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San Juan Coal Company

June 29, 2012

Mr. Ned Jerabek, Manager
Major Source Permits
New Mexico Environment Department
Air Quality Bureau
1301 Siler Road – Building B
Santa Fe, New Mexico 87507-3133

RE: San Juan Mine Title V Application Package - 20.2.70.200.A NMAC.

Dear Mr. Jerabek:

Enclosed please find two copies of San Juan Coal Company's application package for a Title V operating permit for the San Juan Mine (SJM).

San Juan Mine, located near Farmington, NM, is an underground coal mining operation which utilizes longwall technology to mine thermal coal. Previously, SJM did not meet the Title V definition of "major source" because it neither directly emitted nor had the potential to emit 100 or more tons per year (tpy) of any air pollutant subject to regulation. However, with New Mexico's adoption of the "Tailoring Rule," as of July 1, 2011 greenhouse gases (GHGs) have become an air pollutant subject to regulation for an existing stationary source emitting or having the potential to emit 100,000 tpy CO_2e.

SJM's underground mining activities release methane (CH_4), a listed GHG, from the coal being mined and from its surrounding rock strata. That CH_4 is eventually exhausted to the atmosphere through the Mine's ventilation and gob vent borehole (GVB) degasification systems. These systems have been installed to comply with the Mine Safety and Health Administration's federally mandated safety requirements for maintaining safe work conditions in underground mines. Monitoring of methane contained in those exhausts of the Mine's ventilation and degasification systems has found actual CH_4 levels in excess of both 100 tpy GHG mass basis and 100,000 tpy CO_2e.

Coal mining is not a stationary source category for which fugitive emissions must be included in a Title V threshold applicability determination. As we have discussed, significant uncertainty currently exists among regulated and regulatory entities alike regarding whether methane exhausted to the atmosphere through an underground coal mine's ventilation and degasifications systems should be classified as either "fugitive" or "non-fugitive" for Title V and PSD purposes. The Company understands that the Department currently believes the methane emissions in question must be

classified as "non-fugitive." On that basis, San Juan Mine constitutes a "major source" for Title V and PSD purposes.

Although San Juan Coal Company currently does not share the Department's understanding that the methane emissions in question must be classified as "non-fugitive," the Company is nevertheless at this time submitting a timely and complete application for a Title V permit in order for the Title V "application shield" to allow continued lawful operation of the Mine until that permit is issued. In the event that a subsequent policy decision at either the federal or State level should conclude that methane exhausted by underground coal mines' ventilation and degasification systems is not classified as "non-fugitive" emissions for Title V purposes, then the Company reserves the right to withdraw the enclosed application.

For the reasons explained in the enclosed Title V permit application, the Company is submitting an air quality dispersion modelling demonstration with that application. The Company understands that Section 16 ("Air Dispersion Modelling") of the application requires only a hard copy of the dispersion modelling summary. Accordingly, the complete dispersion modelling report, including all input and output files, is being submitted under separate cover on behalf of the Company by Class One Technical Services.

If you have any questions, please contact Mr. Dennis Vaughn at (505) 598-3269.

Yours sincerely,

Steven Perkins
Superintendent Environmental Permitting and Technical Services

Enc: San Juan Mine – Title V Application Package

Mail Application To:		**For Department use only:**
New Mexico Environment Department Air Quality Bureau Permitting Section 1301 Siler Road, Building B Santa Fe, NM 87507-3113 Phone: (505) 476-4300 Fax: (505) 476-4375 www.nmenv.state.nm.us/aqb		AIRS No.:

Universal Air Quality Permit Application

Use this application for NOI, NSR, or Title V sources.

Use this application for: the initial application, modifications, technical revisions, and renewals. For technical revisions, complete Sections, 1-A, 1-B, 2-E, 3, 9 and any other sections that are relevant to the requested action; coordination with the Air Quality Bureau permit staff prior to submittal is encouraged to clarify submittal requirements and to determine if more or less than these sections of the application are needed. Use this application for streamline permits as well.

This application is being submitted as (check all that apply): ☐ Request for a No Permit Required Determination (no fee)
☐ **Updating** an application currently under NMED review. Include this page and all pages that are being updated (no fee required).
Construction Status: ☐ Not Constructed ☐ Existing Permitted (or NOI) Facility ☐ Existing Non-permitted (or NOI) Facility
Minor Source: ☐ a NOI 20.2.73 NMAC ☐ 20.2.72 NMAC application/revision ☐ 20.2.72.300 NMAC Streamline application
Title V Source: ■ Title V (new) ☐ Title V renewal ☐ TV minor mod. ☐ TV significant mod. TV Acid Rain: ☐ New ☐ Renewal
PSD Major Source: ☐ PSD major source (new) ☐ minor modification to a PSD source ☐ a PSD major modification

Acknowledgements: ■ I acknowledge that a pre-application meeting is available to me upon request ☐ NPR (no fee)
☐ $500 NSR Permit Filing Fee enclosed OR ☐ The full permit fee associated with 10 fee points (required w/ streamline applications).
☐ Check No.: in the amount of **(Fee not required for Title V)** ☐ This facility meets the applicable requirements to register as a Small Business and a check for 50% of the normal fee is enclosed (only applicable **provided** that NMED has a Small Business Certification Form from your company on file found at: http://www.nmenv.state.nm.us/aqb/permit/app_form.html).

Citation: Please provide the **low level citation** under which this application is being submitted: **20.2.200.A NMAC**
(i.e. an example of an application for a new minor source would be 20.2.72.200.A NMAC, one example of a low level cite for a Technical Revision could be: 20.2.72.219.B.1.b NMAC, or a Title V acid rain cite would be: 20.2.70.200.C NMAC)

Synthetic Minor Source Information: A source is synthetic minor if its uncontrolled emissions are above major source applicability thresholds, but the facility is minor because it has federally enforceable requirements (federal requirements or permit conditions) that limit controlled emissions below major source thresholds. Facilities can be synthetic minor for either Title V (20.2.70 NMAC) or PSD (20.2.74 NMAC) or both. The Department tracks synthetic minor sources that are within 20% of either TV or PSD major source thresholds, referring to these as Synthetic Minor 80 Sources (abbreviated SM80). Please check all that apply:
Prior to this permitting action this source is a ☐ TV major source, ☐ a TV synthetic minor source, ☐ a TV SM80 source.
Prior to this permitting action this source is a ☐ PSD major source, ☐ a PSD synthetic minor source, ☐ a PSD SM80 source.
This permitting action results in a ☐ TV synthetic minor source and/or ☐ PSD synthetic minor source.

Section 1 – Facility Information

Section 1-A: Company Information		AI # (if known):	Updating permit #:
1	Facility Name: **San Juan Mine**	Plant primary SIC Code (4 digits): **1222**	
a	Facility Street Address (If no facility street address, provide directions from a prominent landmark): P.O. Box 561 Waterflow, New Mexico 87421		
2	Plant Operator Company Name: **San Juan Coal Company**	Phone/Fax: **505 595-2021 /2193**	
a	Plant Operator Address: **P.O. Box 561 Waterflow, New Mexico 87421**		
b	Plant Operator's New Mexico Corporate ID or Tax ID: **94-2557286**		
3	Plant Owner(s) name(s): **San Juan Coal Company**	Phone/Fax: **505 595-2021 /2193**	
a	Plant Owner(s) Mailing Address(s): **P.O. Box 561 Waterflow, New Mexico 87421**		

4	Bill To (Company): **San Juan Coal Company**	Phone/Fax: **505 598-2021/2193**
a	Mailing Address: **P.O. Box 561 Waterflow, New Mexico 8742**1	E-mail:
5	☐ Preparer: ☐ Consultant:	Phone/Fax:
a	Mailing Address:	E-mail:
6	Plant Operator Contact: **Michael Fidel**	Phone/Fax: **505 598-2276/2135**
a	Address: **P.O. Box 561 Waterflow, New Mexico 87421**	E-mail: **Michael.j.fidel@bhpbilliton.com**
7	Air Permit Contact: **Dennis Vaughn**	Title: **Environmental Specialist**
a	E-mail: **dennis.r.vaughn@bhpbilliton.com**	Phone/Fax: **505 598-3279**
b	Mailing Address**: P.O. Box 561 Waterflow, New Mexico 87421**	

Section 1-B: Current Facility Status

1	Has this facility already been constructed? ■ **Yes** ☐ No	If yes, is it currently operating in New Mexico? ■ **Yes** ☐ No
2	Is the plant currently shut down? ☐ Yes ■ **No**	If yes, give month and year of shut down (MM/YY):
3	Was this facility constructed before 8/31/1972 and continuously operated since 1972? ☐ Yes ■ No	
4	If Yes, has this facility been modified (see 20.2.72.7.P NMAC) or the capacity increased since 8/31/1972? ☐Yes ☐**No** ■N/A	
5	Does this facility have a Title V operating permit (20.2.70 NMAC)? ☐ Yes ■ **No**	If yes, the permit No. is: P-
6	Has this facility been issued a No Permit Required (NPR)? ■ Yes ☐	If yes, the NPR No. is: **NMEID letter of 2/25/82; and NMED letter of 4/19/01**
7	Has this facility been issued a Notice of Intent (NOI)? ■ Yes No	If yes, the NOI No. is: **2537**
8	Does this facility have a construction permit (20.2.72 NMAC)? ☐ Yes ■ **No**	If yes, the permit No. is:
9	Is this facility registered under a General permit (GCP-1, GCP-2, etc.)? ☐ Yes ■ **No**	If yes, the registr. No. is:

Section 1-C: Facility Input Capacity & Production Rate

1	What is the facility's maximum input capacity, specify units (reference here and list capacities in Section 20, if more room is required)			
a	Current	Hourly:	Daily:	Annually: **13 MM tons coal**
b	Proposed	Hourly:	Daily:	Annually:
2	What is the facility's maximum production rate, specify units (reference here and list capacities in Section 20, if more room is required)			
a	Current	Hourly:	Daily:	Annually: **13 MM tons coal**
b	Proposed	Hourly:	Daily:	Annually:

Section 1-D: Facility Location Information

1	Section: 22	Range: 15W	Township: 30N	County: San Juan	Elevation (ft): 5200
2	UTM Zone: ■ **12** or ☐ 13			Datum: ■ NAD 27 ☐ NAD 83 ☐ WGS 84	
a	UTM E (in meters, to nearest 10 meters): **729,112**			UTM N (in meters, to nearest 10 meters): **4,074,924**	
b	**AND** Latitude (deg., min., sec.): **36°47' 39.3914"**			Longitude (deg., min., sec.): **108°25'55.9973"**	
3	Name and zip code of nearest New Mexico town: Waterflow, New Mexico 87421				

4	Detailed Driving Instructions from nearest NM town (attach a road map if necessary):
5	The facility is (distance) **4.6 miles** (direction) **NE** of (nearest town) **Waterflow, NM**.
6	Status of land at facility (check one): ☐ Private ☐ Indian/Pueblo ☐ Federal BLM ☐ Federal Forest Service ☒ Other (specify) **Mixture of Federal BLM, State Lands, and private lands**
7	List all municipalities, Indian tribes, and counties within a ten (10) mile radius (20.2.72.203.B.2 NMAC) of the property on which the facility is proposed to be constructed or operated: **City of Farmington, Navajo Nation**
8	**20.2.72** NMAC applications **only**: Will the property on which the facility is proposed to be constructed or operated be closer than 50 km (31 miles) to other states, Bernalillo County, or a Class I area (see www.nmenv.state.nm.us/aqb/modeling/class1areas.html)? ☒ Yes ☐ No (20.2.72.206.A.7 NMAC) If yes, list all with corresponding distances in kilometers: **Mesa Verde National Park 34.11 km; State of Co 22km**
9	Name nearest Class I area: **Mesa Verde National Park**
10	Shortest distance (in km) from facility boundary to the boundary of the nearest Class I area (to the nearest 10 meters): **34.11 km**
11	Distance (meters) from the perimeter of the Area of Operations (AO is defined as the plant site inclusive of all disturbed lands, including mining overburden removal areas) to nearest residence, school or occupied structure: **4 m from facility boundary.**
12	Method(s) used to delineate the Restricted Area: **San Juan mine uses a combination of fencing, signage, and manned security stations to restrict public entry to the mine operations.** "**Restricted Area**" is an area to which public entry is effectively precluded. Effective barriers include continuous fencing, continuous walls, or other continuous barriers approved by the Department, such as rugged physical terrain with steep grade that would require special equipment to traverse. If a large property is completely enclosed by fencing, a restricted area within the property may be indentified with signage only. Public roads cannot be part of a Restricted Area.
13	Is this a stationary portable source as defined in 20.2.72.7.X NMAC? ☐ Yes ☒ **No**
14	Will this facility operate in conjunction with other air regulated parties on the same property? ☒ No ☐ Yes If yes, what is the name and permit number (if known) of the other facility?

Section 1-E: Proposed Operating Schedule (The 1-E.1 & 1-E.2 operating schedules may become conditions in the permit.)

1	Facility **maximum** operating ($\frac{hours}{day}$): **24**	($\frac{days}{week}$): **7**	($\frac{weeks}{year}$): **52**	($\frac{hours}{year}$): **8760**		
2	Facility's maximum daily operating schedule (if less than 24 $\frac{hours}{day}$)? Start:	☐AM ☐PM	End:	☐AM ☐PM		
3	Month and year of anticipated start of construction: **Existing Facility**					
4	Month and year of anticipated construction completion: **N/A**					
5	Month and year of anticipated startup of new or modified facility: **N/A**					
6	Will this facility operate at this site for more than one year? ☒ **Yes** ☐ No					

Section 1-F: Other Facility Information

1	Are there any current Notice of Violations (NOV), compliance orders, or any other compliance or enforcement issues related to this facility? ☐ Yes ☒ **No** If yes, specify:		
a	If yes, NOV date or description of issue:		NOV Tracking No:
b	Is this application in response to any issue listed in 1-F, 1 or 1a above? ☐ Yes ☐ No If Yes, provide the 1c & 1d info below:		
c	Document Title:	Date:	Requirement # (or page # and paragraph #):
d	Provide the required text to be inserted in this permit:		
2	Is air quality dispersion modeling being submitted with this application? ☒ Yes ☐ No		
3	Does this facility require an "Air Toxics" permit under 20.2.72.400 NMAC & 20.2.72.502, Tables A and/or B? ☐ Yes ☒ **No**		
4	Will this facility be a source of federal Hazardous Air Pollutants (HAP)? ☐ Yes ☒ **No**		

a	If Yes, what type of source? ☐ **Major** (☐ ≥10 tpy of any single HAP **OR** ☐ ≥25 tpy of any combination of HAPS) **OR** ☐ **Minor** (☐ <10 tpy of any single HAP **AND** ☐ <25 tpy of any combination of HAPS)
b	If 4.a is Yes, indentify the subparts in 40 CFR 61 & 40 CFR 63 that apply to this facility (If no subparts apply, enter "N/A."): **N/A**

Section 1-G: Streamline Application

(This section applies to 20.2.72.300 NMAC Streamline applications only)

1	☐ I have filled out Section 18, "Addendum for Streamline Applications."	■ **N/A (**This is not a Streamline application.)

Section 1-H: Title V Specific Information

(Fill this section out only if this is a Title V application.)

1	Responsible Official **Michael Fidel** (20.2.70.300.D.2 NMAC):	Phone: : **505 598 2135**
a	R.O. Title: **General Manager**	R.O. e-mail: **Michael.j.fidel@bhpbilliton.com**
b	R. O. Address: **P.O. Box 561 Waterflow, NM 87421**	
2	Alternate Responsible Official **N/A** (20.2.70.300.D.2 NMAC):	Phone:
a	A. R.O. Title:	A. R.O. e-mail:
b	A. R. O. Address:	
3	Company's Corporate or Partnership Relationship to any other Air Quality Permittee (List the names of any companies that have operating (20.2.70 NMAC) permits and with whom the applicant for this permit has a corporate or partnership relationship): **N/A**	
4	Name of Parent Company ("Parent Company" means the primary name of the organization that owns the company to be permitted wholly or in part.): **BHP Billiton New Mexico Coal Inc.**	
a	Address of Parent Company: **BHP Billiton New Mexico Coal Inc.** **c/o The Corporation Trust Company** **1209 Orange Street** **Wilmington, DE 19801 USA**	
5	Names of Subsidiary Companies ("Subsidiary Companies" means organizations, branches, divisions or subsidiaries, which are owned, wholly or in part, by the company to be permitted.):	
6	Telephone numbers & names of the owners' agents and site contacts familiar with plant operations: **Same as Responsible Official**	
7	Affected Programs to include Other States, local air pollution control programs (i.e. Bernalillo) and Indian tribes: Will the property on which the facility is proposed to be constructed or operated be closer than 80 km (50 miles) from other states, local pollution control programs, and Indian tribes and pueblos (20.2.70.402.A.2 and 20.2.70.7.B)? If yes, state which ones and provide the distances in kilometers: **Navajo Nation - 2.4 km** **Ute Mountain Ute - 5.2 km** **State of Colorado - 22 km** **State of Arizona - 55 km** **State of Utah - 59 km** **Southern Ute - 27 km**	

Section 1-I – Submittal Requirements

Each 20.2.73 NMAC (**NOI**), a 20.2.70 NMAC (**Title V**), a 20.2.72 NMAC (**NSR** minor source), or 20.2.74 NMAC (**PSD**) application package shall consist of the following:

Hard Copy Submittal Requirements:

1) One hard copy **original signed and notarized application package printed double sided 'head-to-toe' 2-hole punched** as we bind the document on top, not on the side; except Section 2 (landscape tables), which should be head-to-head. If 'head-to-toe printing' is not possible, print single sided. Please use **numbered tab separators** in the hard copy submittal(s) as this facilitates the review process.

2) If the application is for a NSR or Title V permitting action, include one working hard **copy** for Department use. This copy does not need to be 2-hole punched. Technical revisions only need to fill out Section 1-A, 1-B, 3, and should fill out those portions of other Section(s) relevant to the technical revision. TV Minor Modifications need only fill out Section 1-A, 1-B, 1-H, 3, and those

portions of other Section(s) relevant to the minor modification. NMED may require additional portions of the application to be submitted, as needed.

3) The entire NOI or Permit application package, including the full modeling study, should be submitted electronically on compact disk(s) (CD). **Two** CD copies are required (in sleeves, not crystal cases, please), with additional CD copies as specified below.

4) If **air dispersion modeling** is required by the application type, include the **NMED Modeling Waiver OR** one additional electronic copy of the air dispersion modeling including the input and output files. The dispersion modeling ***summary report only*** should be submitted as hard copy(ies) unless otherwise indicated by the Bureau. The complete dispersion modeling study, including all input/output files, should be submitted electronically as part of the electronic submittal.

5) If subject to PSD review under 20.2.74 NMAC (PSD) include,
   a. one additional hard copy and one additional CD copy for US EPA,
   b. one additional hard copy and one additional CD copy for each federal land manager affected (NPS, USFS, FWS, USDI) and,
   c. one additional hard copy and one additional CD copy for each affected regulatory agency other than the Air Quality Bureau.

Electronic Submittal Requirements [in addition to the required hard copy(ies)]:

1) All required electronic documents shall be submitted in duplicate (2 separate CDs). The documents should be submitted in Microsoft Office compatible file format (Word, Excel, etc.) allowing us to access the text in the documents (copy & paste). Any documents that cannot be submitted in a Microsoft Office compatible format shall be saved as a PDF file from within the electronic document that created the file. If you are unable to provide Microsoft office compatible electronic files or internally generated PDF files of files (items that were not created electronically: i.e. brochures, maps, graphics, etc,), submit these items in hard copy format with the number of additional hard copies corresponding to the number of CD copies required. We must be able to review the formulas and inputs that calculated the emissions.

2) It is preferred that this application form be submitted as 3 electronic files (2 MSWord docs: Universal Application section 1 and Universal Application section 3-19) and 1 Excel file of the tables (Universal Application section 2) on the CD(s). Please include as many of the 3-19 Sections as practical in a single MS Word electronic document. Create separate electronic file(s) if a single file becomes too large or if portions must be saved in a file format other than MS Word.

3) The electronic file names shall be a maximum of 25 characters long (including spaces, if any). The format of the electronic Universal Application shall be in the format: "A-3423-FacilityName". The "A" distinguishes the file as an application submittal, as opposed to other documents the Department itself puts into the database. Thus, all electronic application submittals should begin with "A-". Modifications to existing facilities should use the core permit number (i.e. '3423') the Department assigned to the facility as the next 4 digits. Use 'XXXX' for new facility applications. The format of any separate electronic submittals (additional submittals such as non-Word attachments, re-submittals, application updates) and Section document shall be in the format: "A-3423-9-description", where "9" stands for the section # (in this case Section 9-Public Notice). Please refrain, as much as possible, from submitting any scanned documents as this file format is extremely large, which uses up too much storage capacity in our database. Please take the time to fill out the header information throughout all submittals as this will identify any loose pages, including the Application Date (date submitted) & Revision # (0 for original, 1, 2, etc.; which will help keep track of subsequent partial update(s) to the original submittal. The footer information should not be modified by the applicant.

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Table 2-A: Regulated Emission Sources

Unit and stack numbering must correspond throughout the application package. If applying for a NOI under 20.2.73 NMAC, equipment exemptions under 2.72.202 NMAC do not apply.

Unit Number[1]	Source Description	Manufacturer	Model #	Serial #	Maximum or Rated Capacity[3] (Specify Units)	Requested Permitted Capacity[3] (Specify Units)	Date of Manufacture or Reconstruction[2] / Date of Installation /Construction[2]	Controlled by Unit # / Emissions vented to Stack #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One	Applicable State & Federal Regulation(s) (i.e. 20.2.X, JJJJ, …)	Replacing Unit No.
S1	Mine Conveyor UG to Transfer Twr 1	Unknown	Unknown	Unknown	13,000,000 tpy	13,000,000 tpy		1	30531011	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.70	
S2	Mine Trans Twr 1 to Trans Twr 2	Unknown	Unknown	Unknown	13,000,000 tpy	13,000,000 tpy		1	30531011	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.70	
S3	Mine Stacker Conveyor	Unknown	Unknown	Unknown	13,000,000 tpy	13,000,000 tpy		1	30531009	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.70	
S4	Truck Loading at Mine Storage Pile	Unknown	Unknown	Unknown	13,000,000 tpy	13,000,000 tpy			30531015	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.70	
S5	Coal Truck/Dozer Unloading to Hopper	Unknown	Unknown	Unknown	13,000,000 tpy	13,000,000 tpy			30531015	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.42 20.2.70 2.2.77 NSPS A & Y	
S6	Hopper 1	Unknown	Unknown	Unknown	3,250,00 tpy	3,250,00 tpy	1979	1	30531011	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.42 20.2.70 2.2.77 NSPS A & Y	
S7	Hopper 2	Unknown	Unknown	Unknown	3,250,00 tpy	3,250,00 tpy	1979	1	30531011	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.42 20.2.70 2.2.77 NSPS A & Y	
S8	Hopper 3	Unknown	Unknown	Unknown	3,250,00 tpy	3,250,00 tpy	1979	1	30531011	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.42 20.2.70 2.2.77 NSPS A & Y	
S9	Hopper 4	Unknown	Unknown	Unknown	3,250,00 tpy	3,250,00 tpy	1979	1	30531011	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.42 20.2.70 2.2.77 NSPS A & Y	
S10	Feeder 1	Unknown	Unknown	Unknown	3,250,00 tpy	3,250,00 tpy	1979	1	30531011	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.42 20.2.70 2.2.77 NSPS A & Y	
S11	Feeder 2	Unknown	Unknown	Unknown	3,250,00 tpy	3,250,00 tpy	1979	1	30531011	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.42 20.2.70 2.2.77 NSPS A & Y	
S12	Feeder 3	Unknown	Unknown	Unknown	3,250,00 tpy	3,250,00 tpy	1979	1	30531011	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.42 20.2.70 2.2.77 NSPS A & Y	
S13	Feeder 4	Unknown	Unknown	Unknown	3,250,00 tpy	3,250,00 tpy	1979	1	30531011	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.42 20.2.70 2.2.77 NSPS A & Y	

Unit Number[1]	Source Description	Manufacturer	Model #	Serial #	Maximum or Rated Capacity[3] (Specify Units)	Requested Permitted Capacity[3] (Specify Units)	Date of Manufacture or Reconstruction[2] / Date of Installation /Construction[2]	Controlled by Unit # / Emissions vented to Stack #	Source Classi-fication Code (SCC)	For Each Piece of Equipment, Check One	Applicable State & Federal Regulation(s) (i.e. 20.2.X, JJJJ, …)	Replacing Unit No.
S14	Chute 1 to Conveyor 1	Unknown	Unknown	Unknown	6,500,00 tpy	6,500,00 tpy	1979	2	30531011	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.42 20.2.70 2.2.77 NSPS A & Y	
S15	Chute 2 to Conveyor 1	Unknown	Unknown	Unknown	6,500,00 tpy	6,500,00 tpy	1979	2	30531011	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.42 20.2.70 2.2.77 NSPS A & Y	
S16	Conveyor to Conveyor Transfer Point	Unknown	Unknown	Unknown	13,000,000 tpy	13,000,000 tpy	1979	2	30531011	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.42 20.2.70 2.2.77 NSPS A & Y	
S17	Conveyor to Feed Bin	Unknown	Unknown	Unknown	13,000,000 tpy	13,000,000 tpy	1979	2	30531011	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.42 20.2.70 2.2.77 NSPS A & Y	
S18	Crusher 1	Pennsylvania Crusher Corporation	TK 20-54 CD Granulators	4403	3,250000 tpy	3,250000 tpy	1979	3	30531010	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.42 20.2.70 2.2.77 NSPS A & Y	
S19	Crusher 2	Pennsylvania Crusher Corporation	TK 20-54 CD Granulators	4404	3,250000 tpy	3,250000 tpy	1979	3	30531010	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.42 20.2.70 2.2.77 NSPS A & Y	
S20	Crusher 3	Pennsylvania Crusher Corporation	TK 20-54 CD Granulators	4405	3,250000 tpy	3,250000 tpy	1979	3	30531010	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.42 20.2.70 2.2.77 NSPS A &Y	
S21	Crusher 4	Pennsylvania Crusher Corporation	TK 20-54 CD Granulators	4406	3,250000 tpy	3,250000 tpy	1979	3	30531010	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.42 20.2.70 2.2.77 NSPS A & Y	
S22	Conveyor to Sample Tower Transfer Point	Unknown	Unknown	Unknown	13,000,000 tpy	13,000,000 tpy	1979	2	30531011	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.42 20.2.70 2.2.77 NSPS A & Y	
S23	Light Vehicle Traffic - Paved Road	NA	NA	NA	8507 miles/yr	8507 miles/yr			30531090	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.70	
S24	Coal Haul Traffic	NA	NA	NA	374,534 miles/yr	374,534 miles/yr		4	30531090	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.42 20.2.70	
S25	Ash Haul Traffic	NA	NA	NA				4	30531090	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.70	
S26	Gypsum Haul Traffic	NA	NA	NA				4	30531090	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.70	

Unit Number[1]	Source Description	Manufacturer	Model #	Serial #	Maximum or Rated Capacity[3] (Specify Units)	Requested Permitted Capacity[3] (Specify Units)	Date of Manufacture or Reconstruction[2] / Date of Installation /Construction[2]	Controlled by Unit # / Emissions vented to Stack #	Source Classi-fication Code (SCC)	For Each Piece of Equipment, Check One	Applicable State & Federal Regulation(s) (i.e. 20.2.X, JJJJ, …)	Replacing Unit No.
S27	Light Vehicle Traffic - Unpaved Road	NA	NA	NA	496,000 miles/yr	496,000 miles/yr		5	30531090	✓ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.70	
S28	Grader - Road Maintenance	NA	NA	NA	30,000 miles/yr	30,000 miles/yr			30531090	✓ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.70	
S29	Dozer - Coal Push-Coal Plant	NA	NA	NA	4676 hr/yr	4676 hr/yr			30531099	✓ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.70	
S30	Dozer - Coal Push-Juniper	NA	NA	NA	2338 hr/yr	2338 hr/yr			30531099	✓ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.70	
S31	Dozer - Ash Push-Ash Dump	NA	NA	NA	2338 hr/yr	2338 hr/yr			30531099	✓ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.70	
S32	Dozer - Coal Push-Stackout	NA	NA	NA	2338 hr/yr	2338 hr/yr			30531099	✓ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.70	
S33	Dozer - Ash Push-Ash Dump	NA	NA	NA	2338 hr/yr	2338 hr/yr			30531099	✓ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.70	
S34	Dozer - Reclaim Push	NA	NA	NA	3964 hr/yr	3964 hr/yr			30531099	✓ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.70	
S35	Dozer - Coal Push	NA	NA	NA	4012 hr/yr	4012 hr/yr			30531099	✓ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.70	
S36	Dozer - Reclaim Push	NA	NA	NA	1863 hr/yr	1863 hr/yr			30531099	✓ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.70	
S37	Dozer - GVB Area Push	NA	NA	NA	1863 hr/yr	1863 hr/yr			30531099	✓ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.70	
S38	ULE Shaft	NA	NA	NA	8760 hr/yr	8760 hr/yr		1	30531099	✓ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.70	
S40	Stackout Pile Wind Erosion	NA	NA	NA	12,645 sq.meter	12,645 sq.meter			30531099	✓ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.70	
S41	Storage Pile Near Coal Plant Wind Erosion	NA	NA	NA	95,463 sq. meter	95,463 sq. meter			30531099	✓ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.70	
S42	Juniper Pile Wind Erosion	NA	NA	NA	111,750 sq. meter	111,750 sq. meter			30531099	✓ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.70	
S43	North Reclaim Wind Erosion	NA	NA	NA	45,488 sq. meter	45,488 sq. meter			30531099	✓ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.70	

Unit Number[1]	Source Description	Manufacturer	Model #	Serial #	Maximum or Rated Capacity[3] (Specify Units)	Requested Permitted Capacity[3] (Specify Units)	Date of Manufacture or Reconstruction[2] / Date of Installation /Construction[2]	Controlled by Unit # / Emissions vented to Stack #	Source Classi-fication Code (SCC)	For Each Piece of Equipment, Check One	Applicable State & Federal Regulation(s) (i.e. 20.2.X, JJJJ, …)	Replacing Unit No.
S44	South Reclaim Wind Erosion	NA	NA	NA	71,050 sq. meter	71,050 sq. meter			30531099	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.70	
S45	GVB Area Wind Erosion	NA	NA	NA	18,375 sq. meter	18,375 sq. meter			30531099	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.70	
SJ-7	Gasoline Dispensing Facilty	Unknown	Unknown	Unknown	6500 gallons	6500 gallons			30531099	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.70 20.2.82.2 NESHAP A & CCCCCC **	
EG-1	Underground Control Room Emergency Standby Generator	Caterpillar	C4.4	E3N00054	82.5-99.9 bhp	82.5-99.9 bhp	2/18/2010		30531099	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.70 NESHAP A & ZZZZ NSPS A & IIII	
EG-2	Tube Bundle Analyzer Emergency Standby Generator	John Deere	CD4039T 429773	4039F008	99 hp	99 hp	5/21/2001		30531099	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.70 NESHAP A & ZZZZ **	
EG-3	ULE Emergency Escape Hoist System Emergency Standby Generator	Ford Power Products	LSG-8751-6006-C	15789-1-04-98	161 hp	161 hp	1/4/1998		30531099	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.70 NESHAP A & ZZZZ **	
EG-4	Coal Plant Secondary Building Emergency Standby Generator	Briggs and Stratton	30347-0494-01	94111111	16 hp	16 hp	unknown		30531099	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.70 NESHAP A & ZZZZ **	
EG-5*	KFC Emergency Escape Hoist System Emergency Standby Generator (mothballed)	Cumminis	4BT3/9-G3	46401271	78 hp	78 hp	6/6/2004		30531099	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.70 NESHAP A & ZZZZ **	
EG-6*	Caterpillar Standby Generator (warehoused)	Caterpillar	3412C	6EA10707	810 hp	810 hp	4/4/1995			✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	20.2.70 NESHAP A & ZZZZ **	
* EG-5 and EG-6 are presently non-operational. Will notify when placed into service. ** Request treatment as insignificant activity										☐ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced		

[1] Unit numbers must correspond to unit numbers in the previous permit unless a complete cross reference table of all units in both permits is provided.

