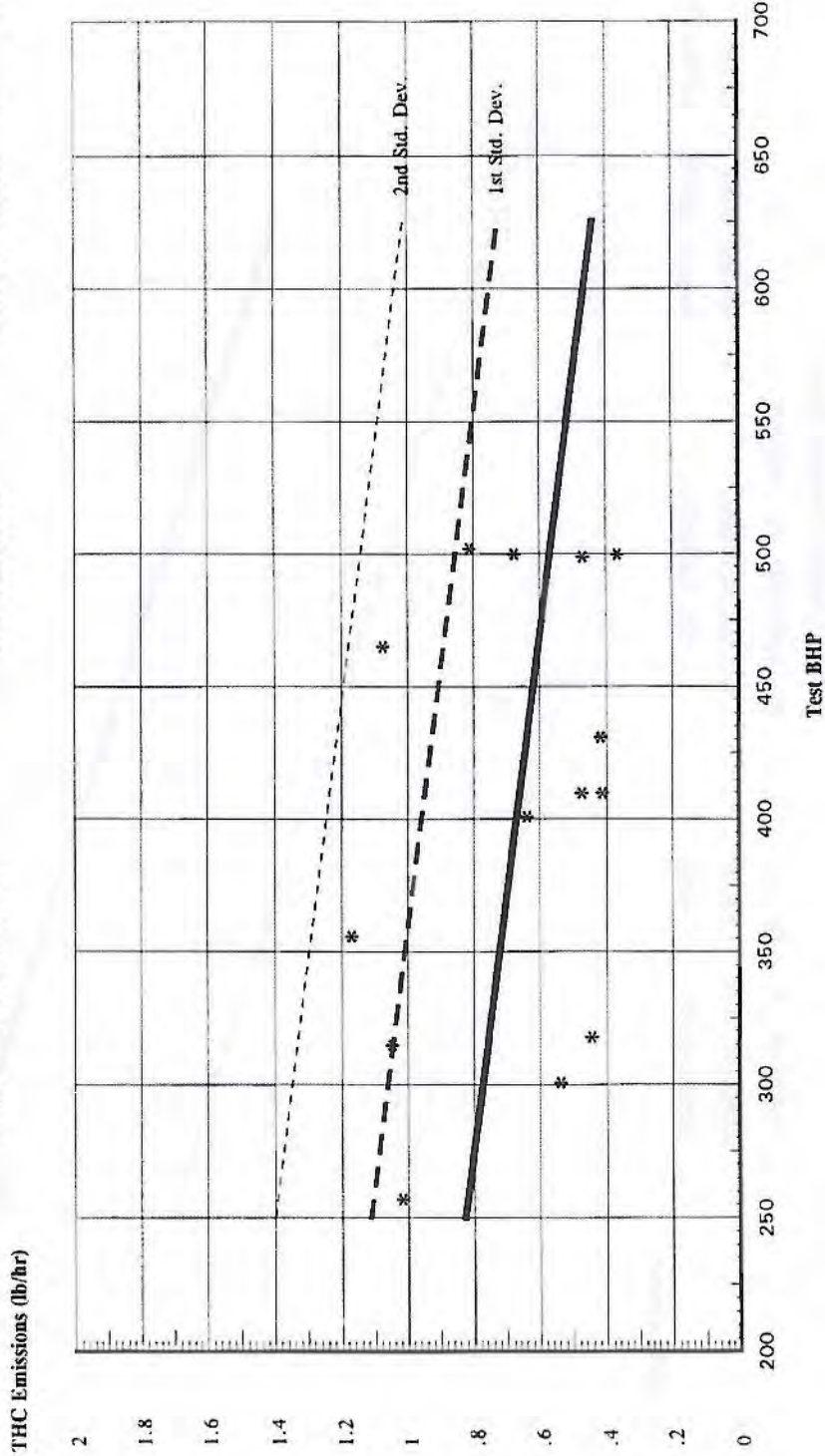
Average 0.6654601 LB/HR

MINIMUM 0.3478622 LB/HR

Average 1.772141 LB/MHP-HR

Std. Dev. 0.2866578

R^2 0.09156178



LAGUNA

EL PASO NATURAL GAS COMPANY
SPECIFICATION SHEET - ENGINE

ENGINE DATA:

1. Size and type	<u>TLA-10 two cycle gas engine</u>		
2. Number of power cylinder	<u>10</u>	Bore	<u>17</u>
		Stroke	<u>19</u>
3.	ALTITUDE		SEA LEVEL
BHP	<u>3400</u>		<u>3400</u>
BMEP	<u>102</u>		<u>102</u>
RPM	<u>300</u>		<u>300</u>

4. Principal dimensions

Main bearing-thrust-dia.x length inches	<u>13" x 7-1/2"</u>
Main bearing all others dia.x length inches	<u>(5) 13" x 7-3/4", (5) 13" x 14-1/4", 13" x 7-3/4"</u>
Crank pin compressor rod dia.x length inches	<u>12" x 6-1/2"</u>
Crank pin power rod dia.x length inches	<u>12" x 6-1/2"</u>
Piston pin engine dia.x length inches	<u>7" x 7"</u>
Center to center, comp. cylinder throws inches	<u>62" -62" -80" -62"</u>

5. Cooling System

Engine	JACKETS	INTERCOOLERS
Heat rejection BTU/BHP/Hr.	<u>1200</u>	<u>285</u>
Recommended inlet temp.	<u>155</u>	<u>120</u>
Recommended temp. rise	<u>10</u>	<u>17.6</u>
Maximum outlet temp.	<u>165</u>	<u>137.6</u>
Circulation recommended gpm	<u>820</u>	<u>110</u>
Pressure drop:		
GPM	<u>820</u>	<u>110</u>
Pressure drop ft. water	<u>6.93</u>	<u>17.3</u>
Capacity in gallons		

6. Lubricating oil system

Heat rejected to lube oil BTU/BHP/Hr.	<u>450</u>
Recommended oil inlet temp. engine	<u>120° -150°F.</u>
Oil circulation rate GPM @ rated engine speed	<u>430</u>
Recommended oil outlet temp. engine	<u>150°F.</u>
Maximum oil outlet temp. engine	<u>160°F.</u>
Oil pressure psig	<u>35 to 45</u>
Capacity of oil sump gallons	<u>450</u>

LAGUNA

EL PASO NATURAL GAS COMPANY
SPECIFICATION SHEET - ENGINE

7. Space Requirements

Foundation minimum cu. yds. 172
 Width of engine 18"-7-1/2" with compressor cylinders
 Length of engine 32'-1-1/8"
 Space required to remove power piston above floor 15'-6"
 Space required to remove compressor piston, from centerline of crankshaft 18'-8"

Shipping Wt. 294,000

8. Fuel Gas System

Fuel consumption BTU/BHP/Hr:

	Sea Level	Altitude
Full Load	<u>7000</u>	<u>7000</u>
3/4 Load	<u>7500</u>	<u>7500</u>
1/2 Load	<u>9900</u>	<u>9900</u>

Fuel pressure psig 25 to 35

9. Starting System

Normal starting air pressure 250 psig
 Cu. ft. of free air/start 2300
 Tank capacity cu. ft./one start 640

10. Pipe connections, diameter inches

Starting air 2" screwed Exhaust 30"-150#
 Fuel Gas 3"-125# J. W. Inlet 8"-150#
 Lube Oil Inlet 6"-150# J.W. Outlet 8"-150#
 Lube Oil Outlet 6"-150# Scavenging Air 24"-150#

11. Remarks:

EL PASO NATURAL GAS COMPANY

SPECIFICATION SHEET LUBE OIL COOLER

STATION LAGUNA
 MAKE _____ MODEL NO. #2-905-1716
 ENGINE TYPE TLA-10 SPEED 300 NO. OF UNITS 3

DESIGN AND PERFORMANCE DATA (ONE UNIT)

	SHELL SIDE	TUBE SIDE
Fluid Circulated	_____	_____
Type Fluid	<u>Oil</u>	<u>Water</u>
Total Fluid entering gpm	<u>450 GPM</u>	<u>300 GPM</u>
Temperature in. °F	<u>160</u>	<u>120</u>
Temperature out °F	<u>144</u>	<u>130</u>
Operating pressure	<u>---</u>	<u>---</u>
No. of passes	<u>1</u>	<u>2</u>
Velocity	<u>---</u>	<u>2.5</u>
Pressure drop psi	<u>10.0</u>	<u>2.0</u>