[2] Specify dates required to determine regulatory applicability.

[3] To properly account for power conversion efficiencies, generator set rated capacity shall be reported as the rated capacity of the engine in horsepower, not the kilowatt capacity of the generator set.

Table 2-B: Insignificant Activities[1] (20.2.70 NMAC) OR Exempted Equipment (20.2.72 NMAC)

All 20.2.70 NMAC (Title V) applications must list all Insignificant Activities in this table. All 20.2.72 NMAC applications must list Exempted Equipment in this table. If equipment listed on this table is exempt under 20.2.72.202.B.5, include emissions calculations and emissions totals for 202.B.5 "similar functions" units, operations, and activities in Section 6, Calculations. Equipment and activities exempted under 20.2.72.202 NMAC may not necessarily be Insignificant under 20.2.70 NMAC (and vice versa). Unit & stack numbering must be consistent throughout the application package. Per Exemptions Policy 02-012.00 (see http://www.nmenv.state.nm.us/aqb/permit/aqb_pol.html), 20.2.72.202.B NMAC Exemptions do not apply, but 20.2.72.202.A NMAC exemptions do apply to NOI facilities under 20.2.73 NMAC. List 20.2.72.301.D.4 NMAC Auxiliary Equipment for Streamline applications in Table 2-A. The List of Insignificant Activities (for TV) can be found online at http://www.nmenv.state.nm.us/aqb/forms/InsignificantListTitleV.pdf . TV sources may elect to enter both TV Insignificant Activities and Part 72 Exemptions on this form.

Unit Number	Source Description	Manufacturer	Model No. / Serial No.	Max Capacity / Capacity Units	List Specific 20.2.72.202 NMAC Exemption (e.g. 20.2.72.202.B.5) / Insignificant Activity citation (e.g. IA List Item #1.a)	Date of Manufacture /Reconstruction[2] / Date of Installation /Construction[2]	For Each Piece of Equipment, Check Onc
SJ-1	Used Oil Tank	Unknown		6000			✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gallons	IA List 5		
SJ-2	SAE 30	Glendale Welding Company	F8136	3,800			✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gallons	IA List 5	Jun-94	
SJ-3	SAE 10	Glendale Welding Company	F8136	3,800			✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gallons	IA List 5	Jun-94	
SJ-4	SAE 60	Glendale Welding Company	F3700	2000			✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gallons	IA List 5	Jun-86	
SJ-5	Power Train Oil	Glendale Welding Company	F8136	3,800			✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gallons	IA List 5	Jun-94	
SJ-6	SAE 15W-40	Glendale Welding Company	F8136	3800			✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gallons	IA List 5	Jun-94	
SJ-8	Diesel	Unknown		600			✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gallons	IA List 5		
SJ-9	Diesel	Permian Tank Manufacturing	23567	21,000		Jan-88	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gallon	IA List 5		
SJ-10	Diesel	Permian Tank Manufacturing	23566	21,000		Jan-88	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gallons	IA List 5		
SJ-11	Diesel	Permian Tank Manufacturing	23509	21,000		Feb-87	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gallons	IA List 5		
SJ-12	Diesel	Permian Tank Manufacturing	23678	21,000		Feb-88	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gallons	IA List 5		

Unit Number	Source Description	Manufacturer	Model No. / Serial No.	Max Capacity / Capacity Units	List Specific 20.2.72.202 NMAC Exemption (e.g. 20.2.72.202.B.5) / Insignificant Activity citation (e.g. IA List Item #1.a)	Date of Manufacture /Reconstruction[2] / Date of Installation /Construction[2]	For Each Piece of Equipment, Check Onc
SJ-13	Used Oil Tank	Permian Tank Manufacturing	9/13/1971	2000		Unknown	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gallons	IA List 5		
SJ-14	R&O 150 Oil Tank	Kohlhaas Corporation	Unknown	2,000		Unknown	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gallons	IA List 5		
SJ-15	320 Gear Oil	Kohlhaas Corporation	Unknown	2,000		Unknown	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gallons	IA List 5		
SJ-16	Powertrans Fluid	Kohlhaas Corporation	Unknown	2,000		Unknown	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gallons	IA List 5		
SJ-17	SAE 15W-40 Engine Oil	Kohlhaas Corporation	Unknown	2,000		Unknown	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gallons	IA List 5		
SJ-18	Hydraulic Oil Tank	Kohlhaas Corporation	Unknown	2,000		Unknown	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gallons	IA List 5		
SJ-19	Diesel	Unknown	Unknown	7,000		Unknown	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gallons	IA List 5		
SJ-20	Power Gear 460-T Grease	Unknown	Unknown	400		Unknown	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gallons	IA List 5		
SJ-21	Power Gear EP-5 Grease	Unknown	Unknown	400		Unknown	✓ **Existing (unchanged)** ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
				gallons	IA List 5		
INSIGNIFICANT AND TRIVIAL GENERAL ACTIVITIES							
	Activities occuring strictly for maintenance of grounds or buildings, including: lawn care, pest control, grinding, cutting, welding, painting, woodworking, sweeping, general repairs, janitorial activities, plumbing, re-tarring roofs, installing insulation, steam cleaning and water washing activities, and paving of roads, parking lots and other areas.				TA Item 2		
	Activities for maintenance and repair of equipment, pollution control equipment, or motor vehicles either inside or outside of a building.				TA Item 3		
	Combustion emissions from mobile sources, such as forklifts, courier vehicles, front loaders, graders, carts, maintenance trucks, and and fugitive emissions from fleet vehicle refueling operations.				TA Item 4		
	Use of fire control equipment, including maintenance, testing, and training.				TA Item 5		

Unit Number	Source Description	Manufacturer	Model No. / Serial No.	Max Capacity / Capacity Units	List Specific 20.2.72.202 NMAC Exemption (e.g. 20.2.72.202.B.5) / Insignificant Activity citation (e.g. IA List Item #1.a)	Date of Manufacture /Reconstruction[2] / Date of Installation /Construction[2]	For Each Piece of Equipment, Check Onc
	Use of office equipment and products, not including printers or businesses primarily involved in photographic reproduction.				TA Item 6		
	Non-anthropogenic wind blown dust				TA Item 8		
	Food service, such as cafeteria activities;				TA Item 12		
	Fuel burning equipment which uses gaseous fuel, has a design rate less than or equal to five (5) million BTU per hour, and is used solely for heating buildings for personal comfort or for producing hot water for personal use.				IA Item 3		
	Routine calibration and maintenance of laboratory equipment or other analytical instruments, including gases used as part of those processes.				TA Item 10		
	Paint or non-paint materials dispensed from prepackaged aerosol cans of 16 ounce or less capacity.				TA Item 13		
	Emissions from solid waste containers (pails, drums, and dumpsters).				TA Item 14		
	Emissions from engine crankcase vents and equipment lubricating pumps.				TA Item 15		
	Emissions from equipment lubricating systems.				TA Item 16		
	Air-conditioning units used for human comfort.				TA Item 17		
	Ventilating units used for human comfort.				TA Item 18		
	Vent emissions from sanitary sewer plumbing traps not within the boundary of publicly owned sewage treatment plant.				TA Item 19		
	Tobacco smoking rooms and areas.				TA Item 20		
	Portable electrical generators that can be moved without the assistance of any motorized or non-motorized vehicle, conveyance, or device from one location to another.				TA Item 21		
	Pneumatically operated equipment.				TA Item 22		
	Batteries and battery charging stations.				TA Item 23		
	Storage tanks, vessels, and containers holding or storing liquid substances that will not emit any volatile organic compound (VOC) or hazardous air pollutant (HAP).				TA Item 24		
	Bench-scale laboratory equipment used for physical or chemical analysis, but not lab fume hoods or vents.				TA Item 30		
	Equipment used for quality control/assurance or inspection purposes, including sampling equipment used to withdraw materials for analysis.				TA Item 31		

Unit Number	Source Description	Manufacturer	Model No. / Serial No.	Max Capacity / Capacity Units	List Specific 20.2.72.202 NMAC Exemption (e.g. 20.2.72.202.B.5) / Insignificant Activity citation (e.g. IA List Item #1.a)	Date of Manufacture /Reconstruction[2] / Date of Installation /Construction[2]	For Each Piece of Equipment, Check Onc
	Hydraulic and hydrostatic testing equipment.				TA Item 32		
	Fugitive emissions related to movement of passenger vehicles				TA Item 33		
	GVB-1 A portable and mobile trailer mounted unit used to evacuate gob gas on a temporary basis.				CAA § 302(z) definition of "stationary source" excludes nonroad engines		
	GVB-2 A portable and mobile trailer mounted unit used to evacuate gob gas on a temporary basis.				CAA § 302(z) definition of "stationary source" excludes nonroad engines		
	GVB-3 A portable and mobile trailer mounted unit used to evacuate gob gas on a temporary basis.				CAA § 302(z) definition of "stationary source" excludes nonroad engines		
	GVB-4 A portable and mobile trailer mounted unit used to evacuate gob gas on a temporary basis.				CAA § 302(z) definition of "stationary source" excludes nonroad engines		
	GVB-5 A portable and mobile trailer mounted unit used to evacuate gob gas on a temporary basis.				CAA § 302(z) definition of "stationary source" excludes nonroad engines		
	GVB-6 A portable and mobile trailer mounted unit used to evacuate gob gas on a temporary basis.				CAA § 302(z) definition of "stationary source" excludes nonroad engines		
	GVB-7 A portable and mobile trailer mounted unit used to evacuate gob gas on a temporary basis.				CAA § 302(z) definition of "stationary source" excludes nonroad engines		
	GVB-8 A portable and mobile trailer mounted unit used to evacuate gob gas on a temporary basis.				CAA § 302(z) definition of "stationary source" excludes nonroad engines		
	Exhauster 1 A portable and mobile trailer mounted unit used to evacuate gob gas on a temporary basis.				CAA § 302(z) definition of "stationary source" excludes nonroad engines		
	Exhauster 2 A portable and mobile trailer mounted unit used to evacuate gob gas on a temporary basis.				CAA § 302(z) definition of "stationary source" excludes nonroad engines		

[1] Insignificant activities exempted due to size or production rate are defined in 20.2.70.300.D.6, 20.2.70.7.Q NMAC, and the NMED/AQB List of Insignificant Activities, dated September 15, 2008. Emissions from these insignificant activities do not need to be reported, unless specifically requested.
[2] Specify date(s) required to determine regulatory applicability.

Table 2-C: Emissions Control Equipment

Unit and stack numbering must correspond throughout the application package. Only list control equipment for TAPs if the TAP's maximum uncontrolled emissions rate is over its respective threshold as listed in 20.2.72 NMAC, Subpart V, Tables A and B.

Control Equipment Unit No.	Control Equipment Description	Date Installed	Controlled Pollutant(s)	Controlling Emissions for Unit Number(s)[1]	Efficiency (% Control by Weight)	Method used to Estimate Efficiency
1	Enclosure of Emission Source (S1-S3 - 3/4 Enclosure) (S-6-S13, S17 - Full Enclosure)*		PM	S1-S3 S6-S13, S17	70% 85%	Mojave Desert, Emission Inventory Guidance
2	Water/Chemical Sprays at Transfer Points, Enclosure of Transfer Point*		PM	S14-S16, S22	96%	Mojave Desert, Emission Inventory Guidance
3	Water/Chemical Sprays on Crusher, Enclosure of Crusher		PM	S18-S21	96%	AP-42 Section 11.19 "Crusher"
4	Application of Water on Road**		PM	S24-S26	94.70%	MRI "Control of Open Fugitive Dust Source" EPA-450/3-88-008, Section 3.3.3.1 Watering
5	Application of Water on Road**		PM	S27	79.90%	MRI "Control of Open Fugitive Dust Source" EPA-450/3-88-008, Section 3.3.3.1 Watering
	* Process Control Equipment/Methodology					
	** Air Pollution Control Equipment/Methodology					

[1] List each control device on a separate line. For each control device, list all emission units controlled by the control device.

Table 2-D: Maximum Emissions (under normal operating conditions)

☐ This Table was intentionally left blank because it would be identical to Table 2-E.

Maximum Emissions are the emissions at maximum capacity and prior to (in the absence of) pollution control, emission-reducing process equipment, or any other emission reduction. Calculate the hourly emissions using the worst case hourly emissions for each pollutant. For each pollutant, calculate the annual emissions as if the facility were operating at maximum plant capacity without pollution controls for 8760 hours per year, unless otherwise approved by the Department. List Hazardous Air Pollutants (HAP) & Toxic Air Pollutants (TAPs) in Table 2-I. Unit & stack numbering must be consistent throughout the application package. For each unit with flashing, list tank-flashing emissions estimates as a separate line item (20.2.70.300.D.5 NMAC, 20.2.72.203.A.3 NMAC, 20.2.73.200.B.6, & 20.2.74.301 NMAC). Fill all cells in this tablewith the emission numbers or a "-" symbol. A "-" symbol indicates that emissions of this pollutant are not expected. Numbers shall be expressed with a minimum of two significant figures[1]. If there are any significant figures to the left of a decimal point, there shall be no more than one significant figure to the right of the decimal point.

Unit No.	NOx		CO		VOC		SOx		TSP[2]		PM10[2]		PM2.5[2]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
S1											0.56	0.72	0.086	0.11				
S2											0.56	0.72	0.086	0.11				
S3											0.56	0.72	0.086	0.11				
S4											1.9	2.4	0.29	0.36				
S5											1.9	2.4	0.29	0.36				
S6											0.071	0.090	0.011	0.014				
S7											0.071	0.090	0.011	0.014				
S8											0.071	0.090	0.011	0.014				
S9											0.071	0.090	0.011	0.014				
S10											0.071	0.090	0.011	0.014				
S11											0.071	0.090	0.011	0.014				
S12											0.071	0.090	0.011	0.014				
S13											0.071	0.090	0.011	0.014				
S14											0.038	0.048	0.0057	0.0073				
S15											0.038	0.048	0.0057	0.0073				
S16											0.075	0.10	0.011	0.015				
S17											0.28	0.36	0.043	0.055				
S18											0.10	0.16	0.015	0.024				
S19											0.10	0.16	0.015	0.024				
S20											0.10	0.16	0.015	0.024				
S21											0.10	0.16	0.015	0.024				
S22											0.075	0.10	0.011	0.015				
S23											0.12	0.51	0.030	0.13				
S24											110	395	11	40				
S25											151	542	15	54				
S26											12	43	1.2	4.3				
S27											57	207	5.7	21				
S28											3.8	11	0.35	1.0				
S29											0.63	1.3	0.36	0.72				
S30											0.63	0.64	0.36	0.36				
S31											0.75	0.76	0.41	0.42				
S32											0.63	0.64	0.36	0.36				
S33											0.75	0.76	0.41	0.42				
S34											0.75	1.3	0.41	0.71				
S35											0.63	1.1	0.36	0.62				

Unit No.	NOx		CO		VOC		SOx		TSP[2]		PM10[2]		PM2.5[2]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
S36											0.75	0.61	0.41	0.33				
S37											0.75	0.61	0.41	0.33				
S38											6.1	27	6.1	27				
S39																		
S40											0.64	2.8	0.096	0.42				
S41											0.30	1.3	0.046	0.20				
S42											0.34	1.5	0.053	0.23				
S43											0.34	1.5	0.053	0.23				
S44											0.55	2.4	0.082	0.36				
S45											0.14	0.61	0.021	0.092				
SJ-7[1]					0.35	1.5												
EG-1[1]	0.77	0.19	0.82	0.21	0.08	0.02	0.04	0.01			0.07	0.02	0.07	0.02				
EG-2[1]	1.51	0.38	0.66	0.17	0.24	0.06	0.04	0.01			0.22	0.05	0.22	0.05				
EG-3[1]	1.77	0.44	1.12	0.28	2.42	0.60	0.06	0.01			0.12	0.03	0.12	0.03				
EG-4[1]	0.18	0.04	0.11	0.03	0.24	0.06	0.01	0.00			0.01	0.00	0.01	0.00				
EG-5[1]*	1.19	0.30	0.52	0.13	0.19	0.05	0.03	0.01			0.17	0.04	0.17	0.04				
EG-6*	25.11	6.28	5.41	1.35	1.96	0.49	0.29	0.07			1.78	0.45	1.78	0.45				
[1] These estimated emission rates have been provided in response to NMED's request. San Juan Coal Company understands that no emission limits will be established on the basis of this information, and that the above emission information is for informational purposes only. Other than EG-1 with its NSPS applicability, none of the other emergency generators or the gasoline dispensing facility (GDF) is regulated by an emission standard. Consistent with NMED's past practice, because the other 5 emergency generators and the GDF are not subject to any substantive applicable requirement, such as an emission limit or a control requirement, the Company understands that those 5 emergency generators will still be classified as "insignificant activities" for Title V purposes																		
* EG-5 and EG-6 are presently non-operational. Will notify when placed into serv																		
Totals	30.5	7.6	8.6	2.2	5.1	1.3	0.5	0.1			358	1253	47	154				

[1] **Significant Figures Examples:** One significant figure – 0.03, 3, 0.3. Two significant figures – 0.34, 34, 3400, 3.4

[2] **Condensables:** Include condensable particulate matter emissions in particulate matter calculations.

Table 2-E: Requested Allowable Emissions

Unit & stack numbering must be consistent throughout the application package. For each unit with flashing, list tank-flashing emissions estimates as a separate line item (20.2.70.300.D.5 NMAC, 20.2.72.203.A.3 NMAC, 20.2.73.200.B.6, & 20.2.74.301 NMAC). Fill all cells in this tablewith the emission numbers or a "-" symbol. A "-" symbol indicates that emissions of this pollutant are not expected. Numbers shall be expressed with a minimum of two significant figures[1]. If there are any significant figures to the left of a decimal point, there shall be no more than one significant figure to the right of the decimal point. Please do not change the column widths on this table.

Unit No.	NOx		CO		VOC		SOx		TSP[2]		PM10[2]		PM2.5[2]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
S1											0.56	0.72	0.086	0.11				
S2											0.56	0.72	0.086	0.11				
S3											0.56	0.72	0.086	0.11				
S4											1.9	2.4	0.29	0.36				
S5											1.9	2.4	0.29	0.36				
S6											0.071	0.090	0.011	0.014				
S7											0.071	0.090	0.011	0.014				
S8											0.071	0.090	0.011	0.014				
S9											0.071	0.090	0.011	0.014				
S10											0.071	0.090	0.011	0.014				
S11											0.071	0.090	0.011	0.014				
S12											0.071	0.090	0.011	0.014				
S13											0.071	0.090	0.011	0.014				
S14											0.038	0.048	0.0057	0.0073				
S15											0.038	0.048	0.0057	0.0073				
S16											0.075	0.10	0.011	0.015				
S17											0.28	0.36	0.043	0.055				
S18											0.10	0.16	0.015	0.024				
S19											0.10	0.16	0.015	0.024				
S20											0.10	0.16	0.015	0.024				
S21											0.10	0.16	0.015	0.024				
S22											0.075	0.10	0.011	0.015				
S23											0.12	0.51	0.030	0.13				
S24											5.9	21	0.59	2.1				
S25											8.1	29	0.81	2.9				
S26											0.65	2.3	0.065	0.23				
S27											12	42	1.2	4.2				
S28											3.8	11	0.35	1.0				
S29											0.63	1.3	0.36	0.72				
S30											0.63	0.64	0.36	0.36				
S31											0.75	0.76	0.41	0.42				
S32											0.63	0.64	0.36	0.36				
S33											0.75	0.76	0.41	0.42				
S34											0.75	1.3	0.41	0.71				

Unit No.	NOx		CO		VOC		SOx		TSP[2]		PM10[2]		PM2.5[2]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
S35											0.63	1.1	0.36	0.62				
S36											0.75	0.61	0.41	0.33				
S37											0.75	0.61	0.41	0.33				
S38											6.1	27	6.1	27				
S39																		
S40											0.64	2.8	0.096	0.42				
S41											0.30	1.3	0.046	0.20				
S42											0.34	1.5	0.053	0.23				
S43											0.34	1.5	0.053	0.23				
S44											0.55	2.4	0.082	0.36				
S45											0.14	0.61	0.021	0.092				
SJ-7					0.35	1.5												
EG-1	0.77	0.19	0.82	0.21	0.08	0.02	0.04	0.01			0.07	0.02	0.07	0.02				
EG-2	1.51	0.38	0.66	0.17	0.24	0.06	0.04	0.01			0.22	0.05	0.22	0.05				
EG-3	1.77	0.44	1.12	0.28	2.42	0.60	0.06	0.01			0.12	0.03	0.12	0.03				
EG-4	0.18	0.04	0.11	0.03	0.24	0.06	0.01	0.00			0.01	0.00	0.01	0.00				
EG-5[1]*	1.19	0.30	0.52	0.13	0.19	0.05	0.03	0.01			0.17	0.04	0.17	0.04				
EG-6*	25.11	6.28	5.41	1.35	1.96	0.49	0.29	0.07			1.78	0.45	1.78	0.45				
[1] These estimated emission rates have been provided in response to NMED's request. San Juan Coal Company understands that no emission limits will be established on the basis of this information, and that the above emission information is for informational purposes only. Other than EG-1 with its NSPS applicability, none of the other emergency generators or the gasoline dispensing facility (GDF) is regulated by an emission standard. Consistent with NMED's past practice, because the other 5 emergency generators and the GDF are not subject to any substantive applicable requirement, such as an emission limit or a control requirement, the Company understands that those 5 emergency generators will still be classified as "insignificant activities" for Title V purposes																		
*EG-5 and EG-6 will only operate during Alternative Operating Scenario #1																		
Totals	30.5	7.6	8.6	2.2	5.1	1.3	0.5	0.1			54	160	16	45				

[1] **Significant Figures Examples**: One significant figure – 0.03, 3, 0.3. Two significant figures – 0.34, 34, 3400, 3.4

[2] **Condensables:** Include condensable particulate matter emissions in particulate matter calculations.

Table 2-F: Additional Emissions during Startup, Shutdown, and Routine Maintenance (SSM)

✔ This table is intentionally left blank as all SSM emissions at this facility do not require an increase in Requested Allowables greater than those listed in Table 2-E. If you are required to report GHG emissions as described in Section 21, include any GHG emissions due Startup, Shutdown, and/or Scheduled Maintenance in Table 2-P. Provide explanation in Section 6.

All applications, including NOI applications, must fill out this table, reporting Maximum Emissions during Startup, Shutdown and Scheduled Maintenance (20.2.7 NMAC, 20.2.72.203.A.3 NMAC, 20.2.73.200.D.2 NMAC). Only report SSM emissions greater than the cooresponding Table 2-E emissions[1]. Not providing emissions for a unit indicates that SSM emissions for this unit are less than the Requested Allowables for that unit in Table 2-E. In Section 6, provide emissions calculations for any emissions listed in this table. Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications (http://www.nmenv.state.nm.us/aqb/permit/app_form.html) for more detailed instructions. For each unit with flashing, list tank-flashing emissions estimates as a separate line item (20.2.72.203.A.3 and 20.2.70.300.D.5 NMAC). List all units and SSM fugitives, except GHGs, in this table. Refer to Table 2-E for instructions on use of the "-" symbol and on significant figures.

Unit No.	NOx		CO		VOC		SOx		TSP[2]		PM10[2]		PM2.5[2]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
Totals																		

No additional emissions expected during startup, shutdown, or during rountine maintenance

[1] **For instance**, if the short term steady-state Table 2-E emissions are 5 lb/hr and the SSM rate is 12 lb/hr, enter 7 lb/hr in the table below. If the annual steady-state Table 2-E emissions are 21.9 TPY, and the number of scheduled SSM events result in annual emissions of 31.9 TPY, enter 10.0 TPY in the table below.

[2] **Condensables**: Include condensable particulate matter emissions in particulate matter calculations.

Table 2-G: Stack Exit and Fugitive Emission Rates for Special Stacks

✔ I have elected to leave this table blank because this facility does not have any stacks/vents that split emissions from a single source or combine emissions from more than one source listed in table 2-A. Additionally, the emission rates of all stacks match the Requested allowable emission rates stated in Table 2-E.

Use this table to list stack emissions (requested allowable) from split and combined stacks. List Toxic Air Pollutants (TAPs) and Hazardous Air Pollutants (HAPs) in Table 2-I. List all fugitives that are associated with the normal, routine, and non-emergency operation of the facility. List tank-flashing emissions estimates as a separate line item. Unit and stack numbering must correspond throughout the application package. Refer to Table 2-E for instructions on use of the "-" symbol and on significant figures.

Stack No.	Serving Unit Number(s) from Table 2-A	NOx		CO		VOC		SOx		TSP		PM10		PM2.5		☐ H_2S or ☐ Lead	
		lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
Totals:																	

Table 2-H: Stack Exit Conditions

Unit and stack numbering must correspond throughout the application package.

Stack Number	Serving Unit Number(s) from Table 2-A	Orientation (H-Horizontal V=Vertical)	Rain Caps (Yes or No)	Height Above Ground (ft)	Temp. (F)	Flow Rate		Moisture by Volume (%)	Velocity (ft/sec)	Inside Diameter or L x W (ft)
						(acfs)	(dscfs)			
1	S38	V	No	20	70	812625			43.1	20.00

Table 2-I: Stack Exit and Fugitive Emission Rates for HAPs and TAPs

In the table below, report the Potential to Emit for each HAP from each regulated emission unit listed in Table 2-A, only if the entire facility emits the HAP at a rate greater than or equal to one (1) ton per year For each such emission unit, HAPs shall be reported to the nearest 0.1 tpy. Each facility-wide Individual HAP total and the facility-wide Total HAPs shall be the sum of all HAP sources calculated to the nearest 0.1 ton per year. Per 20.2.72.403.A.1 NMAC, facilities not exempt [see 20.2.72.402.C NMAC] from TAP permitting shall report each TAP that has an uncontrolled emission rate in excess of its pounds per hour screening level specified in 20.2.72.502 NMAC. TAPs shall be reported using one more significant figure than the number of significant figures shown in the pound per hour threshold corresponding to the substance. Use the HAP nomenclature as it appears in Section 112 (b) of the 1990 CAAA and the TAP nomenclature as it listed in 20.2.72.502 NMAC. Include tank-flashing emissions estimates of HAPs in this table. For each HAP or TAP listed, fill all cells in this table with the emission numbers or a "-" symbol. A "-" symbol indicates that emissions of this pollutant are not expected or the pollutant is emitted in a quantity less than the threshold amounts described above.

Stack No.	Unit No.(s)	Total HAPs		Provide Pollutant Name Here ☐ HAP or ☐TAP		Provide Pollutant Name Here ☐ HAP or ☐TAP		Provide Pollutant Name Here ☐ HAP or ☐TAP		Provide Pollutant Name Here ☐ HAP or ☐TAP		Provide Pollutant Name Here ☐ HAP or ☐TAP		Provide Pollutant Name Here ☐ HAP or ☐TAP		Provide Pollutant Name Here ☐ HAP or ☐TAP		Provide Pollutant Name Here ☐ HAP or ☐TAP	
		lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
Totals:																			

NOT APPLICABLE

Table 2-J: Fuel

Specify fuel characteristics and usage. Unit and stack numbering must correspond throughout the application package.

Unit No.	Fuel Type (No. 2 Diesel, Natural Gas, Coal, …)	Specify Units				
		Lower Heating Value	Hourly Usage	Annual Usage	% Sulfur	% Ash
NA						

Table 2-K: Liquid Data for Tanks Listed in Table 2-L

For each tank, list the liquid(s) to be stored in each tank. If it is expected that a tank may store a variety of hydrocarbon liquids, enter "mixed hydrocarbons" in the Composition column for that tank and enter the corresponding data of the most volatile liquid to be stored in the tank. If tank is to be used for storage of different materials, list all the materials in the "All Calculations" attachment, run the newest version of TANKS on each, and use the material with the highest emission rate to determine maximum uncontrolled and requested allowable emissions rate. The permit will specify the most volatile category of liquids that may be stored in each tank. Include appropriate tank-flashing modeling input data. Use additional sheets if necessary. Unit and stack numbering must correspond throughout the application package.

Tank No.	SCC Code	Material Name	Composition	Liquid Density (lb/gal)	Vapor Molecular Weight (lb/lb*mol)	Average Storage Conditions		Max Storage Conditions	
						Temperature (°F)	True Vapor Pressure (psia)	Temperature (°F)	True Vapor Pressure (psia)
SJ-7	30531099	Gasoline	Gasoline (RVP 10)	0.4473	66	58.535	5.0402	65.663	5.7809

Table 2-L: Tank Data

Include appropriate tank-flashing modeling input data. Use an addendum to this table for unlisted data categories. Unit and stack numbering must correspond throughout the application package. Use additional sheets if necessary. See reference Table 2-L2. Note: 1.00 bbl = 10.159 M3 = 42.0 gal

Tank No.	Date Installed	Materials Stored	Seal Type (refer to Table 2-LR below)	Roof Type (refer to Table 2-LR below)	Capacity		Diameter (M)	Vapor Space (M)	Color (from Table VI-C)		Paint Condition (from Table VI-C)	Annual Throughput (gal/yr)	Turn-overs (per year)
					(bbl)	(M^3)			Roof	Shell			
SJ-7	N/A	Gasoline	NA	NA	155.00	24.60	2.438	1.219	WH	WH	Good	195,000	30.00

Table 2-L2: Liquid Storage Tank Data Codes Reference Table

Roof Type	Seal Type, Welded Tank Seal Type		Seal Type, Riveted Tank Seal Type		Roof, Shell Color	Paint Condition
FX: Fixed Roof	**Mechanical Shoe Seal**	**Liquid-mounted resilient seal**	**Vapor-mounted resilient seal**	**Seal Type**	**WH**: White	Good
IF: Internal Floating Roof	**A**: Primary only	**A**: Primary only	**A**: Primary only	**A**: Mechanical shoe, primary only	**AS**: Aluminum (specular)	Poor
EF: External Floating Roof	**B**: Shoe-mounted secondary	**B**: Weather shield	**B**: Weather shield	**B**: Shoe-mounted secondary	**AD**: Aluminum (diffuse)	
P: Pressure	**C**: Rim-mounted secondary	**C**: Rim-mounted secondary	**C**: Rim-mounted secondary	**C**: Rim-mounted secondary	**LG**: Light Gray	
					MG: Medium Gray	
					BL: Black	
					OT: Other (specify)	

Note: 1.00 bbl = 0.159 M^3 = 42.0 gal

Table 2-M: Materials Processed and Produced (Use additional sheets as necessary.)

Material Processed				Material Produced			
Description	**Chemical Composition**	**Phase (Gas, Liquid, or Solid)**	**Quantity (specify units)**	**Description**	**Chemical Composition**	**Phase**	**Quantity (specify units)**
Coal	Coal	Solid	13,000,000 tons/year	Coal	Coal	Solid	13,000,000 tons/year

Table 2-N: CEM Equipment

Enter Continuous Emissions Measurement (CEM) Data in this table. If CEM data will be used as part of a federally enforceable permit condition, or used to satisfy the requirements of a state or federal regulation, include a copy of the CEM's manufacturer specification sheet in the Information Used to Determine Emissions attachment. Unit and stack numbering must correspond throughout the application package. Use additional sheets if necessary.

Stack No.	Pollutant(s)	Manufacturer	Model No.	Serial No.	Sample Frequency	Averaging Time	Range	Sensitivity	Accuracy

NOT APPLICABLE

Table 2-O: Parametric Emissions Measurement Equipment

Unit and stack numbering must correspond throughout the application package. Use additional sheets if necessary.

Unit No.	Parameter/Pollutant Measured	Location of Measurement	Unit of Measure	Acceptable Range	Frequency of Maintenance	Nature of Maintenance	Method of Recording	Averaging Time

NOT APPLICABLE

Table 2-P: Green House Gas Emissions

Applications submitted under 20.2.70, 20.2.72, & 20.2.74 NMAC that are Major for GHGs as determined in Section 22 of this application are required to complete this Table if so directed in Section 22 or are major for GHGs and have an existing GHG BACT. Applicants must report potential emission rates in short tons per year. Include GHG emissions during Startup, Shutdown, and Scheduled Maintenance in this table.

		CO_2 ton/yr	N_2O ton/yr	CH_4 ton/yr	SF_6 ton/yr	PFC/HFC ton/yr[2]									Total GHG Mass Basis ton/yr[4]	Total CO_2e ton/yr[5]
Unit No.	**GWPs [1]**	**1**	**310**	**21**	**23,900**	**footnote 3**										
S38	**mass GHG**															
	CO_2e															
S39	**mass GHG**															
	CO_2e															
S46	**mass GHG**															
	CO_2e															
S47	**mass GHG**															
	CO_2e															
S48	**mass GHG**															
	CO_2e															
S49	**mass GHG**															
	CO_2e															
S50	**mass GHG**															
	CO_2e															
S51	**mass GHG**															
	CO_2e															
S52	**mass GHG**															
	CO_2e															
S53	**mass GHG**															
	CO_2e															
	mass GHG															
	CO_2e															
	mass GHG															
	CO_2e															
	mass GHG															
	CO_2e															
	mass GHG															
	CO_2e															
	mass GHG															
	CO2e															
	mass GHG															
	CO_2e															
	mass GHG															
	CO_2e															

The San Juan mine emits more than 100,000 Tons of CO2e per year as a result of the ventilation of methane from the underground operations. The variability in the mining depth and methane concentration from the coal beds and surround formation preclude an credible estimate of the amount methane that will be emitted during the year. See Section 22 for a more details.

[1] **GWP** (Global Warming Potential): Applicants must use the most current GWPs codified in Table A-1 of 40 CFR part 98. GWPs are subject to change, therefore, applicants need to check 40 CFR 98 to confirm GWP values.

[2] For **HFCs** or **PFCs** describe the specific HFC or PFC compound and use a separate column for each individual compound.

[3] For each new compound, enter the appropriate GWP for each HFC or PFC compound from Table A-1 in 40 CFR 98.

[4] Green house gas emissions on a **mass basis** is the ton per year green house gas emission before adjustment with its GWP.

[5] **CO_2e** means Carbon Dioxide Equivalent and is calculated by multiplying the TPY mass emissions of the green house gas by its GWP.

Section 3

Application Summary

The **Application Summary** shall include a brief description of the facility and its process, the type of permit application, the applicable regulation (i.e. 20.2.72.200.A.X, or 20.2.73 NMAC) under which the application is being submitted, and any air quality permit numbers associated with this site. If this facility is to be collocated with another facility, provide details of the other facility including permit number(s). In case of a revision or modification to a facility, provide the lowest level regulatory citation (i.e. 20.2.72.219.B.1.d NMAC) under which the revision or modification is being requested. Also describe the proposed changes from the original permit, how the proposed modification will effect the facility's operations and emissions, de-bottlenecking impacts, and changes to the facility's major/minor status (both PSD & Title V).

Routine or predictable emissions during Startup, Shutdown, and Maintenance (SSM): Provide an overview of how SSM emissions are accounted for in this application. Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications (http://www.nmenv.state.nm.us/aqb/permit/app_form.html) for more detailed instructions on SSM emissions.

This is a first-time Title V Operating Permit application for San Juan Coal Company's (SJCC's) San Juan Mine (SJM) that is required by 20.2.70.200.A NMAC. Previously SJM did not meet the Title V definition of "major source" because it did not emit regulated pollutants in quantities above the Title V threshold applicability values. However, New Mexico's Title V definition of "major source" has recently been amended to include a stationary source that emits or has the potential to emit greenhouse gases (GHG) emissions in amounts of both 100,000 tpy CO_2e or more and GHG mass emissions of 100 tpy or more. That definition became effective for existing stationary sources on July 1, 2011.

As explained herein, methane is released underground from coal seams and surrounding rock strata during the mining operation. The Mine operates ventilation and degasification systems that exhaust air containing that methane to the atmosphere. The ventilation and degasification systems are required by the Mine Safety and Health Administration (MSHA) to order to maintain safe working conditions in the underground mine.

Monitoring of the methane in those exhausts has demonstrated that the Mine emits more than 100 tpy GHG mass basis and more than 100,000 tpy CO_2e. By definition, the Mine is now a "major source" for Title V purposes, assuming that those underground fugitive releases of methane that are subsequently exhausted to the atmosphere are considered to be "non-fugitive" emissions for Title V purposes.

Existing stationary sources that did not previously have Title V operating permits, but that now have become "major" for GHG emissions, must submit a Title V permit application to the New Mexico Environment Department (NMED) within 12 months after becoming subject to Title V. Previous permitting actions for this facility include a Notice of Intent (NOI) No. 2537and No Permit Required (NPR) determinations issued by letters from the NMED dated 2/25/82 and 4/19/01.

The principal sources of GHG emissions from SJM are the underground mining operations that release methane that is subsequently exhausted to the atmosphere by the Mine's ventilation and degasifications systems. The only other pollutant that is emitted from the Mine in significant amounts is particulate matter. Primary sources of particulate matter from SJM are raw coal stack-out, truck loading of raw coal, raw coal unloading to hoppers, coal crushers, vehicle (haul trucks, maintenance vehicles, light-duty vehicles) travel, bulldozer operation on raw coal storage and reclamation piles, and wind erosion from those open piles and disturbed areas.

The aboveground Mine load-out conveyor system which serves the underground mining includes two transfer towers and a raw coal stack-out with storage pile. Raw coal from the stack-out pile can be transported by haul trucks directly to the coal preparation plant or to one of two raw coal storage piles. Raw coal delivered to the coal prep plant is unloaded into underground hoppers. Raw coal delivered to storage piles is eventually pushed by bulldozer into the underground hoppers of the prep plant. Coal pile maintenance is performed by bulldozers. These operations are sources of particulate emissions.

The coal preparation plant sizes the raw coal by crushing and then conveys the processed coal to San Juan Generating Station. Coal preparation facilities not only are enclosed but additional moisture also is added by sprays of water/chemicals at key dust-producing operations. Because the coal preparation facilities are also contained within buildings, the only particulate matter emitted is that which escapes the buildings through passive ventilation.

At the reclamation areas, bulldozers contour piles of existing overburden and covered coal combustion by-products (CCBs). The CCBs (flyash and gypsum) are transported by haul trucks from San Juan Generating Station to be used in the Mine's ongoing reclamation of prior surface mining areas. This process is a source of particulate matter emissions.

The SJM operates 8,760 hours per year over three shifts per day. Particulate matter emissions from the coal preparation plant are based on the maximum coal production capacity of 13,000,000 tons per year. Particulate matter emissions from haul truck traffic are based on transport rates of 8,200,000 tpy of coal, 1,840,000 tpy of fly ash, and 390,000 tpy of gypsum.

SSM Emissions

Because of the nature of the operations and their associated emissions at San Juan Mine, no additional emissions of any pollutant are expected to occur during periods of routine or predictable startup, shutdown or scheduled maintenance. Therefore, no additional SSM emissions have been included in this permit application.

Section 4

Process Flow Sheet

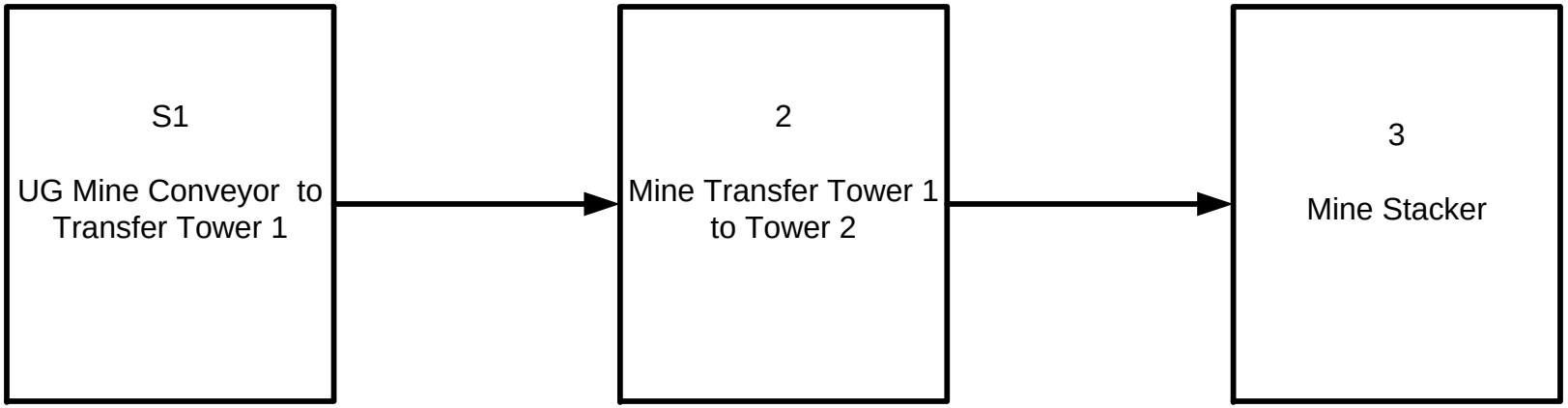
A **process flow sheet** and/or block diagram indicating the individual equipment, all emission points and types of control applied to those points. The unit numbering system should be consistent throughout this application.

The following process block-flow diagrams identify emission sources associated with the underground stackout, the coal plant, and the mine degasification and ventilation systems. Insignificant and exempt emission sources are not shown.

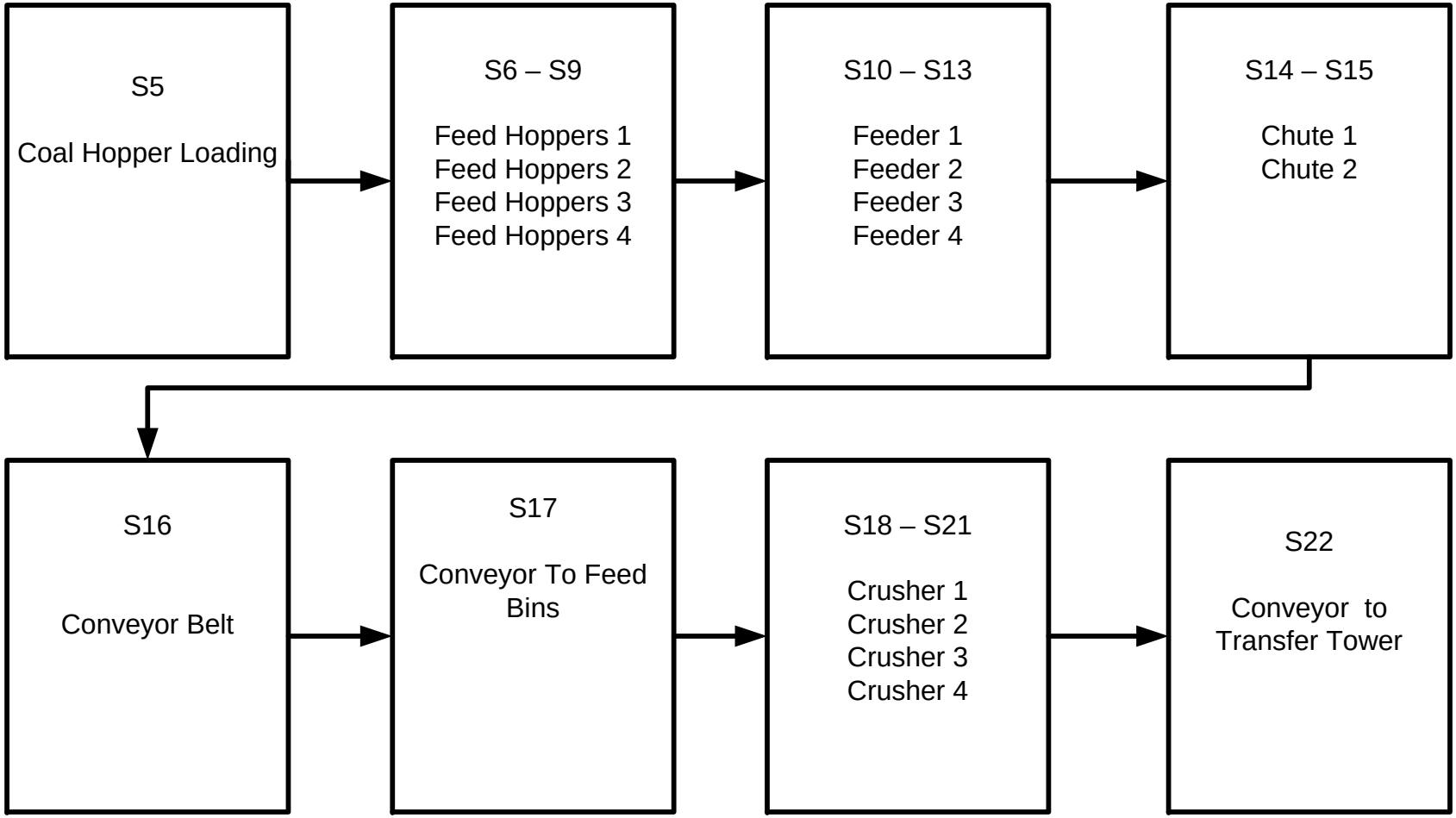
San Juan Mine
Process: Mine Operations
All Sub-processes

1 Sub-process: Underground Stackout	2 Sub-process: Coal Plant	3 Sub-process: Mine Degasification and Ventilation Systems

San Juan Mine
Process: Mine Operations
Sub-process: Underground Stackout



San Juan Mine
Process: Mine Operations
Sub-process: Coal Plant



San Juan Mine
Process: Mine Operations
Sub-process: Mine Ventilation and Degasification Systems

S38

ULE Ventilation Shaft

S39

KFC Ventilation Shaft

S46 – S53

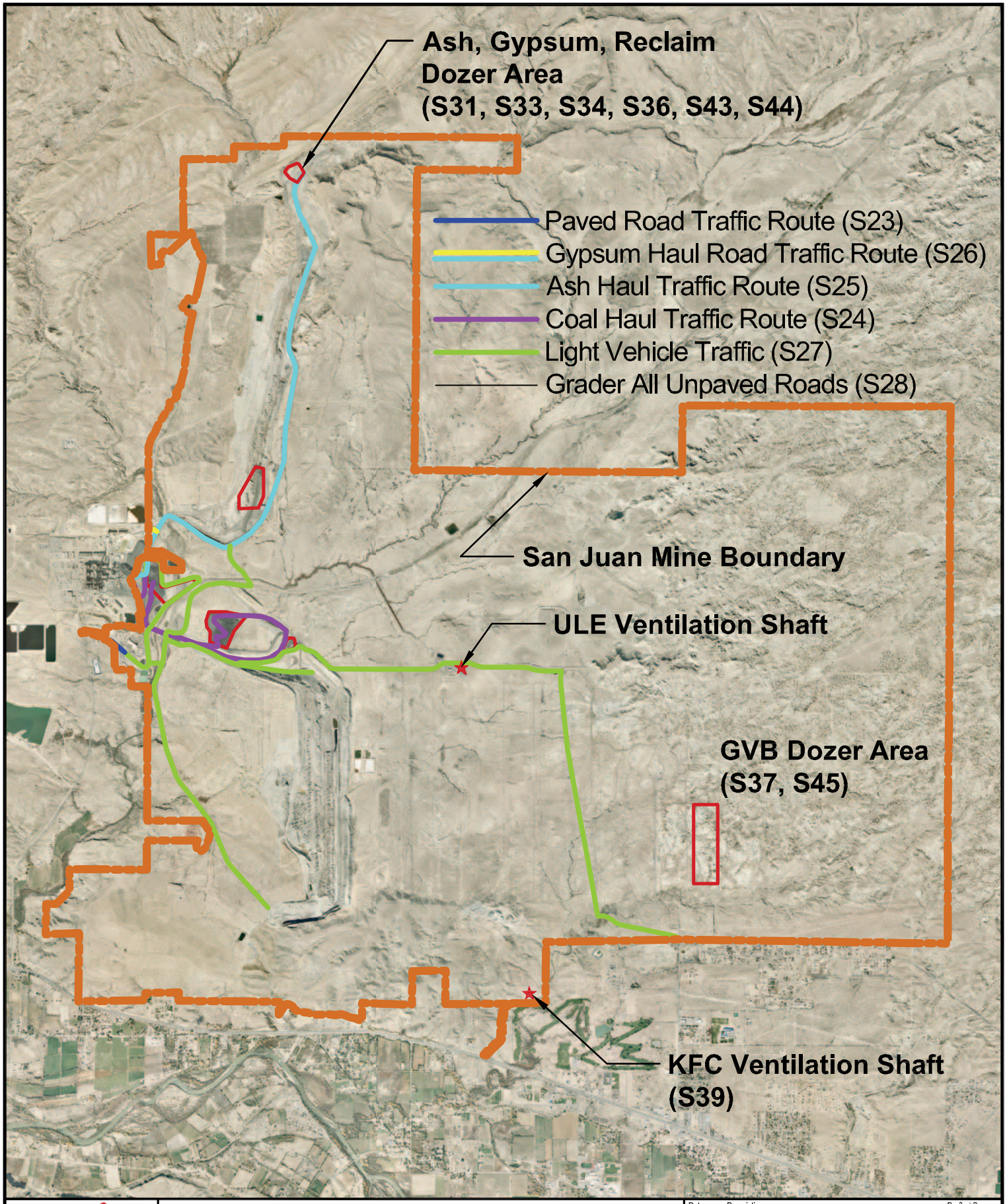
GVB Trailer 1
GVB Trailer 2
GVB Trailer 3
GVB Trailer 4
GVB Trailer 5
GVB Trailer 6
GVB Trailer 7
GVB Trailer 8

Section 5

Plot Plan Drawn To Scale

A **plot plan drawn to scale** showing emissions points, roads, structures, tanks, and fences of property owned, leased, or under direct control of the applicant. This plot plan must clearly designate the restricted area as defined in UA1, Section 1-D.12. The unit numbering system should be consistent throughout this application.

See attached Plot Plans



bhpbilliton

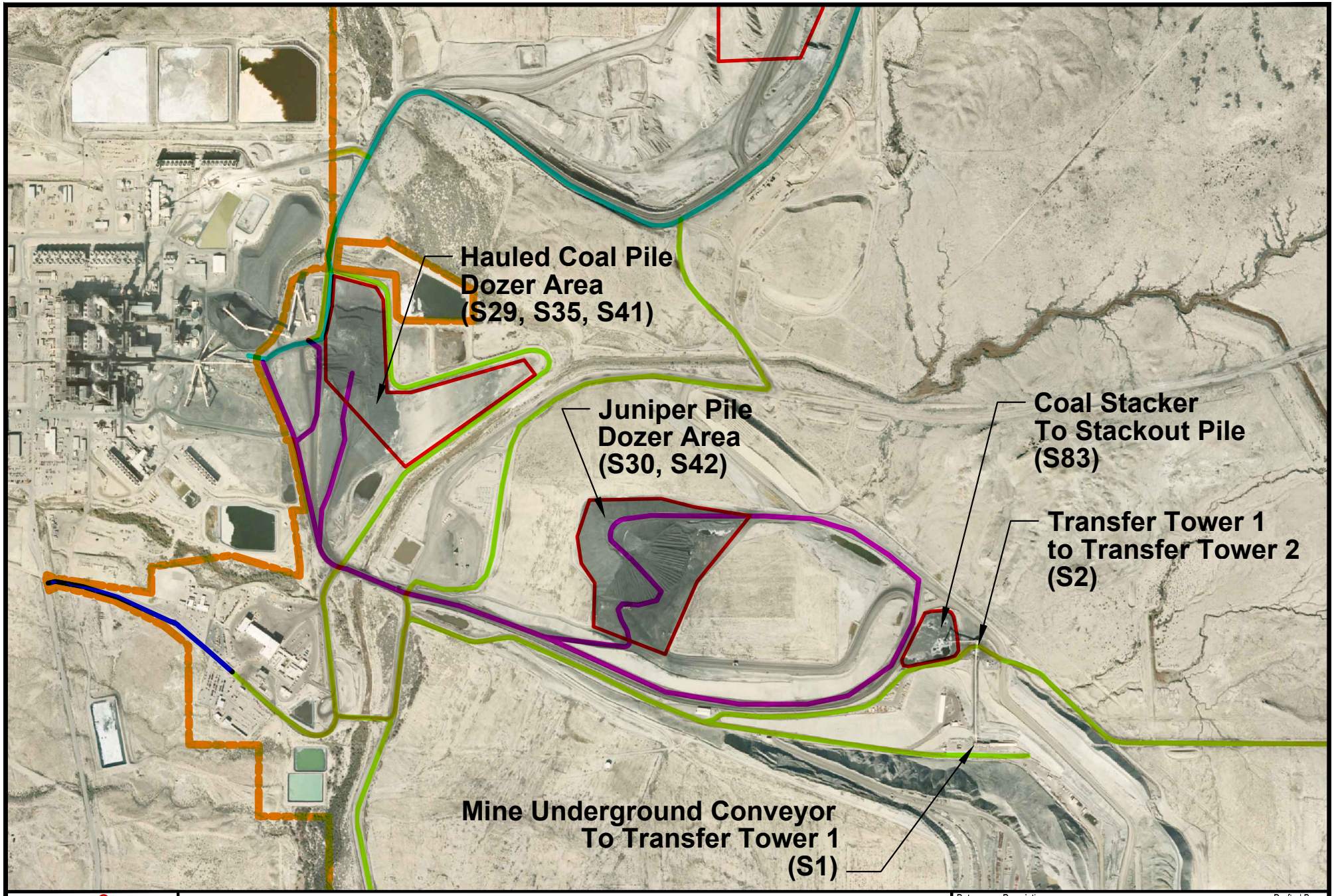
BHP Billiton - San Juan Coal Company
San Juan Mine 1
P.O. Box 561
Waterflow, New Mexico 87421

Figure 1-1
San Juan Coal Mine
Site Overview

Date	Description	Drafted By:
06/21/20121		Sypersma

Dwg. Path: I:\SJCCEng\Technical Services\Projects\SJCC-Title V Permit
Drawing: San Juan Title V Permit.dwg
Layout: Fig 1-1
Plot Date: Wednesday, June 27, 2012 9:42:33 AM

Revision
1



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San Juan Mine 1
P.O. Box 561
Waterflow, New Mexico 87421

Figure 1-2
San Juan Coal Mine
UG Stackout and Coal Stockpiles

Date	Description	Drafted By:
06/21/2012		Sypersma

Dwg. Path: I:\SJCCEng\Technical Services\Projects\SJCC-Title V Permit
Drawing: San Juan Title V Permit.dwg
Layout: Fig 1-2
Plot Date: Wednesday, June 27, 2012 10:59:29 AM

Revision 1

bhpbilliton

BHP Billiton - San Juan Coal Company
San Juan Mine 1
P.O. Box 561
Waterflow, New Mexico 87421

Figure 1-3
San Juan Coal Mine
Coal Processing Plant

Date	Description	Drafted By:
06/21/20121		Sypersma

Dwg. Path: I:\SJCCEng\Technical Services\Projects\SJCC-Title V Permit
Drawing: San Juan Title V Permit.dwg
Layout: Fig 1-3
Plot Date: Wednesday, June 27, 2012 9:43:57 AM

Revision
1

Section 6

All Calculations

Show all calculations used to determine both the hourly and annual controlled and uncontrolled emission rates. All calculations shall be performed keeping a minimum of three significant figures. Document the source of each emission factor used (if an emission rate is carried forward and not revised, then a statement to that effect is required). If identical units are being permitted and will be subject to the same operating conditions, submit calculations for only one unit and a note specifying what other units to which the calculations apply. All formulas and calculations used to calculate emissions must be submitted. The "Calculations" tab in the UA2 has been provided to allow calculations to be linked to the emissions tables. Add additional "Calc" tabs as needed. If the UA2 or other spread sheets are used, all calculation spread sheet(s) shall be submitted electronically in Microsoft Excel compatible format so that formulas and input values can be checked. Format all spread sheets and calculations such that the reviewer can follow the logic and verify the input values. Define all variables. If calculation spread sheets are not used, provide the original formulas with defined variables. Additionally, provide subsequent formulas showing the input values for each variable in the formula. All calculations, including those calculations are imbedded in the Calc tab of the UA2 portion of the application, the printed Calc tab(s), should be submitted under this section.

Tank Flashing Calculations: The information provided to the AQB shall include a discussion of the method used to estimate tank-flashing emissions, relative thresholds (i.e., NOI, permit, or major source (NSPS, PSD or Title V)), accuracy of the model, the input and output from simulation models and software, all calculations, documentation of any assumptions used, descriptions of sampling methods and conditions, copies of any lab sample analysis. If Hysis is used, all relevant input parameters shall be reported, including separator pressure, gas throughput, and all other relevant parameters necessary for flashing calculation.

SSM Calculations: It is the applicant's responsibility to provide an estimate of SSM emissions or to provide justification for not doing so. In this Section, provide emissions calculations for Startup, Shutdown, and Routine Maintenance (SSM) emissions listed in the Section 2 SSM and/or Section 22 GHG Tables and the rational for why the others are reported as zero (or left blank in the SSM/GHG Tables). Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications (http://www.nmenv.state.nm.us/aqb/permit/app_form.html) for more detailed instructions on calculating SSM emissions. If SSM emissions are greater than those reported in the Section 2, Requested Allowables Table, modeling may be required to ensure compliance with the standards whether the application is NSR or Title V. Refer to the Modeling Section of this application for more guidance on modeling requirements.