Heat Exchanged 1,530,000 BTU/Hr. L.M.T.D. (Corrected) 25.7

Transfer surface sq. ft. 905 sq ft

Transfer Coeff. BTU/Hr. ft.² °F actual 66 design 92.5 (Clean)

CONSTRUCTION

Design Pressure Shell 100 PSI Tube 100 PSI

Test Pressure Shell 150 PSI Tube 150 PSI

Tubes Material Inhibited Admiralty Number 346 O.D. 5/8"

B.W.G. 18 Length 16'

Tube Pitch 13/16" TRI Type Bundle Removable

Shell Material Steel Diam. 18" Heads Mat'l. C.I.

Tube sheets stationary mat'l. Naval rolled brass

Tube sheets floating mat'l. Naval rolled brass

Baffles-cross mat'l. Steel - segmental type

Baffles-long mat'l. _____

Channels C.I. Bonnets C.I. Zincs No - Yes No

Nozzle Size - Shell 4" - 150# ASA-BIGe, R. F. Tube 6" - 125# ASA-BIGa, F. F. (250#thk)

X ASA Flanged API Threaded

Overall Length 17'-7-5/8" Length necessary to remove tubes 16'-2"

Weight 4310# empty - 5740# full

Tie rods Mat'l. C.R.S. No. 10 Dia. 3/8"

Spacers -Yes X No

Remarks _____

EL PASO NATURAL GAS COMPANY

SPECIFICATION SHEET COMPRESSOR CYLINDER

1. Station LAGUNA, New Mexico

2. Stage of Compression Single No. Comp. Cyls. 5

3. Class of Compressor Cylinder _____ Dia. 14-3/4" Stroke 19

4. Diameter Range 15-1/2" to 14"

5. Flange Connections: Size 10" Series 900#

6. Piston Displacement: Cfm 1102 eRpm 300

7. Rod Diameter 3-1/2" Max. Rod Load: Compression 70,000 Tension 70,000
 Design Load: Compression 47,000 Tension _____

8. Design Working Pressure 853 ; MAOP - 1000 psig

9. Single or Double Acting Double Liner or Solid Body Type Liner

10. Weight of Cylinder 10,400 lbs. approximate

11. Materials of construction Cast Iron

CLEARANCES

12. Normal built-in clearance cu. in. 4800

13. Normal built-in clearance % 76.1

14. Type of clearance pocket: One fixed three valve cap

POCKET CLEARANCE	VARIABLE	FIXED	VALVE CAP
HE cu. in.	_____	<u>1700</u>	_____
HE %	_____	<u>52.6</u>	_____
CE cu. in.	_____	_____	<u>3 - 750</u>
CE %	_____	_____	<u>73.8</u>

Variable Clearance Pocket travel inches _____

COMPRESSOR VALVES

15. Number of valves per cylinder: Suction 4 Discharge 4

16. Diameter of valves-inches 9"

17. Free lift of valves-inches .075"

18. Free lift area sq. in. 26" for single deck, 30 for double deck

19. Average valve velocity fpm 1350 single deck, 1760 double deck

20. Clearance due to valves only cu. in.: Suction 523.4 Discharge 111.2

EL PASO NATURAL GAS COMPANY

SPECIFICATION SHEET COMPRESSOR CYLINDER

COMPRESSOR VALVES (Continued)

- 21. Type compressor rod packing material France carbon bakelite
- 22. Type compressor piston ring material Super micarta
- 23. Type and material of compressor valves Nylon single deck poppet except double deck nylon poppet under valve cap pockets
- 24. Type of cooling: Water or Air Cooled Air cooled
- 25. Heat Rejection BTU/BHP/Hr. 300
- 26.

CONDITION

Stage	First	Second	Third	Fourth
Type of gas compressed	Natural			
Molecular weight				
"N" Value	1.26			
Suction Pressure	613 to 663			
Suction Temperature °F	60°F			
Discharge Pressure	7.90 to 853			
Discharge Temperature °F				
Unit capacity M CFD at _____ PSIA and _____ °F	See performance curves			

Remarks _____

Form 10-127
Printed April, 1949
(10-127)
Revised 1-1-49

PROPOSAL FOR
INGERSOLL-RAND
HEAVY-DUTY 4-CYCLE GAS ENGINE

INGERSOLL-RAND COMPANY
11 BROADWAY, NEW YORK 4, N. Y.