Glycol Dehydrator Calculations: The information provided to the AQB shall include the manufacturer's maximum design recirculation rate for the glycol pump. If GRI-Glycalc is used, the full input summary report shall be included as well as a copy of the gas analysis that was used.

Road Calculations: Calculate fugitive particulate emissions and enter haul road fugitives in Tables 2-A, 2-D and 2-E for:

1. If you transport raw material, process material and/or product into or out of or within the facility and have PER emissions greater than 0.5 tpy.
2. If you transport raw material, process material and/or product into or out of the facility more frequently than one round trip per day.

Significant Figures:

A. All emissions standards are deemed to have at least two significant figures, but not more than three significant figures.

B. At least 5 significant figures shall be retained in all intermediate calculations.

C. In calculating emissions to determine compliance with an emission standard, the following rounding off procedures shall be used:

(1) If the first digit to be discarded is less than the number 5, the last digit retained shall not be changed;

(2) If the first digit discarded is greater than the number 5, or if it is the number 5 followed by at least one digit other than the number zero, the last figure retained shall be increased by one unit; **and**

(3) If the first digit discarded is exactly the number 5, followed only by zeros, the last digit retained shall be rounded upward if it is an odd number, but no adjustment shall be made if it is an even number.

(4) The final result of the calculation shall be expressed in the units of the standard.

Uncontrolled Particulate Emission Rates

Material Handling ($PM_{2.5}$, PM_{10})

To estimate material handling uncontrolled particulate emission rates for aggregate handling operations (batch and continuous material transfers), an emission equation was obtained from EPA's Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources, Fifth Edition, Section 13.2.4 (11/2006), where the k (PM_{10} = 0.35, $PM_{2.5}$ = 0.053), wind speed for determining the maximum hourly emission rate is the NMED's recommended values of 11 mph, wind speed for determining the average annual emission rate is the based on the average wind speed at San Juan Mine for the years of 2008 through 2011 of 9.5 mph, and a conservative moisture content of 8 percent, based on a test range for coal between 8 to 10 percent.

To estimate crushing uncontrolled particulate emissions rates, (S18 – S21), PM_{10} emission factors for "Tertiary Crushing" were obtained from EPA's Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources, Aug. 2004, Section 11.19.2, Table 11.19.2-2. To determine $PM_{2.5}$ emission factor, the ratio of 0.35/0.053 from $PM_{10}/PM_{2.5}$ *k* factors found in AP-42 Section 13.2.4 (11/2006) were used.

Maximum hourly and annual production through the mine stackout and coal processing plant is 4,200 tons per hour and 13,000,000 tons per year, respectively. Emission rates for transfer of coal from the underground mine to the stackout coal pile (Units S1 – S3), coal loading into haul trucks at the stackout coal pile (S4), coal drop into preparation plant hoppers (S5), the hoppers coal drops to feeders (S6 - S9), feeders coal drops to chutes (S10 – S13), coal drops from chutes to conveyor (S14 - S15), coal drop from conveyor to conveyor (S16), coal drop from conveyor to feeder in the Secondary Crushing Building (S17), and coal drop from conveyor to conveyor in the Sampler/Transfer Tower Building were estimated using the following emission equations from EPA's Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources, Fifth Edition, Section 13.2.4 (11/2006) and site-specific equation inputs.

The stackout facility and coal preparation plant were designed to minimize the generation of fugitive particulate matter emissions from material transfers and processing for SJM worker safety. The emission reductions are achieved by enclosing processes and water sprays. Since these emission reduction methods were not installed as "air pollution control equipment", the stackout facility and coal preparation plant uncontrolled emission rates will equal the requested allowable emission rates.

Three quarter enclosures of the coal transfers reduce the particulate matter emissions for Units S1 through S3. Full enclosures are used to reduce particulate matter emissions for Units S6 through S13 and Unit S17. Reduction efficiency percentages are taken from "Mojave Desert Air Quality Management District, Antelope Valley Air Pollution Control District, *Emissions Inventory Guidance*", Material Handling Table 5 – Control Techniques (see below). For three quarter enclosure of conveyors the control efficiency is 70%. For full enclosure of conveyors (in this case in an underground bunker) the control efficiency is 85%.

Material Handling Table 5 -- Control Techniques		
Control Technique	Control Efficiency (%)	Discussion
Water Spray (Application Point)	75	
Chemical Additive (Application Point)	85	
Water Spray (Downstream Effect)	75-(5*n)	n = number of transfer points from initial application
Chemical Additive (Downstream Effect)	85-(5*n)	
Conveyor with Half Cover	50	Covers less than 60 percent of conveyor
Conveyor with Three Quarter Cover	70	Covers less than 85 percent of conveyor
Conveyor with Full Cover	85	Completely covers conveyor width
Baghouse with Multiple Pickups	95	Baghouse must meet minimum flow standard given in Table 6
Baghouse with Single Pickup (Unenclosed)	97	
Baghouse with Single Pickup (Partial Enclosure)	98	
Baghouse with Single Pickup (Full Enclosure)	99	
Baghouse with Single Pickup (Attached)	99.5	

Water/chemical suppressant sprays and full enclosure are used to reduce particulate matter emissions for Units S14 through S16 and Units S18 through S21. For water sprays the reduction in the generation of particulate emission is 75% and for full enclosure is 85%.

%Reduction Efficiency = {1 - [(1 - 75%) * (1 – 85%)]} * 100 ≈ 96%

The hourly and annual emissions where calculated by using the following equations.

Uncontrolled emission rate * (1 - %reduction efficiency/100) = Requested allowable emission rate

<u>AP-42 Emission Equations for Aggregate Handling Operations (batch and continuous material drops):</u>

Maximum Hourly Emission Factor

E (lbs/ton) = k x 0.0032 x $(U/5)^{1.3}$ / $(M/2)^{1.4}$ * (1 - %reduction efficiency/100)

E_{PM10} (lbs/ton) = 0.35 x 0.0032 x $(11/5)^{1.3}$ / $(8/2)^{1.4}$ * (1 - %reduction efficiency/100)

$E_{PM2.5}$ (lbs/ton) = 0.053 x 0.0032 x $(11/5)^{1.3}$ / $(8/2)^{1.4}$ * (1 - %reduction efficiency/100)

<u>0% Reduction</u>

E_{PM10} (lbs/ton) = 0.000448 lbs/ton

$E_{PM2.5}$ (lbs/ton) = 0.000068 lbs/ton

<u>70% Reduction</u>

E_{PM10} (lbs/ton) = 0.000134 lbs/ton

$E_{PM2.5}$ (lbs/ton) = 0.000020 lbs/ton

<u>85% Reduction</u>

E_{PM10} (lbs/ton) = 0.000067 lbs/ton

$E_{PM2.5}$ (lbs/ton) = 0.0000102 lbs/ton

<u>96% Reduction</u>

E_{PM10} (lbs/ton) = 0.000018 lbs/ton

$E_{PM2.5}$ (lbs/ton) = 0.0000027 lbs/ton

Maximum Annual Emission Factor

E (lbs/ton) = k x 0.0032 x $(U/5)^{1.3}$ / $(M/2)^{1.4}$ * (1 - %reduction efficiency/100)

E_{PM10} (lbs/ton) = 0.35 x 0.0032 x $(9.5/5)^{1.3}$ / $(8/2)^{1.4}$ * (1 - %reduction efficiency/100)

$E_{PM2.5}$ (lbs/ton) = 0.053 x 0.0032 x $(9.5/5)^{1.3}$ / $(8/2)^{1.4}$ * (1 - %reduction efficiency/100)

<u>0% Reduction</u>

E_{PM10} (lbs/ton) = 0.000370 lbs/ton

$E_{PM2.5}$ (lbs/ton) = 0.000056 lbs/ton

<u>70% Reduction</u>

E_{PM10} (lbs/ton) = 0.000111 lbs/ton

$E_{PM2.5}$ (lbs/ton) = 0.000017 lbs/ton

<u>85% Reduction</u>

E_{PM10} (lbs/ton) = 0.000056 lbs/ton

$E_{PM2.5}$ (lbs/ton) = 0.0000084 lbs/ton

<u>96% Reduction</u>

E_{PM10} (lbs/ton) = 0.000015 lbs/ton

$E_{PM2.5}$ (lbs/ton) = 0.0000022 lbs/ton

AP-42 Emission Factors Section 11.19.2, Table 11.19.2-2:

Coal Crusher = Uncontrolled Tertiary Crusher Emission Factor with 96% Reduction for Full Enclosure and Water Sprays

PM10 = 0.0024 lbs/ton Uncontrolled

PM2.5 = 0.00036 lbs/ton Uncontrolled

PM10 = 0.000096 lbs/ton Uncontrolled with 96% Reduction

PM2.5 = 0.00000145 lbs/ton Uncontrolled with 96% Reduction

Material Handling Emission Factors:

Process Unit	**PM_{10} Emission Factor (lbs/ton)**	**$PM_{2.5}$ Emission Factor (lbs/ton)**
Uncontrolled Aggregate Material Batch and Continuous Drop (Max Hourly) 0% Reduction	0.000448	0.000068
Uncontrolled Aggregate Material Batch and Continuous Drop (Annual) 0% Reduction	0.000370	0.000056
Uncontrolled Aggregate Material Batch and Continuous Drop (Max Hourly) 70% Reduction	0.000134	0.000020
Uncontrolled Aggregate Material Batch and Continuous Drop (Annual) 70% Reduction	0.000111	0.000017
Uncontrolled Aggregate Material Batch and Continuous Drop (Max Hourly) 85% Reduction	0.000067	0.0000102
Uncontrolled Aggregate Material Batch and Continuous Drop (Annual) 85% Reduction	0.000056	0.0000084
Uncontrolled Aggregate Material Batch and Continuous Drop (Max Hourly) 96% Reduction	0.000018	0.0000027
Uncontrolled Aggregate Material Batch and Continuous Drop (Annual) 96% Reduction	0.000015	0.0000022
Uncontrolled Crusher 96% Reduction	0.000096	0.0000145

The following equation was used to calculate the hourly emission rate for each process unit:

Max Hourly Emission Rate (lbs/hour) = Process Rate (tons/hour) * Max Hourly Emission Factor (lbs/ton)

The following equation was used to calculate the annual emission rate for each process unit:

$$\text{Annual Emission Rate (tons/year)} = \frac{\text{Process Rate (tons/hour)} * \text{Annual Emission Factor (lbs/ton)}}{\text{2000 lbs/ton}}$$

Table 6-1 Pre-Controlled Material Handling Emission Rates

Unit #	Process Unit Description	Process Rate	PM_{10} Emission Rate (lbs/hr)	PM_{10} Emission Rate (tons/yr)	$PM_{2.5}$ Emission Rate (lbs/hr)	$PM_{2.5}$ Emission Rate (tons/yr)
S1 E1	**Mine Conveyor UG to Transfer Tower 1**	**4,200 tph; 13 mmtpy**	**0.56**	**0.72**	**0.086**	**0.11**
S2 E2	**Mine Transfer Tower 1 to Transfer Tower 2**	**4,200 tph; 13 mmtpy**	**0.56**	**0.72**	**0.086**	**0.11**
S3 E3	**Mine Stacker Conveyor**	**4,200 tph; 13 mmtpy**	**0.56**	**0.72**	**0.086**	**0.11**
S4 E4	**Truck Loading at Stackout Pile**	**4,200 tph; 13 mmtpy**	**1.9**	**2.4**	**0.29**	**0.36**
S5 E5	**Coal Truck/Dozer Hopper Loading**	**4,200 tph; 13 mmtpy**	**1.9**	**2.4**	**0.29**	**0.36**
S6	Hopper 1 > Feeder 1 TP	1,050 tph; 3.25 mmtpy	0.071	0.090	0.011	0.014
S7	Hopper 2 > Feeder 2 TP	1,050 tph; 3.25 mmtpy	0.071	0.090	0.011	0.014
S8	Hopper 3 > Feeder 3 TP	1,050 tph; 3.25 mmtpy	0.071	0.090	0.011	0.014
S9	Hopper 4 > Feeder 4 TP	1,050 tph; 3.25 mmtpy	0.071	0.090	0.011	0.014
S10	Feeder 1 > Chute 1 TP	1,050 tph; 3.25 mmtpy	0.071	0.090	0.011	0.014
S11	Feeder 2 > Chute 1 TP	1,050 tph; 3.25 mmtpy	0.071	0.090	0.011	0.014
S12	Feeder 3 > Chute 2 TP	1,050 tph; 3.25 mmtpy	0.071	0.090	0.011	0.014
S13	Feeder 4 > Chute 2 TP	1,050 tph; 3.25 mmtpy	0.071	0.090	0.011	0.014
S14	Chute 1 > Conv 1 TP	2,100 tph; 6.5 mmtpy	0.038	0.048	0.0057	0.0073
S15	Chute 2 > Conv 1 TP	2,100 tph; 6.5 mmtpy	0.038	0.048	0.0057	0.0073
S16	Conv to Conv TP	4,200 tph; 13 mmtpy	0.075	0.10	0.011	0.015
		Total Coal Hoppers (E6)	**0.72**	**0.91**	**0.11**	**0.14**
S17	Conv to Feed Bin(s) TP	4,200 tph; 13 mmtpy	0.28	0.36	0.043	0.055
S18	Crusher 1	1,050 tph; 3.25 mmtpy	0.10	0.16	0.015	0.024
S19	Crusher 2	1,050 tph; 3.25 mmtpy	0.10	0.16	0.015	0.024
S20	Crusher 3	1,050 tph; 3.25 mmtpy	0.10	0.16	0.015	0.024
S21	Crusher 4	1,050 tph; 3.25 mmtpy	0.10	0.16	0.015	0.024
		Total Crusher Building (E7)	**0.69**	**0.99**	**0.10**	**0.15**
S22	Conv to Conv TP	4,200 tph; 13 mmtpy	0.075	0.10	0.011	0.015
		Total Transfer Tower (E8)	**0.075**	**0.10**	**0.011**	**0.015**

Unpaved Road Truck Travel (Units S24 – S27)

One of the main sources of fugitive particulate matter emissions for any coal mine is haul truck traffic. With the exception of a paved road leading from the turnoff on Highway 6800 to the mine administrative offices, all roads are unpaved. For San Juan Mine, haul truck travel emissions were estimated using AP-42, Section 13.2.2 (ver.11/06) "Unpaved Roads" emission equation. Four main types of traffic can be found operating at the mine: coal haul trucks moving coal from the underground mine stackout pile to the coal plant or other storage piles; fly ash hauling from San Juan Generating Station (SJGS) to one of the mine pits that is being reclaimed; gypsum hauling from SJGS to one of the mine pits that is being reclaimed; and light vehicles servicing mining operations. The emission equation from AP-42, Section 13.2.2 (ver.11/06) "Unpaved Roads" emission equation is as follows:

$$\mathrm{E} = k * (\mathrm{s}/12)^{\mathrm{a}} * (W/3)^{b} * [(365 - p)/365] * VMT$$

Where k = constant PM2.5 = 0.15
PM10 = 1.5
s = % silt content (Table 13.2.2-1, "Haul road to/from pit" 8.4%; "Plant road" 5.1%)
W = mean vehicle weight (see following discussion)
p = number of days with at least 0.01 in of precip. (Figure 13.2.2-3 = 65 days)
a = Constant PM2.5 = 0.9
PM10 = 0.9
b = Constant PM2.5 = 0.45
PM10 = 0.45
VMT = Vehicle Miles Traveled (see following discussion)

Reduction in emissions due to precipitation was only accounted for in the annual emission rate.

Annual Precipitation Reduction Equation = [(365-p)/365]

One of the inputs to the emission equation for unpaved road particulate matter emissions is vehicle miles traveled (VMT). For haul roads this is based on the amount of material transported per year and the capacity of the haul truck. For the light vehicles it is based on a number of hours per year operated and average vehicle speed for travel on mine plant roads. For coal, haul trucks transport coal to several areas at the mine. The annual amount of coal transported at the mine is based on the maximum amount of coal processed by the coal preparation plant per year. For coal combustion by-products (CCBs) transport from SJGS, the annual amount of fly ash and gypsum transported at the mine is based on the maximum amount of fly ash and gypsum provided by SJGS. The following is the number of trip calculations used in determining haul truck VMT for material transport on the mine.

	%	Load Capacity (Tons)	TPY	Trips/Yr
Gypsum Haul	100%	300	390000	2600
Ash Haul	100%	125	1840000	29206
Coal Haul			**8200000**	
UG Stackout to Prep Plant Hoppers	27.2%	300	2230400	14869
UG Stackout to Pile near Prep Plant	42.8%	300	3509600	23397
Pile near Prep Plant to Prep Plant Hoppers	20.0%	300	1640000	10933
UG Stackout to Juniper Pile then to Prep Plant Hoppers	10.0%	300	820000	5467
			Total Coal Haul	**54667**

Based on the number of haul truck trips and the length of the round trip travel for each delivery site, the total haul road VMT was calculated.

Route	RT Mileage	Trucks/Yr	VMT/Yr
Coal Haul from Stackout Pile to Hopper	3.11771	14869	46358.3
Coal Haul to Juniper Pile then Hopper	3.43221	5467	18575.1
Coal Haul to Pile near Prep Plant	2.91704	23397	68251.0
Coal Haul from Pile near Prep Plant to Prep Plant Hoppers	1.60306	10933	17526.8
Ash Haul	7.09254	29206	207147.1
Gypsum Haul	6.34164	2600	16488.3
	Total Haul Trucks	**31806**	**374346.6**

Light vehicles VMT is based on the hours of operation while traveling at the mine and the average speed traveled. This is summarized below.

Type	Vehicle #s	Hours/Yr	Total Hour/Yr	Speed (MPH)	VMT/yr
Maintenance Trucks F350	3	2400	7200	7	50400
Maintenance Trucks F700	2	200	400	7	2800
Maintenance Trucks 5600	2	2400	4800	7	33600
Maintenance Trucks 4300	1	1200	1200	7	8400
Maintenance Trucks 4900	2	1200	2400	7	16800
Light Duty Pick-ups F250	30	1600	48000	8	384000
				Total	**496000**

The average weight of coal haul trucks is based on average truck unloaded weight of 150 tons, the load size of 300 tons. The average weight of ash haul trucks is based on average truck unloaded weight of 62 tons, the load size of 125 tons. The average weight of gypsum haul trucks is based on average truck unloaded weight of 150 tons, the load size of 300 tons. The normalized weight of light vehicle trucks is 6.9 tons. Normalized weight (W) is calculated below and input into each of the two types of road equations, haul truck and light vehicles.

Route	Mean Weight (tons)	VMT/Yr	Weight * VMT	Truck Height (feet)	Height * VMT
Coal Haul from Stackout Pile to Hopper	225	46358.3	10430621.3	25	1158957.917
Coal Haul to Juniper Pile then Hopper	225	18762.8	4221621.2	25	469069.0172
Coal Haul to Pile near Prep Plant	225	68251.0	15356470.0	25	1706274.449
Coal Haul from Pile near Prep Plant to Prep Plant Hoppers	225	17526.8	3943525.3	25	438169.4809
Ash Haul	93.5	207147.1	19368252.6	25	5178677.153
Gypsum Haul	225	16488.3	3709860.0	25	412206.67
		374534.2	57030350.4		9363354.7
	Normalized Weight and Height		152.3		25.0
Maintenance Trucks F350	6	50400.0	302400.0	8	403200
Maintenance Trucks F700	10	2800.0	28000.0	8	22400
Maintenance Trucks 5600	25	33600.0	840000.0	8	268800
Maintenance Trucks 4300	15	8400.0	126000.0	8	67200
Maintenance Trucks 4900	25	16800.0	420000.0	8	134400
Light Duty Pick-ups F250	4.5	384000.0	1728000.0	7	2688000
		496000.0	3444400.0		3584000
	Normalized Weight and Height		6.9		7.2

The following is the results of the emission equation with input of normalized vehicle weight and percent silt content for the two types of roads, for both maximum hourly emission rate and annual emission rate.

Haul Truck Traffic

Hourly Emission Rate Factor
PM10 = 6.3702 lbs/VMT
PM2.5 = 0.63702 lbs/VMT

Annual Emission Rate Factor
PM10 = 5.2358 lbs/annual VMT
PM2.5 = 0.52358 lbs/annual VMT

Light Vehicle Traffic

Hourly Emission Rate Factor
PM10 = 1.01314 lbs/VMT
PM2.5 = 0.10131 lbs/VMT

Annual Emission Rate Factor
PM10 = 0.83272 lbs/annual VMT
PM2.5 = 0.08327 lbs/annual VMT

Hourly emissions were calculated by multiplying the annual VMT by the hourly emission rate factor and dividing by 8760 hours per year. Annual emissions were calculated by multiplying the annual VMT by the annual emission rate factor and dividing by 2000 pounds/ton.

Table 6-2 summarizes the unpaved road emission rates for San Juan Mine haul truck traffic and light vehicle traffic.

Table 6-2: Pre-Controlled Haul Road Fugitive Dust Emission Rates

Unit #	Process Unit Description	Process Rate	PM_{10} Emission Rate (lbs/hr)	PM_{10} Emission Rate (tons/yr)	$PM_{2.5}$ Emission Rate (lbs/hr)	$PM_{2.5}$ Emission Rate (tons/yr)
S24, S25, S26	Haul Trucks	374534.2 miles/yr	272	980	27	98
S27	Light Vehicles	496000.0 miles/yr	57	207	5.7	21
		Total	330	1187	33	119

Unpaved Road Maintenance (Unit S28)

Unpaved roads are maintained using a road grader. To account for particulate matter emissions from road graders an emission equation from AP-42, Section 11.9 (ver.10/98) Table 11.9-1 "Grading" was used.

AP-42 Section 11.9, Table 11.9-2 "Grading"

E_{PM10} = (0.60) (0.051) $(S)^{2.0}$ lb/VMT

E_{PM10} = (0.031) 0.040 $(S)^{2.5}$ lb/VMT

Vehicle Speed (S) = 5 MPH

Operational Hours = 6000 hours/yr

VMT = 5 MPH * 6000 Hours/yr = 30,000 VMT/yr

E_{PM10} = (0.60) (0.051) $(5)^{2.0}$ lb/VMT
= 0.76500 lb/VMT

E_{PM10} = (0.031) 0.040 $(5)^{2.5}$ lb/VMT
= 0.06932 lb/VMT

Hourly emissions were calculated by multiplying the emission rate factor by the MPH of the grader. Annual emissions were calculated by multiplying the emission rate factor by the annual VMT and dividing by 2000 pounds/ton.

Table 6-3: Pre-Controlled Unpaved Road Maintenance Fugitive Dust Emission Rates

Unit #	Process Unit Description	Process Rate	PM_{10} Emission Rate (lbs/hr)	PM_{10} Emission Rate (tons/yr)	$PM_{2.5}$ Emission Rate (lbs/hr)	$PM_{2.5}$ Emission Rate (tons/yr)
S28	Grader	30,000 miles/yr	3.8	11	0.35	1.0

Paved Light Vehicle Travel (Unit S9)

Fugitive particulate emissions by light vehicle travel on the plant site paved road were estimated using AP-42, Section 13.2.1 (ver.11/06) "Paved Roads" emission equation. The paved road emission equation has three variables; silt loading (sL), fleet averaged weight (W), and vehicle miles traveled (VMT).

The silt loading value is based on a conservative AP-42 Section 13.2.1, Table 13.2.1-3, "Iron and Steel Production" of 9.7 g/m^2.

The number of vehicles is based on a conservative estimate that 30 light vehicles per day enter the mine site on the paved road. The mean weight of vehicles is based on average light vehicle weight found for unpaved roads of 6.9 tons. The length of the paved road is 0.38844 miles. The number of trucks per day and twice the length of the route determined annual vehicle miles traveled.

Route	Trucks/Day	Trucks/Yr	VMT/Yr
Light Vehicle Paved Road	30	10950	8507

AP-42, Section 13.2.1 (ver.01/11) "Paved Roads" emission equation

$$\mathrm{E} = k * (\mathrm{sL})^{0.91} * (W)^{1.02} * (1 - P/4N) * VMT$$

Where k = constant PM2.5 = 0.00054
PM10 = 0.016
sL = silt loading (9.7, AP-42 13.2.1, Table 13.2.1-3 "Iron and Steel")
W = mean fleet vehicle weight (6.9 tons)
P = number of days with at least 0.01 in of precip. (Figure 13.2.2-3 = 65 days)
VMT = Vehicle Miles Traveled (8507 mile/year)

Reduction in emissions due to precipitation was only accounted for in the annual emission rate. The unit emission rate for each particle size category is:

Hourly Emission Rate Factor
PM10 = 0.12556 lbs/VMT
PM2.5 = 0.03082 lbs/VMT

Annual Emission Rate Factor
PM10 = 0.11997 lbs/annual VMT
PM2.5 = 0.02945 lbs/annual VMT

Hourly emissions were calculated by multiplying the annual VMT by the hourly emission rate factor and dividing by 8760 hours per year. Annual emissions were calculated by multiplying the annual VMT by the annual emission rate factor and dividing by 2000 pounds/ton.

Table 6-4 summarizes the emission rates for San Juan light vehicle traffic on paved roads.

Table 6-4: Uncontrolled Paved Road Light Vehicle Traffic Fugitive Dust Emission Rates

Unit #	Process Unit Description	Process Rate	PM_{10} Emission Rate (lbs/hr)	PM_{10} Emission Rate (tons/yr)	$PM_{2.5}$ Emission Rate (lbs/hr)	$PM_{2.5}$ Emission Rate (tons/yr)
S23	Light Vehicles	8507 miles/yr	0.12	0.51	0.030	0.13

Total fugitive dust from all vehicle traffic and road maintenance is summarized in Table 6-5 below.

Table 6-5: Pre-Controlled Traffic Fugitive Dust Emission Rates

Unit #	Process Unit Description	Process Rate	PM_{10} Emission Rate (lbs/hr)	PM_{10} Emission Rate (tons/yr)	$PM_{2.5}$ Emission Rate (lbs/hr)	$PM_{2.5}$ Emission Rate (tons/yr)
E9	**Total Fugitive Road Dust**		**334**	**1199**	**33**	**120**

Reclamation and Storage Piles – Bulldozer Operations (Units S29 – S37)

Bulldozers are used to push material during reclamation of previously mined areas, to clean-up coal in the areas around coal storage piles, and to maintain the configurations of coal storage piles. However, the amount of coal pushed to clean-up in the areas around coal storage piles is minimal compared to the amount of coal moved by dozers during maintenance of the Mine's three coal storage piles..

The emission equation for "Bulldozing" of overburden in Table 11.9-1 of AP-42 was used to estimate particulate emissions from pushing overburden during reclamation.

Overburden Pushing during Reclamation
AP-42 Section 11.9, Table 11.9-2

$E_{PM10} = (0.75)\ (1.0)\ (s)^{1.5}/(M)^{1.4}$ lb/hr
$E_{PM2.5} = (0.105)\ (5.7)\ (s)^{1.2}/(M)^{1.3}$ lb/hr
s = % Silt Content
M = % Moisture Content

As explained in Section 7, the emission equation for "Bulldozing" of coal in Table 11.9-1 of AP-42 is not applicable to dozer operation for coal pile maintenance. As also explained in Section 7, the Company has concluded that the above emission equation for "Bulldozing" of overburden is also expected to provide reasonable estimates of the particulate emissions from bulldozers performing coal pile maintenance.

Coal Pile Maintenance
AP-42 Section 11.9, Table 11.9-2

$E_{PM10} = (0.75)\ (1.0)\ (s)^{1.5}/(M)^{1.4}$ lb/hr
$E_{PM2.5} = (0.105)\ (5.7)\ (s)^{1.2}/(M)^{1.3}$ lb/hr
s = % Silt Content
M = % Moisture Content

These emission equations include three inputs; percent silt content of the material moved, percent moisture of the material moved, and the annual hours the bulldozers are moving material. Percent silt content and moisture content for overburden was obtained from AP-42 Section 11.9, Table 11.9-3 "Overburden". Percent silt content for coal was obtained from AP-42 Section 13.2.4, Table 13.2.4-1 "Western Surface Coal Mining - Coal". Percent moisture content for coal was obtained from testing performed by BHP San Juan Mine for coal, which ranges from 8 to 10 percent.

Material	% Silt Content	% Moisture Content
Overburden	6.9	7.9
Coal	6.2	8.0

Bulldozers annual hours of operation were obtained from BHP San Juan Mine personnel. Each bulldozer records the hours the engine is operating. However, during hours the engine is operating, the bulldozer may be idle, or the operator may be filling out paperwork, or machine maintenance may be in progress, or the bulldozer may be pushing material to maintain a pile. Below is a summary of the hours of operation for each bulldozer.

Source Description	Process Area Worked	Annual Meter (Hours)	Actual Material Moving (%)	Annual (Hours)
Tracked Dozers D11R	Coal Push-Coal Plant	4676	86.5%	4044.7
Tracked Dozers D11R	Coal Push-Juniper	2338	76.5%	2022.4
Tracked Dozers D11R	Ash Push-Ash Dump	2338	76.5%	2022.4
Tracked Dozers D11R	Coal Push-Stackout	2338	76.5%	2022.4
Tracked Dozers D11R	Ash Push-Ash Dump	2338	76.5%	2022.4
Tracked Dozers D10R	Reclaim Push	3964	76.5%	3428.9
Tracked Dozers D10T	Coal Push	4012	86.5%	3470.4
Rubber Tired Dozer 834F	Reclaim Push	1863	76.5%	1611.5
Rubber Tired Dozer 834F	GVB Area Push	1863	76.5%	1611.5
	Total	**25730**		**22256.5**

Overburden Pushing during Reclamation

AP-42 Section 11.9, Table 11.9-2

E_{PM10} = (0.75) (1.0) $(6.9)^{1.5}/(7.9)^{1.4}$ lb/hr = 0.753 lbs/hr

$E_{PM2.5}$ = (0.105) (5.7) $(6.9)^{1.2}/(7.9)^{1.3}$ lb/hr = 0.414 lbs/hr

Coal Pushing during Clean-up around Coal Pile

AP-42 Section 11.9, Table 11.9-2

E_{PM10} = (0.75) (1.0) $(6.2)^{1.5}/(8.0)^{1.4}$ lb/hr = 0.630 lbs/hr

$E_{PM2.5}$ = (0.105) (5.7) $(6.2)^{1.2}/(8.0)^{1.3}$ lb/hr = 0.358 lbs/hr

Annual emissions where calculated by multiplying the hourly emission rate by the annual operating hours and dividing by 2000 pounds/ton.

Table 6-4: Bulldozer Fugitive Dust Emission Rates

Unit #	Process Unit Description	Process Rate (Hours)	PM_{10} Emission Rate (lbs/hr)	PM_{10} Emission Rate (tons/yr)	$PM_{2.5}$ Emission Rate (lbs/hr)	$PM_{2.5}$ Emission Rate (tons/yr)
S29	Tracked Dozers D11R	4044.7	0.63	1.3	0.36	0.72
S30	Tracked Dozers D11R	2022.4	0.63	0.64	0.36	0.36
S31	Tracked Dozers D11R	2022.4	0.75	0.76	0.41	0.42
S32	Tracked Dozers D11R	2022.4	0.63	0.64	0.36	0.36
S33	Tracked Dozers D11R	2022.4	0.75	0.76	0.41	0.42
S34	Tracked Dozers D10R	3428.9	0.75	1.3	0.41	0.71
S35	Tracked Dozers D10T	3470.4	0.63	1.1	0.36	0.62
S36	Rubber Tired Dozer 834F	1611.5	0.75	0.61	0.41	0.33
S37	Rubber Tired Dozer 834F	1611.5	0.75	0.61	0.41	0.33
		Total E10	**6.3**	**7.7**	**3.5**	**4.3**

Table 6-5: Bulldozer Fugitive Dust Emission Rates Distribution at San Juan Mine

Operation Location	Process Rate (Hours)	PM_{10} Emission Rate (lbs/hr)	PM_{10} Emission Rate (tons/yr)	$PM_{2.5}$ Emission Rate (lbs/hr)	$PM_{2.5}$ Emission Rate (tons/yr)
Storage Pile near Prep Plant	5201.5	0.84	1.6	0.48	0.93
Juniper Storage Pile	3179.2	0.84	1.0	0.48	0.57
Stackout Storage Pile	3179.2	0.84	1.0	0.48	0.57
North Reclaim Area	5040.4	1.5	1.9	0.83	1.0
South Reclaim Area	4044.7	1.5	1.5	0.83	0.84
GVB Area	1611.5	0.75	0.61	0.41	0.33
	Total	**6.3**	**7.7**	**3.5**	**4.3**

Mine Ventilation Shaft Emissions (Unit S38)

One exhaust vent shaft is used at San Juan Mine -- the ULE Ventilation Shaft (Unit S38). Particulate matter is contained in the exhaust air vented from the underground mine. Some of that particulate matter is emitted by certain mining operations such as drilling, shoveling, loading onto conveyor, etc. However, some of that particular matter is emitted by the various nonroad engines that power some of the underground mining equipment.

For purposes of worker health and safety, MSHA requires the particulate concentration within the air in an underground mine to be no more than 2.0 milligrams per cubic meter of air. In order to estimate total particulate matter that might be exhausted to the atmosphere from San Juan Mine's vent shaft, the concentration of particulate matter in the mine vent exhaust was conservatively assumed to be equal to that maximum concentration allowed by MSHA regulation.

The amount of air exhausted from the ULE Ventilation Shaft it is 812,625 actual cubic feet per minute (ACFM). Using conversion from minutes to hours, cubic feet to meters, and milligrams to pounds, the total particulate matter exhausted through the Mine's ventilation shaft is estimated to be:

Table 6-6: Mine Vents -- Particulate Matter Exhausted

Unit #	Process Unit Description	PM Conc. (mg/m3)	ACFM	Min/Hr	m^3/ft^3	(g/mg)	gram/lb	PM Exhausted (lbs/hr)	PM Exhausted (TPY)
S38 E11	ULE Vent	2.0	812625	60	0.0283168	0.001	453.6	6.1	27

Note: It is assumed that all emissions are PM2.5 or less. Than PM10 = PM2.5.

Wind Erosion Particulate Emissions Coal Storage Pile and Active Disturbed Areas (Units S40 – S45)

Fugitive particulate emissions generated by wind speeds high enough to cause wind erosion were calculated by using the equations and procedures found in AP-42 Section 13.2.5.

The erosion potential function for a dry, exposed surface is:

$$P = k * 58 (u^* - u_t^*)^2 + 25 (u^* - u_t^*)$$

$$P = 0 \text{ for } u^* \leq u_t^*$$

where:

u^* = friction velocity (m/s)

u_t^* = threshold friction velocity (m/s)

k = (TSP = 1); (PM10 = 0.5); (PM2.5 = 0.075)

Information input into the analysis for wind erosion include; the area of the erodible source, the roughness length of the erodible material, the threshold friction velocity of the erodible material, the daily fastest mile of wind (time it takes for 1 mile of wind to travel 1 mile or maximum daily 2-minute wind speed), erodible area shape (pile or flat), and frequency of disturbance. Emissions generated by wind erosion are also dependent on the frequency of disturbance of the erodible surface, because each time that a surface is disturbed, its erosion potential is restored. A disturbance is defined as an action that results in the exposure of fresh surface material to the entire area.

Six areas are identified as sources of erodible material that are frequently disturbed:

1) Stackout Pile – Coal storage pile associated with the conveyor loadout system from the underground mine.
2) Storage Pile near Prep Plant – Coal storage pile used for coal blending prior to transfer to the Prep Plant.
3) Juniper Storage Pile – Coal storage pile used for coal blending and "force majeure" storage.
4) North Reclamation Area – Representative area for ongoing reclamation of old surface mining and waste disposal for fly ash and gypsum from PNM's San Juan Generating Station.
5) South Reclamation Area – Representative area for ongoing reclamation of old surface mining and waste disposal for fly ash and gypsum from PNM's San Juan Generating Station.
6) GVB Area – Disturbed area aboveground involved with support of underground mining.

Roughness length and threshold friction velocity for each area were obtained from Table 13.2.5-2 for the respective erodible material. For all coal piles or storage Table 13.2.5-2 "Uncrusted coal pile" was used. For reclamation areas and the GVB area Table 13.2.5-2 "Overburden" was used.

Sources of Wind Erosion	Area (m^2)	Material	Threshold Friction Velocity (m/s)	Roughness Height (cm)	Frequency of Disturbance (days)
Stackout Pile	12,645	Uncrusted coal pile	1.12	0.3	3
Storage Pile near Prep Plant	95,463	Uncrusted coal pile	1.12	0.3	3
Juniper Pile	111,750	Uncrusted coal pile	1.12	0.3	3
North Reclaim Operation	45,488	Overburden	1.02	0.3	7
South Reclaim Operation	71,050	Overburden	1.02	0.3	7
GVB Disturbed Area	18,375	Overburden	1.02	0.3	7

Fastest mile data was obtained from "Local Climatologically Data" LCD for Albuquerque in 2011. To represent the fastest mile, the maximum daily 2-minute wind speed was input into the wind erosion equation to determine if the wind speed was high enough to generated wind erosion emissions. Since the anemometer at the Albuquerque Airport meteorological tower is only 23 feet tall (7.0 meters), the wind speed is adjusted to 10 meters using the following equation:

$$u_{10} = u^{+} (\ln(10/0.005)/\ln(z/0.005)$$

where:
a typical roughness height of 0.5 cm (0.005 m) has been assumed.
z = reference height measured.
u^{+} = wind speed at reference height.

For flat areas or flat piles, u^{*} is determined by multiplying the u_{10} by 0.053 as found in the equation below.

$$u^{*} = u_{10} * 0.053$$

where:
u^{*} = friction velocity (m/s).
u_{10} = fastest mile of 10 meters for period between disturbances (m/s).

For conical piles (Stackout Pile), u^{*} is determined by multiplying u_{10} by the pile regime ratio ($u_r/u_{s)}$ and then by 0.1 as found in the equation below.

$$u^{*} = u_{10} * (u_r/u_{s)} * 0.1$$

where:
u^{*} = friction velocity (m/s).
u_{10} = fastest mile of 10 meters for period between disturbances (m/s).
u_r/u_s = conical pile regime ratio
(0.2 regime for 40% of surface area , 0.6 regime for 48% of surface area, and 0.9 regime for 12% of surface area).

Hourly emission rates were calculated by dividing the annual pounds per year emission rate by 8760 hours per year. Annual emission rates were calculated by dividing the annual pounds per year emission rate by 2000 pounds/ton.

Wind erosion particulate matter emissions are calculated on a separate emissions spreadsheet and are summarized below in Table 6-7.

Table 6-7: Wind Erosion Particulate Emission Rates

Unit #	Process Unit Description	PM_{10} Emission Rate (lbs/hr)	PM_{10} Emission Rate (tons/yr)	$PM_{2.5}$ Emission Rate (lbs/hr)	$PM_{2.5}$ Emission Rate (tons/yr)
S40	Stackout Pile	0.64	2.8	0.096	0.42
S41	Storage Pile near Prep Plant	0.30	1.3	0.046	0.20
S42	Juniper Pile	0.34	1.5	0.053	0.23
S43	North Reclaim Operations	0.34	1.5	0.053	0.23
S44	South Reclaim Operations	0.55	2.4	0.082	0.36
S45	GVB Disturbed Area	0.14	0.61	0.021	0.092
	Total Wind Erosion E13	**2.3**	**10**	**0.35**	**1.5**

Controlled Unpaved Road Traffic

Haul truck travel emissions were estimated using AP-42, Section 13.2.2 (ver.11/06) "Unpaved Roads" emission equation. Unpaved road traffic includes haul truck roads transporting coal, ash, and gypsum and light vehicles used on access roads for transport of personnel and maintenance vehicles. Fugitive dust control for both haul and access roads is the application of water by water truck. Percent control efficiency is estimated by the use of percent control efficiency equation found in MRI "Control of Open Fugitive Dust Source" EPA-450/3-88-008, Section 3.3.3.1 Watering. The equation is presented below:

%CE = 100-(0.8*p*d*t)/i

p = Class A Pan Evaporation Rate (mm/hr)
d = Average hourly daytime traffic rate (hr^-1)
t = time between application (hr)
i = application intensity (L/m3)

Shiprock Class A Pan Evaporation Rate for 1926 - 2005 = 73.16 inches/yr
Evaporation occurred during middle 7 months or 5110 hour/year
p = 73.16 in/yr / 5110 hr/yr * 25.4 mm/inch = 0.3637 mm/hr

Control of haul roads was determined in the following calculations:

Haul Truck Trips per Year =	86418	truck/yr
Ash/Gypsum =	31806	truck/yr
Coal =	54612	truck/yr
d Ash/Gypsum = 31806 /16 hours/day - 7 days/week =	5.45	truck/hr
d Coal = 54612 / 16 hr/day - 5 days/week =	6.68	truck/hr
d ave = 5.45 *31806 / 86418 + 6.68 * 54612 /86418 =	6.23	truck/hr
Water Truck 20,000 gallons - 12 loads per shift		
2 shifts per day		
Gallons/application = 20000 gal/load * 4 load/application	80000	gallons/application
	302832	Liters/application
t = 6 applications/day over 16 hours =	2.67	hr
Road Length		
Ash/Gypsum =	5706	meter
Coal =	5580	meter
Total Haul Roads	**11286**	**meter**
road width =	30	meter
road area =	338580	sq. meters
i = gal/load / road sq. meters	0.894418	L/m2/application
%CE = 100-(0.8*p*d*t)/i	94.6	%

Control of light vehicle traffic roads was determined in the following calculations:

d Light truck =	4.1	truck/hr
Water Truck 4,000 gallons - 12 loads per shift		
2 shifts per day		
Gallons/application = 6 loads/application * 4000 gal/load	24000	gallons/application
	90847.6	Liters/application
t = 39 loads/day over 24 hours =	4	hr
Road Length	19140	meter
road width =	20	meter
road area =	382800	sq. meters
i = gal/load / road sq. meters	0.237329	L/m2/application
%CE = 100-(0.8*p*d*t)/i	79.9	%

Reduction in emissions due to precipitation was only accounted for in the annual emission rate. Particulate emission rate per vehicle mile traveled for each particle size category is:

Haul Truck Traffic

Hourly Emission Rate Factor Haul Roads 94.6% Control
PM10 = 0.34399 lbs/VMT
PM2.5 = 0.03440 lbs/VMT

Annual Emission Rate Factor Haul Roads 94.6% Control
PM10 = 0.28273 lbs/annual VMT
PM2.5 = 0.02827 lbs/annual VMT

Light Vehicle Traffic

Hourly Emission Rate Factor Light Vehicle Assess Roads 79.9% Control
PM10 = 0.20364 lbs/VMT
PM2.5 = 0.02036 lbs/VMT

Annual Emission Rate Factor Light Vehicle Assess Roads 79.9% Control
PM10 = 0.16738 lbs/annual VMT
PM2.5 = 0.01674 lbs/annual VMT

The controlled hourly and annual emissions where calculated by using the following equations.

Uncontrolled emission rate * (1 - %control efficiency/100) = Controlled emission rate

Table 6-8 summarizes the unpaved road emission rates for San Juan Mine haul truck traffic and light vehicle traffic.

Table 6-8: Controlled Haul Road Fugitive Dust Emission Rates

Unit #	Process Unit Description	Control Efficiency (%)	PM_{10} Emission Rate (lbs/hr)	PM_{10} Emission Rate (tons/yr)	$PM_{2.5}$ Emission Rate (lbs/hr)	$PM_{2.5}$ Emission Rate (tons/yr)
S24, S25, S26	Haul Trucks	94.6	15	53	1.5	5.3
S27	Light Vehicles	79.9	12	42	1.2	4.2
		Total	26	94	2.6	9.4

Total controlled fugitive dust from all vehicle traffic is summarized in Table 6-9 below.

Table 6-9: Traffic Fugitive Dust Emission Rates

Unit #	Process Unit Description	PM_{10} Emission Rate (lbs/hr)	PM_{10} Emission Rate (tons/yr)	$PM_{2.5}$ Emission Rate (lbs/hr)	$PM_{2.5}$ Emission Rate (tons/yr)
S23	Light Vehicles	0.12	0.51	0.030	0.13
S24, S25, S26	Haul Trucks	15	53	1.5	5.3
S27	Light Vehicles	12	42	1.2	4.2
S28	Grader	3.8	12	0.35	1.0
E9	**Total Fugitive Road Dust**	**30**	**106**	**3.0**	**11**

Table 6-10: Total Plant Wide (Except Emergency Generators) Particulate Matter Uncontrolled Emission Rates

Source ID	Emission Unit ID	Source Description	Uncontrolled			
			PM10		PM2.5	
			(lbs/hr)	TPY	(lbs/hr)	TPY
S1	**E1**	**Mine Conveyor UG to Transfer Twr 1**	**0.56**	**0.72**	**0.086**	**0.11**
S2	**E2**	**Mine Trans Twr 1 to Trans Twr 2**	**0.56**	**0.72**	**0.086**	**0.11**
S3	**E3**	**Mine Stacker Conveyor**	**0.56**	**0.72**	**0.086**	**0.11**
S4	**E4**	**Truck Loading at Stackout Pile**	**1.9**	**2.4**	**0.29**	**0.36**
S5	**E5**	**Prep Plant Hoppers Loading**	**1.9**	**2.4**	**0.29**	**0.36**
S6		Hopper 1 > Feeder 1 TP	0.071	0.090	0.011	0.014
S7		Hopper 2 > Feeder 2 TP	0.071	0.090	0.011	0.014
S8		Hopper 3 > Feeder 3 TP	0.071	0.090	0.011	0.014
S9		Hopper 4 > Feeder 4 TP	0.071	0.090	0.011	0.014
S10		Feeder 1 > Chute 1 TP	0.071	0.090	0.011	0.014
S11		Feeder 2 > Chute 1 TP	0.071	0.090	0.011	0.014
S12		Feeder 3 > Chute 2 TP	0.071	0.090	0.011	0.014
S13		Feeder 4 > Chute 2 TP	0.071	0.090	0.011	0.014
S14		Chute 1 > Conv 1 TP	0.038	0.048	0.0057	0.0073
S15		Chute 2 > Conv 1 TP	0.038	0.048	0.0057	0.0073
S16		Conv to Conv TP	0.075	0.10	0.011	0.015
	E6	**Total Coal Hoppers**	**0.72**	**0.91**	**0.11**	**0.14**
S17		Conv to Feed Bin TP	0.28	0.36	0.043	0.055
S18		Crusher 1	0.10	0.16	0.015	0.024
S19		Crusher 2	0.10	0.16	0.015	0.024
S20		Crusher 3	0.10	0.16	0.015	0.024
S21		Crusher 4	0.10	0.16	0.015	0.024
	E7	**Total Crusher Building Vent**	**0.69**	**0.99**	**0.10**	**0.15**
S22		Conv > Conv TP	0.075	0.10	0.011	0.015
	E8	**Total Transfer Tower Building Vent**	**0.075**	**0.10**	**0.011**	**0.015**
S23		Light Vehicle Traffic - Paved Road	0.12	0.51	0.030	0.13
S24		Coal Haul Traffic	110	395	11	40
S25		Ash Haul Traffic	151	542	15	54
S26		Gypsum Haul Traffic	12	43	1.2	4.3
S27		Light Vehicle Traffic - Unpaved Road	57	207	5.7	21
S28		Grader - Road Maintenance	3.8	11	0.35	1.0
	E9	**Total Fugitive Road Dust Emissions**	**334**	**1199**	**33**	**120**
S29		Dozer – Pile Maintenance -Pile near Prep Plant	0.63	1.3	0.36	0.72

Table 6-10: Total Plant Wide (Except Emergency Generators) Particulate Matter Uncontrolled Emission Rates

Source ID	Emission Unit ID	Source Description	Uncontrolled			
			PM10		PM2.5	
			(lbs/hr)	TPY	(lbs/hr)	TPY
S30		Dozer – Pile Maintenance- Juniper Pile	0.63	0.64	0.36	0.36
S31		Dozer - Ash Push-Ash Dump	0.75	0.76	0.41	0.42
S32		Dozer - Pile Maintenance- Stackout Pile	0.63	0.64	0.36	0.36
S33		Dozer - Ash Push-Ash Dump	0.75	0.76	0.41	0.42
S34		Dozer - Reclaim Push	0.75	1.3	0.41	0.71
S35		Dozer - Coal Push	0.63	1.1	0.36	0.62
S36		Dozer - Reclaim Push	0.75	0.61	0.41	0.33
S37		Dozer - GVB Area Push	0.75	0.61	0.41	0.33
	E10	**Total Dozer Activities**	**6.3**	**7.7**	**3.5**	**4.3**
S38	**E11**	**ULE Vent**	**6.1**	**27**	**6.1**	**27**
S40		Stackout Pile Wind Erosion	0.64	2.8	0.096	0.42
S41		Pile near Prep Plant Wind Erosion	0.30	1.3	0.046	0.20
S42		Juniper Pile Wind Erosion	0.34	1.5	0.053	0.23
S43		North Reclaim Wind Erosion	0.34	1.5	0.053	0.23
S44		South Reclaim Wind Erosion	0.55	2.4	0.082	0.36
S45		GVB Area Wind Erosion	0.14	0.61	0.021	0.092
	E13	**Total Wind Erosion**	**2.3**	**10**	**0.35**	**1.5**
		Total Coal Plant	**3.4**	**4.4**	**0.51**	**0.67**
		Total	**355**	**1252**	**44**	**154**

Table 6-11: Total Plant Wide (Except Emergency Generators) Particulate Matter Requested Allowable Emission Rates

Source ID	Emission Unit ID	Source Description	Requested Allowable			
			PM10		PM2.5	
			(lbs/hr)	TPY	(lbs/hr)	TPY
S1	**E1**	**Mine Conveyor UG to Transfer Twr 1**	**0.56**	**0.72**	**0.086**	**0.11**
S2	**E2**	**Mine Trans Twr 1 to Trans Twr 2**	**0.56**	**0.72**	**0.086**	**0.11**
S3	**E3**	**Mine Stacker Conveyor**	**0.56**	**0.72**	**0.086**	**0.11**
S4	**E4**	**Truck Loading at Stackout Pile**	**1.9**	**2.4**	**0.29**	**0.36**
S5	**E5**	**Prep Plant Hoppers Loading**	**1.9**	**2.4**	**0.29**	**0.36**
S6		Hopper 1 > Feeder 1 TP	0.071	0.090	0.011	0.014
S7		Hopper 2 > Feeder 2 TP	0.071	0.090	0.011	0.014
S8		Hopper 3 > Feeder 3 TP	0.071	0.090	0.011	0.014
S9		Hopper 4 > Feeder 4 TP	0.071	0.090	0.011	0.014
S10		Feeder 1 > Chute 1 TP	0.071	0.090	0.011	0.014
S11		Feeder 2 > Chute 1 TP	0.071	0.090	0.011	0.014
S12		Feeder 3 > Chute 2 TP	0.071	0.090	0.011	0.014
S13		Feeder 4 > Chute 2 TP	0.071	0.090	0.011	0.014
S14		Chute 1 > Conv 1 TP	0.038	0.048	0.0057	0.0073
S15		Chute 2 > Conv 1 TP	0.038	0.048	0.0057	0.0073
S16		Conv to Conv TP	0.075	0.10	0.011	0.015
	E6	**Total Coal Hoppers**	**0.72**	**0.91**	**0.11**	**0.14**
S17		Conv to Feed Bin TP	0.28	0.36	0.043	0.055
S18		Crusher 1	0.10	0.16	0.015	0.024
S19		Crusher 2	0.10	0.16	0.015	0.024
S20		Crusher 3	0.10	0.16	0.015	0.024
S21		Crusher 4	0.10	0.16	0.015	0.024
	E7	**Total Crusher Building Vent**	**0.69**	**0.99**	**0.10**	**0.15**
S22		Conv > Conv TP	0.075	0.10	0.011	0.015
	E8	**Total Transfer Tower Building Vent**	**0.075**	**0.10**	**0.011**	**0.015**
S23		Light Vehicle Traffic - Paved Road	0.12	0.51	0.030	0.13
S24		Coal Haul Traffic	5.9	21.3	0.59	2.1
S25		Ash Haul Traffic	8.1	29	0.81	2.9
S26		Gypsum Haul Traffic	0.65	2.3	0.065	0.23
S27		Light Vehicle Traffic - Unpaved Road	12	42	1.2	4.2
S28		Grader - Road Maintenance	3.8	11	0.35	1.0
	E9	**Total Fugitive Road Dust Emissions**	**30**	**106**	**3.0**	**11**

Table 6-11: Total Plant Wide (Except Emergency Generators) Particulate Matter Requested Allowable Emission Rates

Source ID	Emission Unit ID	Source Description	Requested Allowable			
			PM10		PM2.5	
			(lbs/hr)	TPY	(lbs/hr)	TPY
S29		Dozer – Pile Maintenance -Pile near Prep Plant	0.63	1.3	0.36	0.72
S30		Dozer – Pile Maintenance- Juniper Pile	0.63	0.64	0.36	0.36
S31		Dozer - Ash Push-Ash Dump	0.75	0.76	0.41	0.42
S32		Dozer - Pile Maintenance- Stackout Pile	0.63	0.64	0.36	0.36
S33		Dozer - Ash Push-Ash Dump	0.75	0.76	0.41	0.42
S34		Dozer - Reclaim Push	0.75	1.3	0.41	0.71
S35		Dozer - Coal Push	0.63	1.1	0.36	0.62
S36		Dozer - Reclaim Push	0.75	0.61	0.41	0.33
S37		Dozer - GVB Area Push	0.75	0.61	0.41	0.33
	E10	**Total Dozer Activities**	**6.3**	**7.7**	**3.5**	**4.3**
S38	**E11**	**ULE Vent**	**6.1**	**27**	**6.1**	**27**
S40		Stackout Pile Wind Erosion	0.64	2.8	0.096	0.42
S41		Pile near Prep Plant Wind Erosion	0.30	1.3	0.046	0.20
S42		Juniper Pile Wind Erosion	0.34	1.5	0.053	0.23
S43		North Reclaim Wind Erosion	0.34	1.5	0.053	0.23
S44		South Reclaim Wind Erosion	0.55	2.4	0.082	0.36
S45		GVB Area Wind Erosion	0.14	0.61	0.021	0.092
	E13	**Total Wind Erosion**	**2.3**	**10**	**0.35**	**1.5**
		Total Coal Plant	**3.4**	**4.4**	**0.51**	**0.67**
		Total	**52**	**160**	**14**	**44**

Emergency Generators (EG-1 through EG-6) Emission Calculations[1]

Several stationary compression ignition (diesel) and spark ignition (LP) reciprocating internal combustion engines are used to provide emergency standby power at the San Juan Mine. Table 6-13 lists each of these engines and its potential emissions. The emission factors in AP-42 Section 3, Table 3.3-1 for CI and SI engines along with the emission limits published by EPA for Tier I, II, and III engines were used to estimate the emissions from each engine. Consistent with NMED and EPA guidance,[2] 500 hours per year was used to calculate the annual potential emissions for each emergency engine. As explained in Section 13 – Supplement 2 and in new Section 15, Units EG-5* and EG-6* are currently placed in a "cold storage" rather than an emergency standby status. ..

The general equations used to calculate emissions for each emergency generator are:

NO_x (lbs/yr) = engine horsepower (bhp) * EF (AP-42 or Tier I, II, III emission limit)
CO (lbs/yr) = engine horsepower (bhp) * EF (AP-42 or Tier I, II, III emission limit)
SO_2 (lbs/yr) = engine horsepower (bhp) * (BSFC) brake specific fuel consumption (lbs/hp-hr fuel) * % sulfur in fuel * (64 lb/lb-mole SO_2 /32 lb/lb-mole S)
PM (lbs/yr) = engine horsepower (bhp) * EF (AP-42 or Tier I, II, III emission limit)
VOC (lbs/yr) = engine horsepower (bhp) * EF (AP-42 or Tier I, II, III emission limit)

Table 6-12 summarizes the emissions for each of the emergency generators (EG) on a 500-hour annual basis.

Table 6-12 Emergency Standby Generators EG1 - EG6 emissions. (Based on 500 hours per year)

Engine No	Unit Description	BHP	Type	NOX		CO		SO2*		PM		VOC	
				lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr
EG-1	Underground Control Room Emergency Standby Generator	99.9	CI	0.77	0.19	0.82	0.21	0.04	0.01	0.07	0.02	0.08	0.02
EG-2	Tube Bundle Analyzer Emergency Standby Generator	99	CI	1.51	0.38	0.66	0.17	0.04	0.01	0.22	0.05	0.24	0.06
EG-3	ULE Emergency Escape Hoist System Emergency Standby Generator	161	SI	1.77	0.44	1.12	0.28	0.06	0.01	0.12	0.03	2.42	0.60
EG-4	Coal Plant Secondary Building Emergency Standby Generator	16	SI	0.18	0.04	0.11	0.03	0.01	0.001	0.01	0.003	0.24	0.06
EG-5*	KFC Emergency Escape Hoist System Emergency Cold Storage Generator	78	CI	1.19	0.30	0.52	0.13	0.03	0.01	0.17	0.04	0.19	0.05
EG-6*	Caterpillar Emergency Cold Storage Generator	810	CI	25.11	6.28	5.41	1.35	0.29	0.07	1.78	0.45	1.96	0.49
			Total	**30.52**	**7.63**	**8.65**	**2.16**	**0.46**	**0.11**	**2.36**	**0.59**	**5.12**	**1.28**

* EG-5 and EG-6 operate only during Alternative Operating Scenario #1.

[1] These estimated emission rates have been provided in response to NMED's request. San Juan Coal Company understands that no emission limits will be established on the basis of this information, and that the above emission information is for informational purposes only. EG-1 is the only emergency generator subject to emission limitations as a result of NSPS Subpart IIII applicability. Consistent with NMED's past practice, because the other 5 emergency generators are not subject to any substantive applicable requirement, such as an emission limit or a control requirement, the Company understands that those 5 emergency generators will still be classified as "insignificant activities" for Title V purposes.

[2] NMED Operating Permit Program, "List of Insignificant Activities," ¶ 7, Mar. 24, 2005; Memorandum from John Seitz, EPA OAQPS, to EPA Regional Air Directors, of Sept. 6, 1995 ("Calculating Potential to Emit (PTE) for Emergency Generators").

Table 6-13 provides the emission inputs and factors used to calculate the emissions for each pollutant.