Our Number **IP-4730** Your Ref. **LASVIA CONFERENCE STATION EL PASO, TEXAS JANUARY 23 1957**

To **EL PASO NATURAL GAS COMPANY**

EL PASO, TEXAS (hereinafter called the Purchaser).
Ingersoll-Rand Company (hereinafter called the Company) proposes to sell the Purchaser the following machinery:

ITEM
TWO (2) Ingersoll-Rand Gas Engine(s) Type **7070-S** Heavy Duty 4-cycle **eight** cylinder, **11-1/4** inch bore, **12-1/4** inch stroke, rated **544** bhp at **1160** rpm, and sea level as described in Form **7070-S** arranged for **mounting the 375 KW, 240 VAC General Electric Generators and exciters which will be transferred from Elmerator. Each engine will be complete with extended shaft to mount generator, patented type outboard bearing to mount exciter, exciter V-belt drive complete and belt guard. No rheostats or resistors are included.**

STANDARD EQUIPMENT

- | | |
|--|--|
| <ul style="list-style-type: none"> Extended Shaft and Outboard Bearing Pickering Cam 2000 Mechanical Governor Adjustable Constant-Quality Mixing Valve Low-Pressure Fuel Pressure Regulator Two High-revolution Weather-Proof Magneto's with Impulse Starters Spark Plugs and Wiring Hand Oil Pump for Starting Force-Feed Lubrication with Oil Pump, Oil Cooler, and Oil Filter Automatic Shut-down Devices for Low Lubricating-Oil Pressure, High Circulating Water Temperature and Overload Number and Label (On Valve and Body). | <ul style="list-style-type: none"> One-Shot Lubricator for Power Valve Stems Air-Starting Distributor with Piping and Quick-Opening Valve Air-Operated Compression-Relief Valves Pressure Gauge for Lubricating-Oil System Two Thermometers in Oil Cooler and One for Engine Cooling-Water Outlet Barring Fulcrum and Bar All necessary Special Wrenches Foundation Plans Instruction Books Duplicate Parts List |
|--|--|

SPECIAL EQUIPMENT
(240 VOLT)

- ONE(1)- Massey Hydraulic Governor with synchronizing meter.**
- ONE(1)- Pyrometer with set thermocouples.**
- ONE(1)- Set Engine and Generator Foundation Bolts.**
- ONE(1)- Exhaust Driven Supercharger Complete with Aftercooler to permit engine to develop full sea level HP of 544 at 5600 feet altitude.**

Our Number **EP-4730**

Dated, **JANUARY 22**, 193**7**

INGERSOLL-RAND HEAVY-DUTY 4-CYCLE GAS ENGINE SIZE 1075-0

Form 10, 1937
Page 2, July 1, 1931 (R 10-49)
(121-7)
PROPERTY OF I. R. I.

PRINCIPAL DATA

PIPE CONNECTIONS AT ENGINE

Mixing valve inlet.....	} Fuel	2	inches
		Air	8
Exhaust.....	Number.....	1	
	Size	8	inches
Starting-air inlet.....		2-1/2	inches
Engine cooling-water inlet and outlet.....			inches

BEARING SIZES

	NO.	DIA.	LENGTH	
Main bearings— 1-1/2	9	6-3/16		inches
1-1/2				inches
Crankpin bearings.....	4	6-3/16		inches
Wrist-pin bearings.....	8	4-1/16-1/16		inches

OVER-ALL DIMENSIONS

Length (including engine, shaft and exciter mounting.....)	18	ft.	6	inches
Width.....	6	ft.	4	inches
Height above floor.....	8	ft.	5	inches
Minimum amount of concrete foundation per unit for firm ground....	20			cu. yards

RATING

Brake horsepower.....	5400	ft. altitude	544	bhp
Corresponding generator rating.....	5600	ft. altitude	370	kw
Revolutions per minute.....			314	rpm

Piston speed at rated rpm.....	1696	ft per min
Mean-effective pressure.....	73.5	lb per sq in.

FUEL CONSUMPTION

Full load.....	8500	BTU/bhp hr
3/4 load.....	9100	BTU/bhp hr
1/2 load.....	10900	BTU/bhp hr
Based on operation at.....	5600	elevation
and fuel having a lower heating value of.....	1000	BTU/cu ft

*The lower-heating value of the gas is found by subtracting the heat of vaporization of the water products from the high heating value as found by calorimeter.

Our Number **27-479**.....

Dated **JANUARY 22**.....193**7**

INGERSOLL-RAND HEAVY-DUTY 4-CYCLE GAS ENGINE SIZE **1570-3**

LUBRICATING OIL SPECIFICATIONS

In accordance with Company's experience, the lubricating oil for use in the crankcase shall be a well refined, straight mineral oil, containing no moisture, sulphonates, soaps, acids, resin, or tarry constituents, and shall be non-corrosive, meeting the following specifications:

		Napthene or Asphalt Base Oils	Paraffin Base Oils
Flash Point (Open Cup).....	Min.	380°F	430°F
Viscosity at 100°F (S.U.V.).....	Max.	780"	600"
Viscosity at 210°F (S.U.V.).....	Min.	60"	60"
Four Point.....	Max.	5°F	30°F
Carbon Residue (Conradson).....	Max.	.10%	.60%
Ash.....	Max.	.01%	.01%
Neutralization Number.....	Max.	.10	.10
Compounding (fixed oils or fatty acids).....		None	None

COOLING SYSTEM

A proper cooling system is of major importance for satisfactory operation of any internal combustion engine. Since raw water will ordinarily form scale, to avoid trouble and costly maintenance, the Company strongly recommends the use of a closed cooling system with soft treated water or condensate circulating through the engine jackets. If, for any reason, such a system cannot be used, full particulars of the proposed arrangement should be submitted for consideration by the Company.

CIRCULATING WATER REQUIRED BY ENGINE.....	218gpm
Temperature rise at rated load with water cooled manifold.....	15°F
Recommended outlet water temperature.....	160—170°F
Pressure drop.....	13ft
WATER REQUIRED BY OIL COOLER.....	30gpm
Temperature rise.....	100 8.5° F.
Maximum permissible water temp. to cooler.....	180 115° F.
Pressure drop through oil cooler.....	4ft

EP-6790

JANUARY 28 7

Our Number

Dated 195....

INGERSOLL-RAND HEAVY-DUTY 4-CYCLE GAS ENGINE

PRICE

Each \$43,795.00 (- Total) Engine(s) complete and special equipment as described in this Proposal
..... 67,428.00

ADDITIONAL EQUIPMENT AVAILABLE AT FOLLOWING EXTRA PRICES PER UNIT (Dollars (\$.....))

- ONE(1)- Burgess Size HNS-L-10 Exhaust Silencer with Side Inlet. Price Each..... \$ 450.00 OK No
- ONE(1)- Vortex Size LB-33-10 Oil Bath Intake Air Filter with 10" American Back Fire Relief Valve. Price Each..... \$ 360.00 OK
- ONE(1)- Hugab Size 1935-413 Full Flow Cellulose Oil Filter. Price Each..... \$ 395.00 OK
- Earth Pack for Standard Hugab Side Stream Filter. Price Each..... \$ No Charge

All prices quoted are "delivered F.O.B. Cars," Point of Manufacture, Painted Post, New York, except electrical equipment which is freight allowed to first destination.

Four(A)

The Company will furnish the services of a Supervisor of Erection for a period of days
..... Purchaser to pay man's travelling and living expenses from time he leaves our shops until he returns. Additional time for this Supervisor will be furnished at the rate of \$44.00 per day plus expenses. Purchaser is to provide necessary common labor and rigging without expense to the Company. See Above

All prices quoted are "delivered F.O.B. Cars," Point(s) of Manufacture.
All quotations subject to change without notice.

TERMS OF PAYMENT (90) Per Cent VS. Shipping Documents; Ten(10) Per Cent Thirty(30) Day

Net Cash
All payments to be made in U.S.A. payable in New York Exchange. Pro rata payments to apply as shipments are made.

SHIPMENT May 15, 1957

Shipment will be made
..... after acceptance of order by an Executive Officer of the Company and receipt of complete information necessary for manufacturing.

* EXISTING PUCK-20 SILENCERS @ BUENAVISTA TO BE USED @ LAQUINA

Form 10287, Page 4, August 1, 1955. Cancels August 1953 Edition.