Table 6-13 Emergency Generator Emission Calculations Inputs and Emission Factors

Emission Calculations Inputs

% S in diesel fuel = 0.05% 0.0005

Emergency Hours = 500

Unit	Pollutant	Basis of Calculation	EF	Unit	Criteria
EG1	NO_x	Tier III Emission Limits	4.7	g/kw-hr	Nox+NMHC Assume 90% of it is NOx
	CO	Tier III Emission Limits	5	g/kw-hr	
	SO_2	BSFC factor	3.60E-001	lbs/hp-hr fuel	BSFC factor * % S in fuel * (SO_2/S ratio)
	PM	Tier III Emission Limits	0.4	g/kw-hr	
	VOC	Tier III Emission Limits	0.47	g/kw-hr	Assume 10% is VOC
EG2	NO_x	Tier I Emission Limits	6.9	g/hp-hr	
	CO	AP-42 Table 3.3-1 CI factor	0.00668	lbs/hp-hr	
	SO_2	BSFC factor	3.60E-001	lbs/hp-hr fuel	BSFC factor * % S in fuel * (SO_2/S ratio)
	PM	AP-42 Table 3.3-1 CI factor	0.0022	lbs/hp-hr	
	VOC	AP-42 Table 3.3-1 CI factor	0.00242	lbs/hp-hr	
EG3	NO_x	AP-42 Table 3-3-1 SI factor	0.011	lbs/hp-hr	
	CO	AP-42 Table 3-3-1 SI factor	0.00696	lbs/hp-hr	
	SO_2	BSFC factor	3.60E-001	lbs/hp-hr fuel	BSFC factor * % S in fuel * (SO_2/S ratio)
	PM	AP-42 Table 3-3-1 SI factor	0.000721	lbs/hp-hr	
	VOC	AP-42 Table 3-3-1 SI factor	0.015	lbs/hp-hr	
EG4	NO_x	AP-42 Table 3-3-1 SI factor	0.011	lbs/hp-hr	
	CO	AP-42 Table 3-3-1 SI factor	0.00696	lbs/hp-hr	
	SO_2	BSFC factor	3.60E-001	lbs/hp-hr fuel	BSFC factor * % S in fuel * (SO_2/S ratio)
	PM	AP-42 Table 3-3-1 SI factor	0.000721	lbs/hp-hr	
	VOC	AP-42 Table 3-3-1 SI factor	0.015	lbs/hp-hr	
EG5	NO_x	Tier I Emission Limits	6.9	g/hp-hr	
	CO	AP-42 Table 3.3-1 CI factor	0.00668	lbs/hp-hr	
	SO_2	BSFC factor	3.60E-001	lbs/hp-hr fuel	BSFC factor * % S in fuel * (SO_2/S ratio)
	PM	AP-42 Table 3.3-1 CI factor	0.0022	lbs/hp-hr	
	VOC	AP-42 Table 3.3-1 CI factor	0.00242	lbs/hp-hr	
EG6	NO_x	AP-42 Table 3.3-1 CI factor	0.031	lbs/hp-hr	
	CO	AP-42 Table 3.3-1 CI factor	0.00668	lbs/hp-hr	
	SO_2	BSFC factor	3.60E-001	lbs/hp-hr fuel	BSFC factor * % S in fuel * (SO_2/S ratio)
	PM	AP-42 Table 3.3-1 CI factor	0.0022	lbs/hp-hr	
	VOC	AP-42 Table 3.3-1 CI factor	0.00242	lbs/hp-hr	

Gasoline Dispensing Facility, SJ-7, VOC Emissions[1]

US EPA's TANKS emission estimation software, version 4.09D was used to estimate volatile organic compound (VOC) emissions from the 6500-gallon gasoline tank at the San Juan Mine. The calculated VOC emissions for SJ-7 were 3028 lbs/yr. The TANKS input parameters and outputs Table are shown below:

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Identification and Physical Characteristics

Identification		
User Identification:	SJ-7	
City:	Albuquerque	
State:	New Mexico	
Company:	BHP San Juan Mine	
Type of Tank:	Horizontal Tank	
Description:	BHP San Juan Mine Above Ground Gas Tank	
Tank Dimensions		
Shell Length (ft):		18.00
Diameter (ft):		8.00
Volume (gallons):		6,500.00
Turnovers:		30.00
Net Throughput(gal/yr):		195,000.00
Is Tank Heated (y/n):	N	
Is Tank Underground (y/n):	N	
Paint Characteristics		
Shell Color/Shade:	White/White	
Shell Condition	Good	
Breather Vent Settings		
Vacuum Settings (psig):		-0.03
Pressure Settings (psig)		0.03

Meteorological Data used in Emissions Calculations: Albuquerque, New Mexico (Avg. Atmospheric Pressure = 12.15 psia)

[1] San Juan Coal Company understands that no emission limits will be established on the basis of this information, and that the above emission information is for informational purposes only. Consistent with NMED's past practice, because the Mine's gasoline dispensing facility is not subject to any substantive applicable requirement, such as an emission limit or a control requirement, the Company understands that the gasoline dispensing facility will still be classified as an "insignificant activity" for Title V purposes.

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

SJ-7 - Horizontal Tank
Albuquerque, New Mexico

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Gasoline (RVP 10)	All	58.54	51.41	65.66	56.17	5.0402	4.3776	5.7809	66.0000			92.00	Option 4: RVP=10, ASTM Slope=3

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

SJ-7 - Horizontal Tank
Albuquerque, New Mexico

Annual Emission Calculations	
Standing Losses (lb):	1,483.7984
Vapor Space Volume (cu ft):	576.2922
Vapor Density (lb/cu ft):	0.0598
Vapor Space Expansion Factor:	0.2439
Vented Vapor Saturation Factor:	0.4834
Tank Vapor Space Volume:	
Vapor Space Volume (cu ft):	576.2922
Tank Diameter (ft):	8.0000
Effective Diameter (ft):	13.5440
Vapor Space Outage (ft):	4.0000
Tank Shell Length (ft):	18.0000
Vapor Density	
Vapor Density (lb/cu ft):	0.0598
Vapor Molecular Weight (lb/lb-mole):	66.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	5.0402
Daily Avg. Liquid Surface Temp. (deg. R):	518.2062
Daily Average Ambient Temp. (deg. F):	56.1542
Ideal Gas Constant R (psia cuft / (lb-mol-deg R)):	10.731
Liquid Bulk Temperature (deg. R):	515.8442
Tank Paint Solar Absorptance (Shell):	0.1700
Daily Total Solar Insulation Factor (Btu/sqft day):	1,765.3167
Vapor Space Expansion Factor	
Vapor Space Expansion Factor:	0.2439
Daily Vapor Temperature Range (deg. R):	28.5089
Daily Vapor Pressure Range (psia):	1.4033
Breather Vent Press. Setting Range(psia):	0.0600
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	5.0402
Vapor Pressure at Daily Minimum Liquid Surface Temperature (psia):	4.3776
Vapor Pressure at Daily Maximum Liquid Surface Temperature (psia):	5.7809
Daily Avg. Liquid Surface Temp. (deg R):	518.2062
Daily Min. Liquid Surface Temp. (deg R):	511.0790
Daily Max. Liquid Surface Temp. (deg R):	525.3334
Daily Ambient Temp. Range (deg. R):	27.9250
Vented Vapor Saturation Factor	
Vented Vapor Saturation Factor:	0.4834
Vapor Pressure at Daily Average Liquid: Surface Temperature (psia):	5.0402
Vapor Space Outage (ft):	4.0000
Working Losses (lb):	1,544.4557
Vapor Molecular Weight (lb/lb-mole):	66.0000
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	5.0402
Annual Net Throughput (gal/yr.):	195,000.0000
Annual Turnovers:	30.0000
Turnover Factor:	1.0000
Tank Diameter (ft):	8.0000
Working Loss Product Factor:	1.0000
Total Losses (lb):	3,028.2541

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: Annual

SJ-7 - Horizontal Tank
Albuquerque, New Mexico

Table 6-14 Gasoline Dispensing Facility SJ-7 VOC Emissions

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Gasoline (RVP 10)	1,544.46	1,483.80	3,028.25

Gasoline Dispensing Facility, SJ-7, HAP Emissions

Hazardous Air Pollutant emissions from the gasoline dispensing facility, SJ-7, were calculated using the normal fuel percentages from EPA's "Technical Guidance – Stage II Vapor Recovery System for Control of Vehicle Refueling Emissions at Gasoline Dispensing Facilities, Vol. I," Table 3-2, Nov. 1991. . Estimated total HAP emissions for SJ-7 is 145 lbs/yr.

Example Calculation:
Hexane (lbs/yr) = VOC (lbs/yr) * % hexane in normal fuel.

Total VOCs **3028.25 lbs/yr TANKS 4.0 estimated emissions**

Table 6-15 Gasoline Dispensing Facility SJ-7 HAP Emissions

	Normal Fuel		
HAPs List	**%**	**lbs/yr**	**tpy**
Hexane	1.60%	48	0.024
Benzene	0.90%	27	0.014
Toluene	1.30%	39	0.020
2,2,4 Trimethylpentane	0.80%	24	0.012
Xylenes	0.50%	15	0.0076
Ethylbenzene	0.10%	3	0.0015
Naphthalene	0.50%	15	0.0076
Cumene	0.10%	3	0.0015
MTBE			
Total HAPs	**4.80%**	**145**	**0.073**

Section 7

Information Used To Determine Emissions

<u>Information Used to Determine Emissions</u> shall include the following:

- ☐ If manufacturer data are used, include specifications for emissions units <u>and</u> control equipment, including control efficiencies specifications and sufficient engineering data for verification of control equipment operation, including design drawings, test reports, and design parameters that affect normal operation.
- ☐ If test data are used, include a copy of the complete test report. If the test data are for an emissions unit other than the one being permitted, the emission units must be identical. Test data may not be used if any difference in operating conditions of the unit being permitted and the unit represented in the test report significantly effect emission rates.
- ☐ If the most current copy of AP-42 is used, reference the section and date located at the bottom of the page. Include a copy of the page containing the emissions factors, and clearly mark the factors used in the calculations.
- ☐ If an older version of AP-42 is used, include a complete copy of the section.
- ☐ If an EPA document or other material is referenced, include a complete copy.
- ☐ Fuel specifications sheet.
- ☐ If computer models are used to estimate emissions, include an input summary (if available) and a detailed report, and a disk containing the input file(s) used to run the model. For tank-flashing emissions, include a discussion of the method used to estimate tank-flashing emissions, relative thresholds (i.e., permit or major source (NSPS, PSD or Title V)), accuracy of the model, the input and output from simulation models and software, all calculations, documentation of any assumptions used, descriptions of sampling methods and conditions, copies of any lab sample analysis.

		File Name:
Bulldozers:	AP-42 Section 11.9	A-XXXX-7-AP42S11-9
Graders:	AP-42 Section 11.9	A-XXXX-7-AP42S11-9
Crushers:	AP-42 Section 11.19.2	A-XXXX-7-AP42S11-19-2
Paved Roads:	AP-42 Section 13.2.1	A-XXXX-7-AP42S13-2-1
Unpaved Roads:	AP-42 Section 13.2.2	A-XXXX-7-AP42S13-2-2
Material Handling:	AP-42 Section 13.2.4	A-XXXX-7-AP42S13-2-4
Wind Erosion:	AP-42 Section 13.2.5	A-XXXX-7-AP42S13-2-5
Wind Erosion:	Fastest Mile Data Alb 2011	A-XXXX-7-FastestMileAlb2011
Wind Erosion:	Wind Erosion Spreadsheet	A-XXXX-7-WindErosionAlb2011

Revised Information for Determining Certain Emissions

I. PARTICULATE EMISSIONS FROM DOZER OPERATIONS ON COAL

In estimating the Mine's potential to emit particulate matter, the original application explains how the Company had evaluated various emission factors for coal <u>preparation facilities</u> before selecting factors that appeared to most likely represent emissions from types of those facilities at San Juan Mine. However, emission factors for subsequent

estimates of particulate emissions from the Mine's mining activities for input to the application's dispersion modeling had not undergone a similar examination.
Nevertheless, aside from particulate emission factors for coal mining activities from AP-42, the availability of other particulate emission factors for those activities was found to be very limited. Consequently, the Company's assessment of particulate emission factors for mining activities focused on those from AP-42. Because the AP-42 emission factors were based heavily on results of field testing over 25 years ago, those resultant emission factors were expressed in terms of TSP. As explained in Section 6, emission factors for TSP have been multiplied by designated scaling factors or coefficients in order to obtain the corresponding emission factors for PM_{10} and $PM_{2.5}$ that were used in the Company's application.

To qualitatively evaluate whether TSP-based emission factors from AP-42 appeared to reasonably represent particulate emissions from San Juan Mine's particular mining activities, hourly and annual TSP emission rates were calculated for each different type of mining activity by applying the AP-42 factor/equation for that activity. The representativeness of each calculated emission rate was evaluated by comparing it to the calculated emission rates for the other mining activities. A familiarity with each individual mining activity at the Mine coupled with visual observations over time of the typical extent of visible particulate emissions from each specific activity informed an engineering judgment of the reasonableness of the relative magnitudes of those calculated emission rates. In making that qualitative comparison of emission rates, calculated emissions for dozers operating on coal appeared to be inordinately high relative to calculated emission rates for the other mining activities.

In particular, TSP emissions from each of the three coal piles were estimated with the AP-42 emission equation for bulldozers operating on coal at western surface coal mines.[1] Specifically, those TSP emission rates from dozer operation on the three coal piles at San Juan Mine were estimated to be the following:

San Juan Mine
Using AP-42, Sec. 11.9 Dozer on Coal Emission Equation

	TSP, lb/hr	TSP, tpy[2]
Stackout Pile	46.9	75
Juniper Pile	46.9	75
Pile near Coal Prep Plant	46.9	122

As explained above, calculated TSP emission rates for dozers operating on the three storage piles of raw coal were particularly notable because they were so much higher than calculated TSP emission rates from the other coal mining activities. In light of those findings, the Company decided to examine the basis for the AP-42 emission equation for dozer operation on a coal in more detail before deciding that use of that particular AP-42 emission equation was appropriate for estimating TSP emitted from dozers performing coal pile maintenance at San Juan Mine.

In estimating particulate emissions from dozers performing coal pile maintenance at the Mine, the Company has had to rely on the AP-42 emission equation for dozers operating on coal because there are no other suitable methodologies available for estimating that type of emissions. There has been no source-specific testing of coal pile maintenance emissions at San Juan Mine, and continuous emission monitors for measuring such fugitive emissions have not been developed. Estimating coal pile maintenance emissions with a material balance is not applicable in this instance (1) because the mass of coal loaded-in and the mass of coal loaded-out could not be accurately measured to the degree necessary for the difference in those numbers to be accurate, and (2) because the mass of coal in the pile itself also could not be accurately measured to the degree necessary. Thus, the use of emission factors to estimate TSP emissions from dozers performing coal pile maintenance appears to be one of those situations where EPA acknowledges that reliance on emission factors "may be necessary as a last resort."[3]

[1] AP-42, Section 11.9, Table 11.9-1 (7/98).
[2] BHP Billiton, San Juan Mine – Dispersion Model Protocol, 20.
[3] EPA, AP-42, Introduction at 3.

However, after evaluating the origin of the AP-42 emission equation for bulldozer operation on coal at western surface coal mines, the Company has concluded, as explained below, that reasonable estimates of TSP (and therefore PM_{10} and $PM_{2.5}$) emissions from dozers maintaining raw coal piles at San Juan Mine likely cannot be obtained by using that AP-42 emission equation. Therefore, SJCC found it necessary to use an alternative emission factor that would be more appropriate for the coal pile maintenance by dozers at San Juan Mine.

A. Rationale for Not Using AP-42 Emission Equation

Original estimates of TSP emissions from dozer operations on raw coal piles at the Mine were based on the following emission equation from Table 11.9-1 in AP-42, Section 11.9 (7/98):

$$E_{TSP} = \frac{78.4\ (s)^{1.2}}{(M)^{1.3}}$$

where E = TSP emission rate (lb/hr); s = silt content of the coal (wt. %); and M = moisture content of coal (wt.%).

The Company has found that the above emission equation was based upon the results of a single EPA-sponsored field test program in 1979-1980 at three different western surface coal mines.[4] A total of only twelve (12) tests were conducted using the upwind-downwind sampling methodology while dozers pushed coal.[5]

Figure 11.9-2 in AP-42 illustrates the basic operations at typical western surface coal mines. Although dozers are not specifically shown in that figure, the field testing to develop the above emission equation sampled TSP emissions from bulldozers operating in pit areas during the loading of raw coal into haul trucks by shovels and front-end loaders.[6] In particular, the role of those dozers was generally for cleanup of the haul truck loading areas, i.e., by pushing fractured (blasted) chunks of coal across the pit areas into piles large enough to be scooped-up by the shovels.[7] During that type of dozer operation, contact of the dozer's tracks or tires with chunks of coal on the pit floor pulverizes that coal. The resultant smaller coal particles are lifted and dropped from the dozer's rolling tracks or tires, with some of those particles becoming entrained in strong air currents resulting from turbulent shear caused by the dozer's motion across the pit floor.[8] In keeping with the pit locations of the dozer operations which were tested, it is noteworthy that Table 11.9-1 in AP-42 lists the TSP emission equation for bulldozing coal right after the listings of other TSP emission equations for blasting coal and for truck loading of coal.

1. *Technical Concerns with AP-42 Emission Equation*

An in-depth review of EPA's 1979-1980 limited testing of TSP emissions from dozer operations in pit areas at three surface coal mines reveals several technical shortcomings in the results of those tests. First, the coal bulldozing emissions that EPA ostensibly measured during those tests were from dozers operating in pit areas, where significant emissions from shovels, front-end loaders and haul trucks were also present. Results from the upwind-downwind test method can be biased by emissions from other nearby sources due to an unavoidable overlapping of plumes from upwind sources.[9] In particular, EPA has acknowledged that the quality of the test data from the upwind-downwind testing of dozer emissions was adversely affected due to the poorly defined characteristics of the plumes

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[4] EPA, *Revision of Emission Factors for AP-42 Section 11.9 - Western Surface Coal Mining (Rev. Final Report)* (hereinafter "Revised Section 11.9 Emission Factors") Appendix F at F-14, Sept. 1998.

[5] Unlike tests for particulate matter emitted from stacks and similar conveyances, there are no standard or "reference" methods for measuring the rates of fugitive particulate emissions. As the name implies, the upwind-downwind methodology for sampling fugitive particulate emissions measures ambient levels of particulate matter both upwind and downwind of the emissions source. Once the impact of the source has been determined, its corresponding emission rate is then back-calculated with the use of a dispersion model. Because this test method requires specialized sampling equipment as well as skilled test planners and operators, its widespread use at individual sources is generally considered economically and technically infeasible.

[6] EPA, Revised Section 11.9 Emission Factors, Appendix C at C-23.

[7] *Id.*

[8] See, e.g., AP-42, Section 13.2.2.1 (Unpaved Roads).

[9] EPA, Revised Section 11.9 Emission Factors, Appendix C at C-4.

from bulldozing and the interference of the pit areas with plume dispersion.[10] Therefore, SJCC believes that substantial interference from other activities' emissions was a primary reason why the mean TSP emission rate from dozers pushing coal at one mine (299 lb/hr) was so much higher than the mean TSP emission rates from dozer pushing at the other two mines (24.1 lb/hr and 6.1 lb/hr).

Furthermore, results from the upwind-downwind testing method are inherently inaccurate due to the method's reliance on a dispersion equation to back-calculate the source's emission rate based on the measured net (downwind minus upwind) ambient concentration of the pollutant. Although the capabilities of existing dispersion models to reliably predict ambient impacts of fugitive particulate emissions are still very much in doubt, the accuracies of dispersion modeling predictions of fugitive emissions' impacts in the 1980 timeframe were even more suspect. Because dispersion models of 1980 vintage and later are known to significantly over-predict such impacts,[11] the back-calculated source emission rates from those emission tests of dozers pushing coal more than three decades ago were likely much greater than what the emission rates actually were. Consequently, TSP emission rates currently calculated with the AP-42 emission equation based on those inflated, "measured" (back-calculated) emission rates from 1979-1980 almost certainly over-estimate the "true" emission rates by a wide margin.

In sum, the AP-42 emission equation for estimating TSP (and therefore PM_{10} and $PM_{2.5}$) emissions from dozer operations on coal at western surface coal mines very likely over-estimates the "true" or actual TSP (and therefore PM_{10} and $PM_{2.5}$) emission rate from that activity by a substantial margin. Because that equation was based upon emission test data that were biased by emissions from nearby surrounding activities and because that equation was based upon emission rates that were back-calculated using an inherently inaccurate dispersion model, that AP-42 equation cannot reasonably be expected to provide a realistic estimate of TSP (and therefore PM_{10} and $PM_{2.5}$) emissions from dozers operating on coal at San Juan Mine.

2. *Inappropriateness of Applying AP-42 Emission Equation in This Case*

Notwithstanding the technical deficiencies underlying development of the AP-42 emission equation for dozers operating on coal, the different nature of the dozer operations on coal at San Juan Mine means that equation is not appropriate for estimating TSP (and therefore PM_{10} and $PM_{2.5}$) emissions from those dozers at the Mine.

As explained above, during the field test program to develop the subject AP-42 emission equation for dozers operating on coal, the dozers were being used in conjunction with haul truck loading in the pit areas. As such, the primary nature of those dozers' operation consisted of pushing coal chucks along the floor of the pit area and into piles for pick-up by the nearby shovel(s). During that coal-pushing, lumps of coal were pulverized by the dozer's tracks, resulting in smaller coal particles first adhering to the tracks of the dozer and then falling off and becoming entrained in local wind currents created by the dozer's relative rapid motion across the pit floor. That particular dozer activity whose emissions were tested, however, is not the same as the principal activity of the dozers operating on coal at San Juan Mine.

Because San Juan Mine is not a surface coal mine, the Mine has no pit areas similar to those where dozer emissions were measured during 1979-1980 for AP-42's emission equation. In general, the Mine has only a minimal need for dozers to push chunks of coal along the ground in a manner similar to that dozer activity whose emissions were measured for AP-42's emission equation. Instead, coal pile maintenance is the primary activity of dozers pushing coal at San Juan Mine. That is, as raw coal is loaded-into and loaded-out of the three coal piles at the Mine, dozers operate on those piles to maintain the desired configurations of those storage piles.

AP-42 provides no indication that the emission equation for dozers on coal at western surface coal mines is intended to apply to emissions from dozers performing coal pile maintenance at such mines. To the contrary, AP-42's Table 11.9-1 which contains the equation for estimating emissions from dozers operating with coal also contains a separate equation for estimating emissions from active coal storage piles collectively due to both wind erosion and pile maintenance. That is, AP-42 portrays emissions from coal pile maintenance as being part of the emissions from an "active storage pile" rather than being the same as emissions from bulldozing coal.

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[10] *Id.*, Appendix E at E-15 and Appendix F at F-15.

[11] EPA also acknowledged an unexplained problem with the dispersion equation used to back-calculate TSP emission rates from dozers pushing coal. *Id.* at F-37.

Pushing coal with a dozer in the pit area as part of the haul truck loading process differs markedly from pushing coal on top of a storage pile to maintain the pile's configuration. Those differences in dozer operations explains why the emissions from coal pile maintenance are not appropriately characterized by AP-42's equation for characterizing emissions from pushing chunks of coal along the ground surface of a pit.

For example, particulate emissions are generated from a dozer pushing coal in a pit area when coal particles fall off the dozer's tracks and become entrained in the local air current generated by the dozer's movement across the pit floor. However, for several reasons, air-current entrainment of coal particles falling from a dozer's tracks is not a primary mechanism for creating emissions when a dozer pushes coal on a storage pile. First, compared to the "AP-42 operating scenario" where a dozer pushing coal on the ground in the pit area results in lumps of coal being pulverized upon contact with the dozer tracks, a dozer pushing coal on a coal pile typically pulverizes fewer lumps of coal because some of the coal in contact with the dozer's tracks tends to become compacted into the interstices within the underlying bed of coal.

In addition, compared to a dozer pushing coal on the ground in the pit area, a dozer pushing coal on top of a storage pile generally travels at a lower rate of speed. That lower speed translates into less shear as the dozer moves along the pile; less shear means that wind currents created by that shear are weaker; and weaker wind currents translates into less entrainment of coal particles. Indeed, observations of dozers working on coal storage piles suggest that the predominant mechanism for generating TSP emissions during coal pile maintenance is not the pulverization of coal lumps followed by entrainment in wind currents created by dozer movement but instead is the entrainment of coal particles by local winds as coal is pushed over the edge of one level of the pile and falls to a lower level.

In sum, even if the AP-42 emission equation for bulldozing coal at western surface coal mines were not so biased toward substantial over-prediction of TSP emissions from that mining activity, application of that emission equation to characterize TSP (and therefore PM_{10} and $PM_{2.5}$) emissions from dozers performing coal pile maintenance is nevertheless inappropriate. The AP-42 emission equation was developed by testing emissions from dozers pushing coal in the general pit areas. The principal cause of TSP emissions under that "AP-42 operating scenario" is not the predominant mechanism for creation of TSP emissions from dozers performing coal pile maintenance. Consequently, because the primary purpose of dozer operations on coal at San Juan Mine is to maintain three storage piles of raw coal, estimates of TSP (and therefore PM_{10} and $PM_{2.5}$) emissions from that particular dozer activity should not rely on the AP-42 emission equation for bulldozing coal.

B. Alternative Emission Equation/Factor

SJCC considered several alternative emission-factor approaches for estimating TSP (and therefore PM_{10} and $PM_{2.5}$) emissions from dozers performing coal pile maintenance at San Juan Mine. The following discusses those alternative approaches and explains why the Company selected a particular alternative.

1. *AP-42 Emission Equation for Bulldozing Overburden*

Overburden essentially consists of the layer of earth between topsoil and the coal seam to be mined. At a typical western surface coal mine like San Juan Mine, once the overburden has been exposed by removal of the topsoil, that overburden is subsequently removed down to the coal seam. The removed overburden material is in turn placed in an adjacent, previously mined cut or pit, thereby forming on overburden spoils pile. During the mine reclamation process, bulldozers are used to smooth the overburden piles into a surface configuration that mimics the original contour of the land prior to mining.[12]

During the previously described field test program at three western surface coal mines in support of EPA's development of the AP-42 emission equation for dozer operation on coal, a series of fifteen upwind-downwind tests were also performed on fugitive TSP emissions from dozers operating on overburden. Compared to the measured TSP emission rates for the 12 individual tests of dozer operation on coal, the values of the measured TSP emission rates for the 15 individual tests of dozer operation on overburden were substantially lower, i.e., by several orders of

[12] *See* "Leveled Area" in AP-42, Figure 11.9-2.

magnitude.[13] In addition, with the exception of a few unexplained outliers, the measured TSP emission rates for the 15 individual tests of dozer operation on overburden were more tightly grouped (less scattered) than their counterpart emission rates from dozer operation on coal.[14] The limited variation in TSP emissions from dozer operation on overburden is most likely explained by the limited variation in soil characteristics of the different overburden being regraded.[15] As a result of that test program, EPA developed the following emission equation in AP-42 to characterize TSP emissions from dozer operation on overburden at western surface coal mines:[16]

$$E_{TSP} = \frac{5.7\,(s)^{1.2}}{(M)^{1.3}}$$

where E = TSP emission rate (lb/hr); s = silt content of the overburden (wt. %); and M = moisture content of the overburden (wt.%).

In spite of the inherent over-predictive nature of that equation due to EPA's reliance on an over-predictive dispersion model to back-calculate TSP emission rates from the field test program, as explained above, the Company nevertheless has concluded that particular equation for dozer operation on overburden can likely provide a reasonable estimate of TSP (and therefore PM_{10} and $PM_{2.5}$) emissions from dozers performing coal pile maintenance at San Juan Mine. The rationale for that conclusion includes the following considerations:

- Testing experienced minimal interference from other emissions from nearby sources: The testing of TSP emissions from dozer operation on coal was performed in pit areas where coal was being loaded into haul trucks. "There are many points at which dust is emitted during truck loading – puling the truck into position, scooping the material to be loaded, lifting and swinging the bucket, dropping the load, driving the truck away, and cleanup of the area by dozers or front-end loaders."[17] Therefore, when the downwind samplers were configured to collect TSP emitted from the dozer operation on coal, TSP emitted from those other points of dust emission during truck loading was also collected by the sampling network for testing dozer operation on coal. Consequently, as noted earlier, there can be little doubt that EPA's test results for dozer operation on coal, and therefore the resultant emission equation for that activity, are biased high for TSP emissions from dozer operation on coal.

  On the other hand, the dozers operating on overburden were not as close to other sources of TSP emissions. Therefore, the test results for those particular dozers and the resultant emission equation for that activity are much more likely to be representative of actual emissions from the tested source, i.e., dozers operating on overburden. Had EPA been able to test TSP emissions from dozer operation on coal under the same general test conditions as the tests for dozer operation on overburden, the test results for dozers on coal, and the resultant emission equation for that activity, would almost certainly have been much more like the results from testing dozer operation on overburden.

- Dozer operation on overburden during EPA's field test program was much like the manner of dozer operation for coal pile maintenance at San Juan Mine. During the test program, dozers on overburden were not operated as part of the haul truck loading process, similar to how dozers operated on coal during that test program. Rather, dozers were being used during the test program to configure the basic shapes of the overburden spoils piles, much like dozers operate to maintain the configuration of coal piles at the Mine. SJCC therefore expects that TSP (and therefore PM_{10} and $PM_{2.5}$) emissions from dozers performing coal pile maintenance at the Mine would be very similar to TSP (and therefore PM_{10} and $PM_{2.5}$) emissions from dozers working the overburden piles during the EPA test program. Accordingly, the AP-42 emission equation developed for TSP emissions from dozers working overburden piles should provide reasonable estimates of TSP (and therefore PM_{10} and $PM_{2.5}$) emissions from dozers working coal piles at San Juan Mine.

[13] EPA, Revised Section 11.9 Emission Factors, Appendix F at F-38.
[14] *Id.*
[15] *Id.* at F-39.
[16] AP-42, Section 11.9, Table 11.9-1 (7/98).
[17] EPA, Revised Section 11.9 Emission Factors, Appendix C at C-23.

- Adoption of the AP-42 emission equation for dozer operation on overburden to characterize TSP emissions from dozers performing maintenance on coal piles at San Juan Mine maintains an approach founded on EPA's field test program and associated methodology for determining TSP emission rates at western surface coal mines. Although that methodology's reliance on a dispersion model injects inaccuracy into the ultimate calculation of the emission rate, the Company's reliance on an AP-42 emission equation to estimate TSP emissions from coal pile maintenance provides consistency and continuity in the Company's approaches to estimating TSP emissions from other mining activities at the Mine.

Use of the above AP-42 emission equation for dozer maintenance of overburden piles to estimate the TSP emissions from dozer maintenance of the three coal piles at San Juan Mine results in the following:

San Juan Mine – TSP Emissions from Coal Pile Maintenance by Dozers Using AP-42, Sec. 11.9 Dozer on Overburden Emission Equation

	TSP, lb/hr	TSP, tpy[18]
Stackout Pile	3.4	5.4
Juniper Pile	3.4	5.4
Pile near Coal Prep Plant	3.4	8.9

As shown in Section 6 of the application, those estimated TSP emissions from coal pile maintenance by dozers were then converted to corresponding estimates of PM_{10} and $PM_{2.5}$ emissions from that particular activity at San Juan Mine.

2. *Approaches Acceptable to Other Air Quality Management Agencies*

a. Mohave Desert (CA) AQMD

The mineral products industry is the largest category of stationary sources regulated by the Mohave Desert Air Quality Management District (District). Recognizing that many operations involving extraction and processing of minerals have common emission characteristics regardless of the specific mineral, the District has developed its "Emissions Inventory Guidance – Mineral Handling and Processing Industries" in an effort to ensure that emissions from operations and processes that are common to numerous different minerals are estimated consistently.[19] That guidance document identifies the following emission equation as being applicable to bulldozing:

$$E_{TSP} = \frac{2.76(k)\,(s)^{1.5}}{(M)^{1..4}}$$

where E = TSP emission rate (lb/hr); s = silt content of the material (wt. %); M = moisture content of the material (wt.%); and k = a dimensionless particulate aerodynamic factor equal to 0.74 for TSP.

The above emission equation for estimating TSP emissions from bulldozing is very similar to the AP-42 emission equation for dozer operation on coal at a western surface coal mine.[20] That is, Mohave AQMD considers silt content and moisture content as the primary variables affecting TSP emissions from bulldozing, consistent with EPA's AP-42 approach. However, Mohave AQMD has concluded that the degree to which each of those parameters affects TSP emissions is slightly different from EPA's view of how those parameters influence TSP emissions, as evidenced by the slightly different powers to which each parameter is raised in the above equation.

Other than to acknowledge that its emission equation for bulldozing has been "derived from the Western Surface Coal Mining discussion in § 11.9 of EPA's AP-42," Mohave Desert AQMD's guidance document does not provide additional background information on how it developed the preceding emission equation. However, use of the

[18] BHP Billiton, San Juan Mine – Dispersion Model Protocol, 20.
[19] Mohave Desert AQMD, "Emissions Inventory Guidance – Mineral Handling and Processing Industries," Apr. 10, 2000.
[20] AP-42, Section 11.9, Table 11.9-1.

District's equation above results in an estimated TSP emission rate from bulldozing that is lower than the comparable TSP emission rate estimated with the dozer-on-coal emission equation in Table 11.9-1 for western surface coal mines. It appears likely that the Mohave AQMD has concluded that the dozer-on-coal emission equation in Table 11.9-1 over-predicts TSP emissions and therefore has replaced that equation with one that treats TSP emission rates from dozing essentially the same as AP-42's dozer-on-coal emission equation for inhalable particulate (PM_{15}).[21]

The Mohave Desert AQMD's emission equation for bulldozing appears to confirm San Juan Coal Company's finding that the AP-42 equation for estimating TSP emissions from dozer operation on coal produces unacceptably high results. The Company concurs with the District's approach that uses an alternative emission equation that results in more reasonable, i.e., lower, estimates of TSP (and therefore PM_{10} and $PM_{2.5}$) emissions from bulldozing.

b. Wyoming DEQ

Because particulate emissions from mining activities are invariably fugitive, those emissions are excluded from the determination of potential to emit for a surface coal mine. And because preparation plants at western surface coal mines do not require thermal dryers, as several of their eastern and midwestern counterparts do, western surface coal mines are generally classified as minor stationary sources for new source review and Title V purposes. The websites of most state air management agencies do not contain detailed source information, e.g., emission rates, for minor stationary sources. Consequently, TSP, PM_{10} and $PM_{2.5}$ emission rates for coal mining activities and the methodologies for estimating them are seldom readily available.

San Juan Coal Company, however, was able to obtain a copy of the "Coal Mine Emissions Inventory," dated August 1, 2008, for the Jacobs Ranch surface coal mine in Wyoming. A summary of PM_{10} emissions from coal mining activities at that mine indicated that a PM_{10} emission factor equal to 8 lb/hr had been used to estimated PM_{10} emissions from "dozers."[22]

The Company was unable to document the basis for that "unadjusted" 8 lb/hr emission factor. Nevertheless, usage of that relatively low emission value by another western surface coal mine to estimate PM_{10} emissions from dozer activity tends to support the Company's conclusion that a value of 46.9 lb/hr obtained with the AP-42 emission equation for TSP emissions from dozers operating on coal is an inordinately high value for estmated TSP emissions from dozer maintenance of coal piles at San Juan Mine.

3. *Ratio of Emissions from Coal Pile Maintenance to Emissions from Wind Erosion of the Pile*

EPA has consistently described total fugitive dust emissions from an active storage pile of aggregate material, such as raw coal, as being caused by the following "four major emission-producing activities":[23]

- loading onto the pile;
- equipment and vehicle movement on or around the pile;
- wind erosion; and
- loading from the pile.

The generic activity identified above as "equipment and vehicle movement on and around the pile" includes operations such as dozers and front-end loaders performing pile maintenance while that equipment is physically on the pile. In addition, that generic activity also includes any movement of vehicles, e.g., haul trucks, in the immediate vicinity around the base of the pile.

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[21] *See* AP-42, Table 11.9-1 emission equation for PM_{10} emissions from dozers on coal: $E_{TSP} = 18.6\ s^{1.5} / (M)^{1..4}$.
[22] Unadjusted for the number of days with precipitation, i.e., (365-W)/365.
[23] PEDCo (for EPA), *Evaluation of Fugitive Dust Emissions from Mining; Task 1 Report – Identification of Fugitive Dust Sources Associated with Mining,* 57 (Apr. 1976). *See also* EPA, *Technical Guidance for Control of Industrial Process Fugitive Particulate Emissions,* EPA-450/3/77/010, 2-32 (Mar. 1977); EPA, *Fugitive Emissions from Integrated Iron and Steel Plants,* EPA-600/2-78-050 (Mar. 1978); EPA, *Compilation of Air Pollutant Emission Factors, Vol. 1* (AP-42), Section 13.2.4.3 (Nov. 2006).

Particulate emissions from a vehicle traveling on unpaved roads are generated primarily by materials on the roadway first being pulverized by wheels of the moving vehicle, after which the resulting smaller particles become entrained in localized wind currents created by the size and speed of the moving vehicle.[24] EPA therefore recommends, in general, that the AP-42 emission equation for vehicle traffic on unpaved surfaces should be used to estimate particulate emissions from equipment and vehicle movement on or around storage piles.[25]

However, vehicle traffic around the coal piles at San Juan Mine is minimal in comparison to the amount of traffic from dozers performing maintenance on those piles. Consequently, in the case of San Juan Mine, the generic TSP-emitting activity known as "equipment and vehicle movement on or around the pile" consists primarily of dozers "working" on the pile to maintain its configuration. As previously explained, the principal cause of particulate emissions from coal pile maintenance is <u>not</u> the pulverization/entrainment process which typically occurs with vehicle traffic on unpaved roads. Consequently, in this particular instance, use of the AP-42 emission equation for vehicle traffic on unpaved roads would not be the appropriate approach for estimatingparticulate emissions from dozers performing coal pile maintenance at San Juan Mine.

In the 1970s EPA developed a set of "emission factor formulas" for estimating TSP emissions from each of the four major emission-producing activities at storage piles. In particular, the emission factor formula for TSP emissions due to "vehicular traffic" at and around storage piles was the following:[26]

$$EF_2 = \frac{(0.13)\,(K_2)\,(S/1.5)}{(PE/100)^2}$$

where EF_2 = Emission factor per unit weight of material stored ("vehicular traffic"), lb/ton; K_2 = Activity factor for "vehicular traffic" relative to that operation being performed by a front-end loader; S = Silt content of the aggregate material, %; and PE = Thornthwaite's precipitation-evaporation index. As explained previously. The dust-emitting activity referred to as "vehicular traffic" in the equation above is better characterized as "coal pile maintenance" in the case of San Juan Mine's coal piles. In addition, the companion emission factor formula developed by EPA in the 1970s for TSP emissions due to wind erosion was the following:[27]

$$EF_4 = \frac{(0.11)\,(S/1.5)}{(PE/100)^2} \times \frac{D}{90}$$

where EF_4 = Emission factor per unit weight of material stored ("wind erosion"), lb/ton; and D = Duration of material in storage, days.[28]

Dividing the first equation above by the other results in the following equation for determining the ratio of TSP emissions from coal pile maintenance to TSP emissions from wind erosion:

$$\frac{EF_2}{EF_4} = [(0.13)\,(K_2) / (0.11)] \times \frac{90}{D}$$

As noted earlier, the vast majority of the current AP-42 emission equations/factors for mining activities at western surface coal mines was developed based upon field tests during the late-1970s to the early 1980s. However, over the following years, additional field tests were conducted for emissions due to wind erosion of open coal storage piles as

[24] AP-42, Section 13.2.2.1.
[25] AP-42, Section 13.2.4.3.
[26] EPA, *Technical Guidance for Control of Industrial Process Fugitive Particulate Emissions*, EPA-450/3/77/010, 2-35 (Mar. 1977)
[27] *Id.*
[28] Although not germane to this discussion, the emission factor formulae for pile load-in and pile load-out were very similar to the above formula for vehicular traffic. Those emission factor formulae for pile load-in and pile load-out were an early variation of what is now referred to as the "standard drop equation" in Section 13.2.4 (11/06) of AP-42.

well as storage piles of other aggregate materials.[29] Those additional tests eventually led to AP-42's inclusion of Section 13.2.5 "Industrial Wind Erosion" (1/95). Because test data for pile emissions due to wind erosion data have increased over the years, resulting in improved certainty in the estimates of such emissions, SJCC has derived the above equation in order to approximate the level of TSP emissions from maintenance of a coal pile as a function of the estimated wind erosion emissions from that pile.

With respect to use of the preceding equation in order to approximate TSP emissions due to dozers maintaining coal piles at San Juan Mine, values for the variable parameters in that equation were established as follows:

- K_2: By definition, K_2 in this instance is an activity factor for pile maintenance by a bulldozer relative to pile maintenance by a front-end loader. While shaping the configurations of coal piles, dozers and front-end loaders tend to move at roughly the same speed. However, per unit of distance traveled, a dozer for pile maintenance moves at least twice as much coal on a pile as does a typical front-end loader that is used for that purpose due to the larger size of the dozer blade compared to the bucket of the loader. Therefore, for coal pile maintenance of coal piles at San Juan Mine, K_2 has been estimated to be equal to 2.

- D: If San Juan Mine had to maintain an amount of stored coal sufficient to meet its contractual supply without any mining of coal for 90 days, one approach to meeting that storage would have each of the three piles at the Mine store an equivalent of 30 days of supply. That translates to a conservative value of 30 days as the minimum value for D in the preceding equation.

Inserting those values of K_2 and D into the preceding equation results in the following expression of the TSP emission rate from maintenance of a particular coal pile with a dozer as a function of the TSP emission rate from wind erosion of that storage pile:

$$EF_2 = 7.1 \times EF_4$$

Estimated TSP emission rates due to wind erosion, EF_4, are shown in Revised Section 6 of the Company's application. Therefore, based upon the above ratio of TSP emissions from coal pile maintenance to TSP emissions from wind erosion of a coal pile, the estimates of TSP emissions from each coal pile at San Juan Mine due to maintenance of that pile with a bulldozer are the following:

	Due to Dozer Maintenance of Pile	
	TSP, lb/hr	TSP, tpy
Stackout Pile	9.2	40
Juniper Pile	5.0	22
Pile near Coal Prep Plant	4.3	18

As shown in section 6, comparable estimates of PM_{10} and $PM_{2.5}$ emissions using this emissions-ratio approach would be obtained by multiplying the above TSP emission rates by the respective scaling factors for PM_{10} and $PM_{2.5}$.

C. Conclusion

San Juan Coal Company has evaluated several different approaches to estimating particulate emissions from dozer maintenance of coal piles. All of those alternative approaches result in estimated particulate emission rates from coal pile maintenance at San Juan Mine that are significantly lower than the emission rates predicted by using AP-42's emission equation for dozer-on-coal operation.

The Company has concluded that, in this particular instance, representative estimates of typical PM_{10} and $PM_{2.5}$ emission rates from dozer maintenance of the coal piles at San Juan Mine can be better achieved by applying AP-42's similar emission equation for dozers operating on overburden piles. The resultant PM_{10} and $PM_{2.5}$ emission rates obtained with that alternative approach have , in turn, been used in the Company's dispersion modeling to

[29] *See, e.g.,* AP-42, page 13.2.5-14 (1/95).

demonstrate that the Mine's PM_{10} and $PM_{2.5}$ emissions will neither cause nor contribute to an exceedance of the their respective national ambient air quality standards.

II. PARTICULATE EMISSIONS FROM PUSHING RAW COAL INTO HOPPERS OF PREPARATION PLANT

The Mine's original particulate emission inventory had to be revised to account for that inventory's double-counting of emissions from a dozer pushing raw coal from a storage pile into the adjacent hoppers of the coal preparation plant.

Coal may be fed to the preparation plant by haul trucks which deliver raw coal from either the Stackout Pile or the Juniper Pile and then dump that coal into the prep plant's hoppers. Alternatively, raw coal in the storage pile adjacent to the prep plant may be pushed by a dozer into the prep plant's hopper. In either case,particuate emissions from each of those coal dumping operations have been characterized by the standard "drop equation" in AP-42, Section 13.2 (11/06). The original emission inventory did not differentiate between the two activities, i.e., the drop equation was applied to the maximum 13 million tpy coal throughput to the prep plant hoppers.[30]

However, when emissions were being characterized for that same coal storage pile near the prep plant, dozer operation for that particular pile was divided between coal pile maintenance activity (50%) and the dozer-pushing activity with coal being dumped into the prep plant hoppers (50%).[31] However, as explained above, emissions attributable to that latter activity -- dozer pushing activity with coal being dumped into the prep plant hoppers – had already been accounted for in estimating the emissions for Model ID "E5". Therefore, those particulate emissions from pushing coal into the prep plant hoppers that had been included within the original modeling inventory as part of the total estimated emissions from that raw coal pile near the prep plant have now been removed from the revised emissions from that coal pile (only emissions from coal pile maintenance remain).

[30] San Juan Mine - Dispersion Model Protocol, Model ID "E5".
[31] *Id.*, Model ID "PLANT"

Section 8

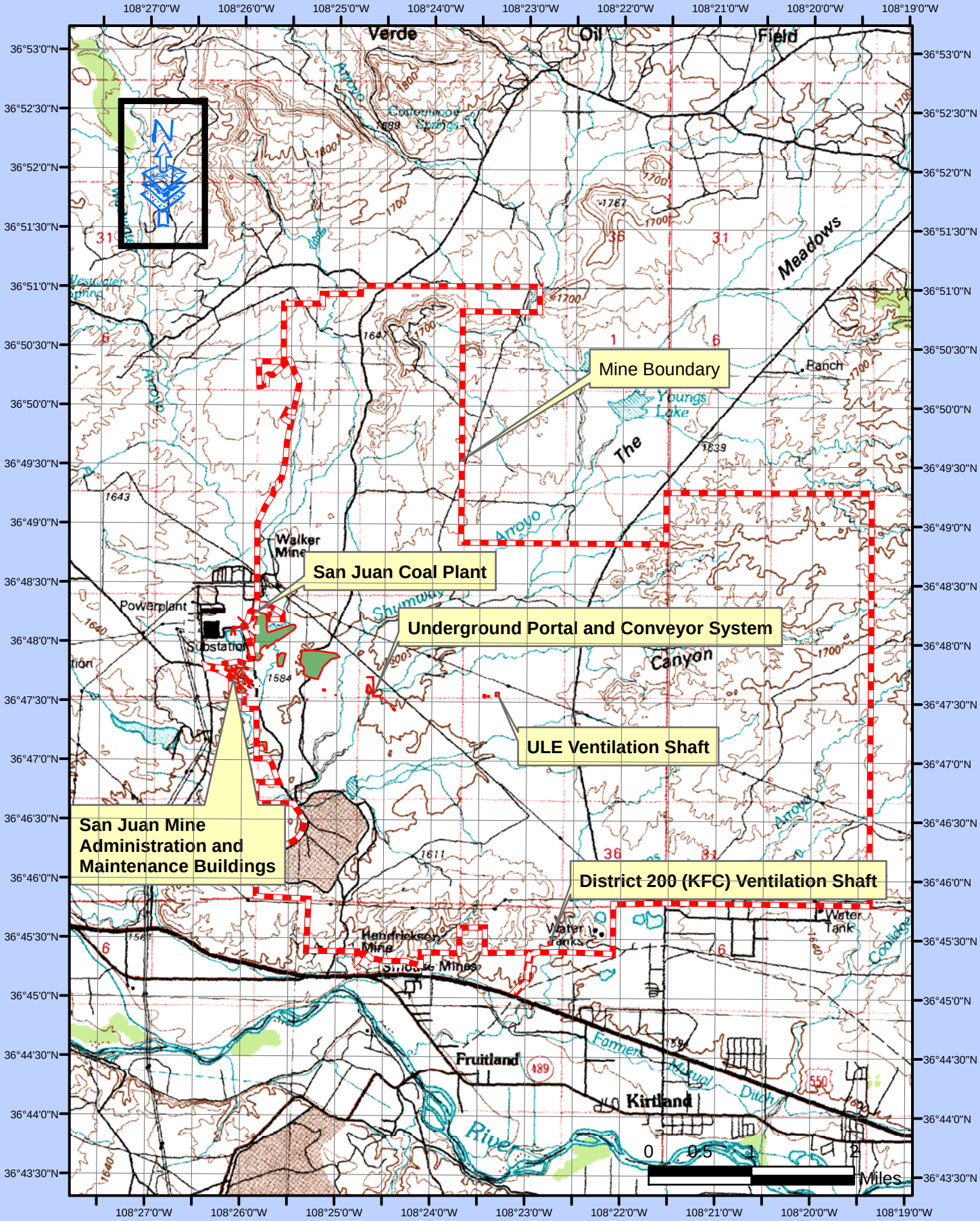
Map(s)

A map such as a 7.5 minute topographic quadrangle showing the exact location of the source. The map shall also include the following:

The UTM or Longitudinal coordinate system on both axes	An indicator showing which direction is north
A minimum radius around the plant of 0.8km (0.5 miles)	Access and haul roads
Topographic features of the area	Facility property boundaries
The name of the map	The area which will be restricted to public access
A graphical scale	

See Attached Map. It is the San Juan Coal Company's understanding that the ½ mile radius is not required for Title V permit applications.

San Juan Coal Company
San Juan Coal Mine



Section 9

Proof of Public Notice

(for NSR applications submitting under 20.2.72 or 20.2.74 NMAC)

(This proof is required by: 20.2.72.203.A.14 NMAC "Documentary Proof of applicant's public notice")

NOT APPLICABLE

Section 10

Written Description of the Routine Operations of the Facility

A written description of the routine operations of the facility. Include a description of how each piece of equipment will be operated, how controls will be used, and the fate of both the products and waste generated. For modifications and/or revisions, explain how the changes will affect the existing process. In a separate paragraph describe the major process bottlenecks that limit production. The purpose of this description is to provide sufficient information about plant operations for the permit writer to determine appropriate emission sources.

San Juan Mine is an underground coal mining operation utilizing longwall technology to mine thermal coal. The mine is located near Farmington, New Mexico, northeast of Waterflow, New Mexico, Meridian Township 30N and Ranges 15W and 14W. The Mine consists of an underground mine, mine load-out system, raw coal storage, coal preparation plant, and reclamation operations. San Juan Mine also accepts coal combustion by-products (CCBs) from San Juan Generating Station in the form of fly ash and gypsum. These CCBs are used in the ongoing reclamation of the now-retired surface pits at the Mine.

The principal sources of GHG emissions from SJM are the underground mining operations that release methane that is subsequently exhausted to the atmosphere by the Mine's ventilation and degasifications systems. The only other pollutant that is emitted from the Mine in significant amounts is particulate matter. Primary sources of particulate matter from SJM are raw coal stack-out, truck loading of raw coal, raw coal unloading to hoppers, coal crushers, vehicle (haul trucks, maintenance vehicles, light-duty vehicles) travel, bulldozer operation on raw coal storage and reclamation piles, and wind erosion from those open piles and disturbed areas.

The aboveground Mine load-out conveyor system which serves the underground mining includes two transfer towers and a raw coal stack-out with storage pile. Raw coal from the stack-out pile can be transported by haul trucks directly to the coal preparation plant or to one of two raw coal storage piles. Raw coal delivered to the coal prep plant is unloaded into underground hoppers. Raw coal delivered to storage piles is eventually pushed by bulldozer into the underground hoppers of the prep plant. Coal pile maintenance is performed by bulldozers. These operations are sources of particulate emissions.

The coal preparation plant sizes the raw coal by crushing and then conveys the processed coal to San Juan Generating Station. Coal preparation facilities not only are enclosed but additional moisture also is added by sprays of water/chemicals at key dust-producing operations. Because the coal preparation facilities are also contained within buildings, the only particulate matter emitted is that which escapes the buildings through passive ventilation.

At the reclamation areas, bulldozers contour piles of existing overburden and covered coal combustion by-products (CCBs). The CCBs (flyash and gypsum) are transported by haul trucks from San Juan Generating Station to be used in the Mine's ongoing reclamation of prior surface mining areas. This process is a source of particulate matter emissions.

The SJM operates 8,760 hours per year over three shifts per day. Particulate matter emissions from the coal preparation plant are based on the maximum coal production capacity of 13,000,000 tons per year. Particulate matter emissions from haul truck traffic are based on transport rates of 8,200,000 tpy of coal, 1,840,000 tpy of fly ash, and 390,000 tpy of gypsum.

Section 11

Source Determination

Source submitting under 20.2.70, 20.2.72, and 20.2.74 NMAC

Sources applying for a construction permit, PSD permit, or operating permit shall evaluate surrounding and/or associated sources (including those sources directly connected to this source for business reasons) and complete this section. Responses to the following questions shall be consistent with the Air Quality Bureau's permitting guidance, Single Source Determination Guidance, which may be found on the Applications Page in the Permitting Section of the Air Quality Bureau website.

Typically, buildings, structures, installations, or facilities that have the same SIC code, that are under common ownership or control, and that are contiguous or adjacent constitute a single stationary source for 20.2.70, 20.2.72, and 20.2.74 NMAC applicability purposes. Submission of your analysis of these factors in support of the responses below is optional, unless requested by NMED.

A. Identify the emission sources evaluated in this section (list and describe)**:**

- San Juan Mine – underground subbituminous coal mine
- San Juan Generating Station – coal-fired power plant adjacent to San Juan Mine

B. Apply the 3 criteria for determining a single source:

SIC Code: Surrounding or associated sources belong to the same 2-digit industrial grouping (2-digit SIC code) as this facility, OR surrounding or associated sources that belong to different 2-digit SIC codes are support facilities for this source.

☐ **Yes** XX **No**

Common Ownership or Control: Surrounding or associated sources are under common ownership or control as this source.

☐ **Yes** XX **No**

Contiguous or Adjacent: Surrounding or associated sources are contiguous or adjacent with this source.

XX **Yes** ☐ **No**

C. Make a determination:

XX The source, as described in this application, constitutes the entire source for 20.2.70, 20.2.72, or 20.2.74 NMAC applicability purposes. If in "A" above you evaluated only the source that is the subject of this application, all "**YES**" boxes should be checked. If in "A" above you evaluated other sources as well, you must check **AT LEAST ONE** of the boxes "**NO**" to conclude that the source, as described in the application, is the entire source for 20.2.70, 20.2.72, and 20.2.74 NMAC applicability purposes.

Please see the attached analysis that supports this determination.

☐ The source, as described in this application, **does not** constitute the entire source for 20.2.70, 20.2.72, or 20.2.74 NMAC applicability purposes (A permit may be issued for a portion of a source). The entire source consists of the following facilities or emissions sources (list and describe):

Section 11-- Attachment

San Juan Mine Is a Single Stationary Source.

Under the State's Title V regulations, the term "stationary source" is defined to mean "any building, structure, facility, or installation, or any combination thereof that emits or may emit any regulated air pollutant or any pollutant listed under section 112(b) of the federal act." 20.2.70.7.AJ NMAC. The State's Title V regulations do not define the term "building, structure, facility, or installation." However, that term in the Title V regulations is interpreted to mean the same as it does under the State's PSD regulations, i.e., "building, structure, facility, or installation" means

> all of the pollutant-emitting activities which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control). Pollutant-emitting activities shall be considered part of the same industrial grouping if they belong to the same "major group" (i.e., which have the same first two-digit code) as described in the standard industrial classification (SIC) manual, 1972, as amended by the 1977 supplement . . . or any superseding SIC manual.

20.2.74.7.L NMAC. In effect, a "stationary source" is defined as a collection of all pollutant-emitting activities which meet the same three criteria, i.e., (1) same industrial grouping, (2) under the control of the same person, and (3) on contiguous or adjacent properties.

The pollutant-emitting activities of San Juan Mine and the pollutant-emitting activities of San Juan Generating Station clearly are located on adjacent properties. However, as explained herein, the pollutant-emitting activities of San Juan Mine do not belong to the same industrial grouping as that of the pollutant-emitting activities of San Juan Generating Station. Moreover, as explained herein, the pollutant-emitting activities of San Juan Mine and the pollutant-emitting activities of San Juan Generating Station are not under common control. For that reason, the pollutant-emitting activities of San Juan Mine constitute a single stationary source for Title V and PSD purposes, and the pollutant-emitting activities of SJGS constitute another, separate stationary source for Title V and PSD purposes.

Finally, as explained herein, the concept of what constitutes a "support facility" was established during EPA's development of the 1980 PSD regulations. However, over the years the original regulatory meaning of "support facility" has been misinterpreted through various guidance documents and case-specific source determinations to the point that a "support-facility test" has evolved as an alternative to the "SIC test" that was promulgated with the 1980 regulations. As explained herein, the <u>regulatory</u> concept of "support facility" does not apply in the instant case where the location or "site" accommodates two separate stationary sources for purposes of 20.2.70, 20.2.72 and 20.2.74 NMAC. Moreover, EPA's support-facility test is based upon a flawed interpretation of the preamble to the 1980 regulations and cannot stand because it revises the regulatory meaning of "belong to the same industrial grouping" without having gone through notice-and-comment rulemaking.

I. Methodology for Stationary Source Determinations

The three criteria that determine which pollutant-emitting activities are parts of the same stationary source were established during EPA's development of its 1980 PSD regulations, 40 C.F.R. § 52.21. As demonstrated below, in the preambles to those proposed and final rulemakings, EPA explained in considerable detail the intended meaning of each of those three criteria. When EPA subsequently promulgated regulations under Title V of the Clean Air Act (CAA), 40 C.F.R. Part 70, the Agency relied on those same three characteristics to determine what pollutant-emitting activities should be aggregated as a single stationary source. 57 Fed. Reg. 32,250, 32296 (July 21, 1992) (definition of "major source") (codified at 40 C.F.R. § 70.2). New Mexico's definition of "stationary source" under 20.2.70 NMAC is patterned after EPA's definition of that term for Title V and PSD purposes.

A 2009 EPA memorandum summarized the basic analytical approach for determining whether pollutant-emitting activities belong to the same stationary source. As EPA explained,

> Permitting authorities should . . . rely foremost on three regulatory criteria for identifying emissions activities that belong to the same "building," "structure," "facility," or "installation." These are (whether the activities are under the control of the same person (or persons under common control); (2) whether the activities are located on one or more contiguous or adjacent properties; and (3) whether the activities belong to the same industrial grouping. 40 C.F.R. 52.21(b)(6). In applying these criteria, permitting authorities should also remain mindful of the explanation we provided in the 1980 preamble. [Footnote omitted.] *See* 45 Fed. Reg. 52676, 52694-95 (August 7, 1980).

Memorandum from Gina McCarthy, Assistant Administrator, to Regional Administrators, *Withdrawal of Source Determination for Oil and Gas Industries*, 2 (Sept. 22, 2009) (hereinafter "McCarthy Memorandum").

The McCarthy Memorandum, however, also explained that stationary-source determinations should also be guided by prior Agency source determinations, i.e.,

> Prior source determinations in EPA's own permitting actions and EPA's guidance to other permitting authorities making such determinations collectively provide illustrations of the "kind of reasoned decision making that is necessary to justify adequately a permitting authority's source determination decision," while recognizing that these are highly fact-specific, case-by-case determinations such that "no single determination can serve as an adequate justification for how to treat any other source determination for pollutant-emitting activities with different fact-specific circumstances."

Id. Implicit within the EPA's endorsement of using prior Agency source determinations as guidance for making new determinations is the assumption that such prior determinations do not

conflict with source determinations that are otherwise made in keeping with established regulatory meanings of applicable terms, as required by law. As demonstrated herein, that assumption fails for numerous prior source determinations by the Agency.

NMED's directions for completion of this Section 11 advise permit applicants that their source determinations "shall be consistent with the Air Quality Bureau's permitting guidance, Single Source Determination Guidance" because that NMED Guidance includes a number of "source determinations in EPA's own permitting actions and EPA's guidance to other permitting authorities making such determinations." *Id.* However, NMED understands that any source-determination "guidance" or EPA "recommendation" must be consistent with the underlying regulations which that guidance or recommendation purports to interpret and apply. There have been no rulemakings to change EPA's original definition of the term "stationary source" in the Agency's PSD and Title V regulations. Certain "guidance" issued after promulgation of the 1980 PSD regulations is fully consistent with the regulatory meanings that EPA originally intended for the three stationary-source criteria. Unfortunately, other Agency "guidance" is not so consistent with the regulations, but instead effectively revises the regulatory meanings which establish what pollutant-emitting activities belong to the same stationary source.

Over the years since EPA first promulgated its definition of "stationary source" and explained the meaning of each criterion that makes up that definition, the Agency has interpreted each of the three definitional criteria in ways that substantially broaden the regulatory meanings of those terms. "Once an agency gives its regulation an interpretation, it can only change that interpretation as it would formally modify the regulation itself: through the process of notice and comment rulemaking." *Paralyzed Veterans of America v. D.C. Arena*, 117 F.3d 579, 586 (D.C.Cir. 1997). "When an agency has given its regulation a definitive interpretation, and later significantly revises that interpretation, the agency has in effect amended its rule, something it may not accomplish without notice and comment." *Alaska Profesional Hunters Ass'n v. Federal Aviation Administration*, 177 F.3d 1030, 1034, (D.C.Cir. 1999). If elements of EPA's guidance significantly broaden the actual rule, then "[t]he more expansive reading of the rule, unveiled in the [g]uidance, cannot stand." *Appalachian Power Co. v. EPA*, 208 F.3d 1015, 1028 (D.C.Cir. 2000). In sum, if a permitting authority's guidance or recommendation letter revises or replaces a definitive interpretation of one or more of the three criteria that establish what pollutant-emitting activities belong to the same stationary source, then that revision or replacement has no force of law and must be rejected in favor of the original definitive interpretation established by rulemaking.

EPA's questionable practice of using guidance and recommendation letters to broaden regulatory meanings of the three stationary-source criteria has not been lost on some state agencies. For example, the Pennsylvania Department of Environmental Protection (PADEP) recently noticed guidance on stationary-source determinations for public comment. PADEP, News Release, "DEP Announces Public Comment Period for Guidance on Air Aggregation," Oct. 12, 2011.[1] At issue, in particular, was the appropriate interpretation of the stationary-source criterion that requires pollutant-emitting activities of the same stationary source to be "located on one or more contiguous or adjacent properties."

[1] In this context, the term "aggregation" means the collection of all pollutant-emitting activities that belong to the same stationary source.

PADEP's news release stated that "[t[he test for determining whether or not to aggregate comes out of federal case law from 1979 [*Alabama Power*] and the federal [PSD] regulations stemming from that case, along with the commonwealth's regulations, which mirror the federal regulations. *Id.* In explaining why the State found it necessary to emphasize its practice of making stationary-source determinations on the basis of controlling law and applicable regulations, PADEP's Secretary explained that,

> [o]ver time, there was a tendency by some regulators to morph the meaning of "contiguous" or "adjacent" to mean only that operations on the properties be "interdependent[.]" This view has been expressed in various federal Environmental Protection Agency (EPA) recommendation letters or policy statements in recent years <u>after</u> the court case on this topic in 1979 and <u>after</u> the adoption of the regulations on this topic in 1980. <u>That [EPA] interpretation is not supported by the court decision, the EPA or state regulations</u>.

Id. (emphases added). In short, the State of Pennsylvania concluded that it could not support an EPA interpretation of a stationary-source criterion that differed from, and was made subsequent to, the interpretation of that criterion which EPA had established during the rulemaking process that explained its original meaning. The State also acknowledged that Louisiana, Oklahoma, Texas and West Virginia were adopting similar approaches that relied on the meaning of "contiguous" or "adjacent" that was applied with the original PSD definition of stationary source rather than the vastly expanded meaning of those words provided in EPA "guidance." *Id.*

As illustrated by the preceding example, EPA's and some states' current analytical methodology for determining which emitting activities belong to the same stationary source is highly suspect. The original PSD and Title V meanings of the three regulatory criteria that define a stationary source have not been changed by rulemaking. And yet, through a series of post-rulemaking documents generally labeled as guidance, or policy, or recommendation, EPA "over time" has substantially broadened the meanings of each criterion to the point that many emitting activities that would never belong to the same stationary source as defined by regulation are now routinely and matter-of-factly aggregated as a single source. Neither EPA nor any other permitting authority can justify the all-too-common practice of "morphing" the specific regulatory definitions of those three criteria into very different, expanded meanings by simply characterizing stationary-source determinations as "highly fact-specific" decisions that are made on a "case-by-case" basis.

San Juan Coal Company respectfully requests the NMED to recognize that some existing documents referred to as "guidance" for making stationary-source determinations are actually not guidance at all. Instead, such documents contain unlawful interpretations of one or more of the regulatory definitions for the three criteria shared by emitting activities that belong to the same stationary source. Against the preceding background which explains why stationary-source determinations must be made in accordance with meanings of terms established by rulemaking and not by some after-the-fact, unlawful revision of that rulemaking, the Company provides the following demonstration that San Juan Mine is a single stationary source separate from the pollutant-emitting activities that belong to the San Juan Generation Station.

II. "Belong to the Same Industrial Grouping"

In order to apply the appropriate regulatory meanings for each of the three stationary-source criteria, one must have an informed understanding of the history of why and how EPA established each criterion in the regulations. To that end, EPA's preambles to the 1979 proposed PSD rules and the 1980 promulgated PSD rules contain a wealth of information, especially with respect to the purpose and meaning of the belong-to-the-same-industrial-grouping criterion. EPA's other discussions of the three criteria during the general time of that rulemaking provide additional insights into the original, but still applicable, regulatory meanings of each criterion.

As explained herein, EPA established the belong-to-the-same-industrial-grouping criterion to ensure that the definition of stationary source would group emitting activities in keeping with the common sense notion of "plant." A straightforward, easy-to-use, objective "SIC test" was developed for that purpose. Sometime after its promulgation of the SIC test, however, EPA added an alternative "support-facility test" that unlawfully renders the SIC-based regulatory criterion meaningless in most, if not all, situations where all collocated emitting activities do not have the same two-digit SIC code.

Regulators and regulated alike need to appreciate the fundamental purpose and ease of application of the SIC test. Regulators and regulated alike also need to know that EPA's non-regulatory support-facility test is based on an erroneous, after-the-fact interpretation of one sentence in the preamble to the 1980 PSD regulations and that test has no force of law.

A. *The 1980 PSD Definition and EPA's Explanation of the Regulatory Scheme for Aggregating Activities that Belong to the Same Industrial Grouping*

EPA *proposed* in 1979 that a stationary source under the PSD regulations would consist of:

> Any grouping of pollutant-emitting activities which are located on one or more contiguous or adjacent properties and which are owned or operated by the same person (or by persons under common control).

44 Fed. Reg. 51,952 (Sept. 5, 1979) (definition of "building, structure, facility or installation"). Notably, the *proposed* definition of stationary source did not include a requirement that all pollutant-emitting activities belong to the same industrial grouping. EPA's subsequent explanation for why that third criterion was added to the *final* definition of a stationary source is absolutely critical to an understanding of why a coal mine must be a stationary source separate from an adjacent coal-fired power plant.

In response to EPA's *proposed* two-pronged definition of stationary source, some commenters asserted that it would be too inclusive, i.e., that the definition would mistakenly group sets of activities at one site and under common control that are functionally or operationally distinct and therefore should be separate sources. A surface coal mine and coal-burning electrical generators that the mine supplies with coal was one example of activities at one site and under common control that commenters thought would be inappropriately grouped as a single stationary source under the proposed definition. Consistent with the *Alabama Power* opinion, those commenters "contended generally that to group the nominally different activities in each of [the commenters'

examples cited by EPA] would violate any common sense notion of 'plant'." 45 Fed. Reg. 52,694 (Aug. 7, 1980).

On the other hand, some commenters thought the proposed two-pronged definition would not be sufficiently inclusive. Those commenters urged EPA to abandon "control" as one criterion in the definition of stationary source and to adopt "function" in its place. *Id.*

In finalizing the definition of "stationary source" in 1980, EPA added a third criterion, i.e., that all pollutant-emitting activities of the same stationary source must belong to the same industrial grouping. In its preamble to that rulemaking, EPA first explained that the *proposed* two-pronged definition of "stationary source" "fail[ed] to approximate a common sense notion of 'plant,'" since in a significant number of cases it would group activities that ordinarily would be considered as separate." *Id.* at 52,695. However, adding a third prong to the definition, i.e., that activities must also belong to the same industrial grouping, would ensure that collocated activities would be grouped in keeping with that common sense notion of "plant."

In that same preamble to the final 1980 PSD rules, EPA explained in detail why a standard industrial classification (SIC) methodology had been selected as the means for "distinguishing between sets of activities on the basis of their functional interrelationships." *Id.* Given the significance of EPA's explanation, it has been repeated below, as follows:

> EPA has chosen the [SIC Manual] because it is both widely known and widely used. EPA has also chosen to use just one set of categories in the manual, those that describe each "Major Group" in the classification system and that bear a two-digit classification number[.] . . . On the one hand, the two-digit categories are narrow enough to separate sets of activities into common sense groupings. In fact, most of the nominally different sets of activities in the examples given above would fall into a different two-digit category;[2] only the fertilizer factory and the pesticides factory would fall into the same category. On the other hand, the [two-digit SIC] categories are broad enough to minimize the likelihood of artificially dividing a set of activities that does constitute a "plant" into more than one group and the likelihood of disputes over whether a set of activities falls entirely into one category or another.

45 Fed. Reg. 52,676, 52,695 (Aug. 7, 1980).

As EPA explained, the two-digit SIC categories are able to separate a variety of collocated activities into "common sense [industrial] groupings," and yet those two-digit categories are broad enough to avoid artificially dividing a set of collocated activities that does constitute a "plant" into more than one stationary source. Moreover, EPA explained that use of the two-digit SIC code to group activities into the same industrial groupings would minimize the likelihood of disputes over whether various collocated activities fall entirely into one category or another.

[2] One of EPA's examples of collocated activities that must be grouped into two separate stationary sources to satisfy the common sense notion of "plant" was "a surface coal mine and coal-burning electrical generators that the mine supplies with coal." *See* 45 Fed. Reg. at 52,694.

In short, EPA's 1980 PSD regulations prescribed that pollutant-emitting activities can only be part of the same stationary source if the activities belong to the same industrial grouping. And, importantly, those regulations specified that activities belong to the same industrial grouping if they have the same two-digit SIC code. 45 Fed. Reg. at 52,736 (codified at 40 C.F.R. § 52.21(b)(6)). EPA established the "SIC test" for determining an activity's industrial grouping because it was a straightforward, simplified way to distinguish between different activities based upon their "functional interrelationships." Those regulations and their underlying principles remain in full force today.

Not only does EPA's 1980 preamble clearly document the purpose of using SIC codes for distinguishing between industrial groupings of different pollutant-emitting activities, but the preamble also provides EPA's rationale for not explicitly defining stationary source in terms of the functions of such activities. Because some commenters had thought the proposed definition of "stationary source" would not be inclusive enough, they had urged EPA to formulate a definition that looked only to proximity and function. 45 Fed. Reg. at 52,695 (emphasis in preamble language). However, in rejecting "function" as one of the explicit criteria that defines a stationary source, EPA responded that:

> While EPA sought to distinguish between activities on that basis [of their functional interrelationships], it also sought to maximize the predictability of aggregating activities and to minimize the difficulty of administering the definition. To have merely added function to the proposed definition as another abstract factor would have reduced the predictability of aggregating activities under that definition dramatically, since any assessment of functional interrelationships would be highly subjective. To have merely added function would also have made administration of the definition substantially more difficult, since any attempt to assess those interrelationships would have embroiled the Agency in numerous, fine-grained analyses. A classification code, by contrast, offers objectivity and relative simplicity.
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> * * *
>
> [S]uch a definition [of stationary source] by looking to function would unnecessarily increase uncertainty and drain the Agency's resources. In addition, such a definition would present groupings such as the example the commenters gave,[3] that would severely strain the boundaries of even the most elastic of the four terms, "building," "structure," "facility" and "installation."

Id.

[3] This particular example involved a group of independent companies operating nearby manufacturing facilities where each manufacturer relied upon its oil-burning power plant. The plan would have replaced all of the oil-burning power plants with a single coal-fired power plant that would serve all of the manufacturing facilities and that would be located near those manufacturing facilities. Commenters asserted the definition of the component terms of "stationary source" had to be more inclusive such that all of the manufacturing facilities together with the new coal-fired power plant would constitute a single stationary source. 45 Fed. Reg. at 52,694. EPA, however, did not adopt such an approach, i.e., where the definition of the component terms of "stationary source" would be more inclusive.

In sum, the importance of the historical record accompanying EPA's development of the definition of "stationary source" cannot be overstated. In establishing its analytical methodology for determining which pollutant-emitting activities were part of the same stationary source, EPA deliberately avoided the need to evaluate an activity's "function" in relation to other activities' "functions." EPA correctly understood in 1980 that using "function" as one of the express criteria that defines a "stationary source" would be unworkable. Differentiating between stationary sources based on "function" would make stationary-source determinations far more uncertain because such assessments of "functional interrelationships" would necessarily be highly subjective. Not wanting stationary-source determinations to require permitting authorities to become embroiled "in numerous fine-grained analyses" of "functional interrelationships." EPA codified the regulatory "SIC test" for determining an activity's industrial grouping because it "offer[ed] objectivity and relative simplicity."

In developing the test for grouping activities with the same two-digit SIC code, the Agency discussed numerous examples of different groupings of activities at a single site. 45 Fed. Reg. at 52,694. Conspicuous by its absence from that discussion is any mention of a need to identify the "primary activity" at the site. Equally conspicuous by its absence from that discussion is any suggestion that facilities with an SIC code differing from that of the site's primary activity would constitute de facto "support facilities" that must be grouped with facilities of the primary activity. Notably, the fact that those issues were not a focus of EPA's preamble explanation of its promulgated regulatory approach for aggregating emitting activities that belong to the same stationary source is extremely telling. As demonstrated below, because EPA "guidance" has subsequently amended its regulatory approach with new concepts involving "primary activity at the site" and a "support-facility test," those concepts can have no force of law when applied to any stationary-source determination.

B. *NMED's Guidance for Applying the Meaning of "Belong to the Same Industrial Grouping"*

NMED's *Single Source Determination Guidance* contains excerpts from various stationary source determinations issued primarily by EPA over the years. The particular source determinations identified therein are but a handful of such determinations that have been made over the past three decades. Some of those cited determinations demonstrate the proper application of the regulatory meaning of "belong to the same industrial category." In particular, the court's decision in *Color Communications, Inc. v. Illinois Pollution Control Board*, 680 N.E.2d 516 (Ill. App. Ct. 1997) is directly on point in this instance.

The "4242" plant of Color Communications, Inc. (CCI) housed color-mixing operations and paint-coating lines and produced coated substrates, including paper and plastic. This plant sent color bases and colorants it produced to other CCI facilities, including CCI's "4000 plant" located more than a city block from the 4242 plant. The 4000 plant housed printing and assembly operations, and more than half of its printing and assembly of color boards involved the use of substrates from the 4242 plant. However, many of the 4000 plant's printing activities also involved materials obtained from third parties. Pollutant-emitting operations at the 4242 plant were classified under SIC major code 26, while pollutant-emitting activities at the 4000 plant were classified under SIC major code 27. *Id.* at 517-18.

Despite the two plants having different SIC major codes, the plants were treated by the State Board as a single stationary source for Title V permitting because the Board found that the 4242 plant served as a "support facility" for the 4000 plant. On appeal, the court reversed the Board's decision, explaining that

> [t]he plain language of the [State] statute . . .clearly requires that if several stationary sources have the same two-digit SIC code, they must be considered to belong to a single major industrial grouping. Accordingly, an industrial grouping is defined by SIC codes. A plain reading of this statute is that if several stationary sources do not have the same two-digit SIC code, they do not belong to the same industrial grouping.
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> * * *
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> By relying on the support-facility concept, the Board improperly looked beyond the unambiguous language of the statute to determine whether the two plants belonged to a single industrial grouping.

Id. at 520. In short, the Illinois court found the SIC test provided in the regulations clearly governed a determination that the two plants were separate stationary sources because of their different SIC major codes. Conversely, the court rejected the Board's claim that federal law (consistent with State law) incorporates the support-facility concept into the federal definition of "major source."

Although an Illinois court decision is clearly not controlling law in New Mexico, the court's decision is nevertheless persuasive. Applying a standard method of regulatory construction which gives effect to unambiguous language of a regulation, a New Mexico court would almost certainly come to the same conclusion with respect to the instant situation. The SIC major code for the San Juan Mine is 12, but the two-digit SIC code for San Juan Generating Station is 49. Because New Mexico's Title V definition of stationary source also requires all emitting activities of the same source to have the same two-digit SIC code, emitting activities of San Juan Mine do not belong to the same industrial grouping as that of the emitting activities at SJGS. On that basis alone, the Mine and the Generating Station cannot belong to the same stationary source.

NMED's *Single Source Determination Guidance* also contains one of the few prior source determinations which demonstrate an understanding of the basic principles that underlie the SIC-based regulatory scheme for grouping pollutant-emitting activities. This case involved a coking unit at a petroleum refinery and a separately owned sulfur recovery facility that would be installed at the same site to recover and then sell sulfur from the coker's exhaust gases. EPA explained that

> [w]e believe that the proposed project should be treated as two separate sources, based on our understanding that the Karley ATS [sulfur recovery] operation is a separate economic entity under the control of Karley and not Conoco. Our belief that this operation is a separate source and not a support facility, is based on the classification process contained in the Standard Industrial Classification Manual.

Letter from Douglas Skie, EPA Region VII, to Jeffrey Chaffee, Montana Air Quality Bureau, of Mar. 22, 1990.

EPA's analysis reflects a straightforward determination that the two-digit SIC code for the refinery's coking unit was different from the two-digit SIC code for the sulfur recovery operation. Moreover, the Agency's analysis appropriately considered the fact that the sulfur recovery facility had its own economic activity independent of the refinery, meaning that the sulfur recovery facility could not constitute a support facility as characterized by the SIC grouping process.

The parallels between that case and the facts of the instant case are evident. Not only does the San Juan Mine's SIC major code differ from that of San Juan Generating Station, but the Mine has its own primary economic activity, i.e., it produces, prepares and sells coal. As explained in more detail below, an emissions unit can be a support facility only if it has no primary economic activity of its own.

Unfortunately, most of the other cases in NMED's Guidance that should involve application of the SIC test to aggregate activities belonging to the same industrial grouping are examples where the SIC test has been supplanted by EPA's unlawful support-facility concept. The Title V and PSD regulations do accommodate source determinations involving support facilities, but not with the post-regulatory, broadened approach that has been devised by EPA.

C. *Guidance Issued Contemporaneously with Promulgation of the Regulations Defining "Stationary Source"*

Greater weight generally tends to be given regulatory interpretations that are contemporaneous with promulgation of the regulation itself, i.e., when the agency applying the regulation to specific facts is the same agency that recently developed and finalized that regulation. Thus, as previously noted, EPA's preamble to the final 1980 PSD regulations identified a surface coal mine and coal-burning electrical generators that the mine supplies as one example of collocated activities under common control that would constitute separate stationary sources. 45 Fed. Reg. 52,694-95. That 1980 contemporaneous guidance on grouping activities into different stationary sources based on their two-digit SIC codes is directly on point with the instant case. Notably, even when the mine and adjacent power plant were under common control in that example, EPA's contemporaneous guidance included no mention of the possibility that the mine might be a support facility for the power plant. EPA's 1980 guidance in this example is a prime illustration of EPA's common sense notion of "plant" at the time the definition of stationary source was promulgated.

Similarly, in its contemporaneous 1980 PSD Workshop Manual, EPA identified a new coal-fired electric plant to be located on property adjacent to a surface lignite mine, where the mine would be in dedicated service to the power plant and where the mine and power plant would be under common ownership. Based on that set of facts, EPA concluded that "the power plant, which is classified as SIC major group 49, and the adjacent mine, which is SIC major group 12, constitute separate sources" for the purpose of PSD applicability. EPA, *Prevention of Significant Deterioration Workshop Manual, Draft*, EPA-450/2-80-081, I-A-28 (Oct. 1980) (hereinafter "1980 PSD Manual"). Again, that 1980 contemporaneous guidance on grouping activities belonging to the same industrial grouping is directly on point with the instant case. EPA's

contemporaneous source determination was not influenced by consideration of some foreign idea of a "primary activity at the site." Nor was EPA's contemporaneous source determination influenced by consideration of some yet-to-be-concocted "support-facility test."

In 1990 EPA again addressed a similar set of facts and arrived at the same conclusion. In that example, a new coal-fired electric plant would be located near a separately-owned, existing surface lignite mine that would need to increase its mining capacity to supply the fuel requirements of the new power plant. Here too, EPA's stationary-source determination concluded that "[t[he power plant is classified as SIC major group 49; the nearby mine is SIC major group 12. They are neither under the same SIC major group number nor have the same owners, so they constitute separate sources." EPA, *New Source Review Workshop Manual (Prevention of Significant Deterioration and Nonattainment Area Permitting), Draft,* A.28-29 (Oct. 1990) (hereinafter "1990 NSR Manual"). Importantly, once again, a distinction between activities based on their industrial grouping consisted of a straightforward application of the regulatory SIC test. EPA's analysis did not require an assessment of some support relationship between the mine and the power plant. Rather, EPA's analysis was performed exactly as the Agency originally envisioned that the regulatory definition of stationary source would be interpreted and applied to collocated emitting activities, i.e., different SIC major groups, different owners . . . different stationary sources.

The scenario of a power plant and adjacent coal mine was even addressed by Congress during the Clean Air Act Amendments of 1990 when the Title V operating permit program was enacted, including a definition for the term "major source" at CAA § 501(2). In particular, the House Committee Report for the 1990 Amendments acknowledged that

> [t]he definition of "major source" here and elsewhere in the bill uses the term "group of sources located within a contiguous area and under common control." The Committee understands this to mean a group of sources with a common industrial grouping, i.e., the same two-digit SIC code. It is the approach followed today by EPA as a result of the Alabama Power litigation. <u>It avoids the possibility that dissimilar sources, like a power plant and an adjacent coal mine, will be considered as the same "source" because of common ownership</u>.[4]

56 Fed. Reg. 21,724 (May 10, 1991) (citing H.R. REP. NO. 490(I), 101st Cong., 2d Sess. 236-37 (1990)) (emphasis added). In other words, Congress plainly understood that the regulatory SIC test for stationary-source determinations, first promulgated with the 1980 PSD regulations, was needed as well for Title V purposes to prevent a commonly owned power plant and adjacent coal mine from being treated as a single stationary source. Congress confirmed EPA's original position that aggregation of a coal mine with an adjacent coal-fired power plant as a single stationary source was totally inconsistent with a common sense notion of "plant."

[4] Several years later EPA applied an unbelievable "spin" on the legislative history by labeling this statement as "anomalous" and an "isolated comment," clearly reflecting the Agency's revisionist history and its persistent reliance on "guidance" to depart from the 1980 regulatory definition of stationary source. EPA, "Draft Preamble to Revised Part 51 and Part 70," EPA Docket No. A-93-50; VI-A-5, 22-26 (Feb. 18, 1998). Importantly, while EPA at one time may have contemplated a regulatory revision to one or more of the three definitional criteria for "stationary source," no such <u>rulemaking</u> change has ever been promulgated.

In sum, the regulatory SIC test was promulgated by EPA as an objective and relatively simple means of grouping pollutant-emitting activities based on their respective industrial groupings. In particular, EPA's regulations specifically provide that pollutant-emitting activities belong to the same industrial grouping when they have the same two-digit SIC code. Consequently, at the time the 1980 PSD regulations were promulgated and a decade later when the Title V regulations were finalized, those regulations clearly regarded a coal mine and adjacent coal-fired power plant as two separate stationary sources. Indeed, in enacting the Title V program, Congress confirmed the particular scenario of those two adjacent but different stationary sources as illustrative of the common sense notion of "plant," i.e., that all of the collocated activities of the mine and power plant could not properly be aggregated as a single stationary source or plant.

D. *The Non-regulatory Term "Support Facility" Must Be Properly Construed.*

Since the 1980 promulgation of the regulatory definition of stationary source and the Agency's contemporaneous explanations of the criteria that define that term, EPA over the years has developed and applied guidance involving the Agency's support-facility concept which essentially negates the longstanding SIC test required by the 1980 regulations. In doing so, EPA has portrayed its support-facility concept as a product of that 1980 PSD rulemaking. In particular, EPA has attempted to characterize that concept as part of the definition of stationary source by reference to a single sentence in the preamble to the 1980 PSD regulations.

The problem is, however, EPA's explanation of that preamble sentence takes the original meaning of the sentence completely out of context. EPA's inappropriate support-facility concept has then been applied to numerous stationary source determinations, apparently without some permitting authorities and sources knowing that the concept is based not on the 1980 regulatory definition of stationary source but rather on a major misinterpretation of preamble language which revises that regulatory definition. For that reason, EPA's support-facility guidance cannot lawfully be used to replace or override industrial groupings that would otherwise result from application of the regulatory SIC test.

In order to understand why EPA's support-facility test is such an egregious departure from the industrial grouping approach adopted by regulation as part of the definition of stationary source, an understanding of how EPA developed its support-facility concept is essential. Therefore, the following explains why EPA's support-facility concept is not a legitimate factor to be considered in stationary source determinations.

1. *Origin and Effect of EPA's Flawed "Support-Facility" Guidance*

EPA regulations prescribe use of the SIC test for determining which pollutant-emitting activities belong to the same industrial grouping – one of the three criteria that activities must have in common to be parts of the same stationary source. In its preamble to the 1980 PSD regulations, EPA explained that the SIC test was selected as part of the definition of "stationary source" because that approach would properly separate different kinds of collocated pollutant-emitting activities into common-sense groupings.

EPA further explained that, in the absence of the SIC test, the *proposed* two-pronged definition of stationary source would frequently result in grouping nominally different activities at a site as one source when they ordinarily would be appropriately grouped as separate sources. 45 Fed.

Reg. at 52,695. To illustrate that point, EPA identified a number of examples where nominally different activities at a site would not be appropriately separated into two or more stationary sources unless the SIC test was applied to aggregate only those activities belonging to the same industrial group. In other words, with one exception, EPA's application of the SIC test to each example of nominally different activities resulted in that site containing two or more separate stationary sources. *Id.*

Against that preamble background discussion of several examples of *multiple* stationary sources at a single location or site, EPA further explained that:

> [e]ach source [at a particular site] is to be classified according to its primary activity, which is determined by its principal product or group of products produced or distributed, or services rendered. Thus, one source classification encompasses both primary and support facilities, even when the latter includes units with a different two-digit SIC code. Support facilities are typically those which convey, store, or otherwise assist in the production of the principal product. Where a single unit is used to support two otherwise distinct sets of activities, the unit is to be included within the source which relies most heavily on its support.

Id. (emphasis added). In other words, for a particular example in the 1980 preamble where application of the SIC test determines that two or more stationary sources exist at a given site, "each source" at that site should be classified according to its primary activity. EPA acknowledged, however, that any source at that site may also include support facilities that have a two-digit SIC code different from that of the source and its primary activity. .

Sometime after the 1980 PSD regulations were promulgated along with the accompanying preamble language above, EPA decided to interpret the meaning of that language differently by taking the first sentence of that quoted preamble completely out of context. EPA has revised the original meaning of the term "each source" in the above sentence to instead mean that any particular site with various collocated activities nevertheless consists of but a single stationary source ("each source") classified according to the primary activity at the site. In other words, EPA totally ignored its own original regulatory approach wherein each group of pollutant-emitting facilities with the same two-digit SIC code was characterized by its own primary economic activity. *See, e.g.,* letter from Matt Haber, EPA Region IX, to Jennifer Schlosstein, Simpson Paper Company, of Nov. 27, 1996. It should be readily apparent that EPA's subsequent interpretation of the above preamble language drastically changes the meaning of that language.

EPA's preamble language contained different examples of several stationary sources being present at a site containing a variety of nominally different facilities and how each such source at that site should be classified according to its primary activity. However, the meaning of that preamble language has been substantially altered by an inappropriate Agency re-interpretation that implicitly assumes that the site always contains a single stationary source, i.e., "each source," defined by the primary activity at the site. EPA's revisionist approach proceeds further by finding that any emitting facility at the site that has a two-digit SIC code different from that of the site's primary activity constitutes a support facility that also belongs to the single source at

the site. In effect, EPA's unlawful re-interpretation of its own original preamble consistently results in stationary-source determinations that almost always find a single source at a given site.

For many cases of collocated, nominally different activities, a support facility as originally explained by EPA is not an issue in a stationary-source determination. By virtue of each collocated emitting activity's two-digit SIC, that activity is grouped with other activities under common control with the same SIC. Thus, when different activities at a site do not all have the same two-digit SIC, then there typically will be more than one stationary source at the site. EPA's support-facility "guidance" turns that regulatory SIC test on its head by inevitably finding a single stationary source at any site containing nominally different pollutant-emitting activities. In short, EPA's support-facility guidance fails to implement the common sense notion of "plant" that EPA intended the SIC test to do.

In sum, EPA's support-facility concept has no basis in law because it arises from nothing more than a revision of the regulatory meaning of stationary source without the necessary notice-and-comment rulemaking. Read objectively and in full context, preamble language within the 1980 PSD regulations does not address either EPA's support-facility concept or the Agency's idea that collocated nominally different emitting activities always constitute a single stationary source that is classified according to the primary activity at the site. One needs only to parse through the entire preamble discussion at 45 Fed. Reg. 52,694-95 to see that EPA's support-facility test is based solely on a major misinterpretation of that preamble language. That test cannot be used in place of the regulatory SIC test for grouping industrial activities that are part of the same stationary source.

2. *Regulatory Basis for the Support-Facility Concept*

The preamble to the 1980 PSD regulations explains in detail how and why the classification scheme of the SIC Manual was used as the regulatory basis for aggregating emissions activities that belong to the same industrial group. Consequently, in order to interpret and apply appropriately the PSD (and Title V) regulatory concept of "support facility," one must first understand how that regulatory concept arises from the SIC-classification scheme.

Under the industrial classification approach of the SIC Manual, an "operating establishment" is primarily engaged in producing goods or materials. An operating establishment has its own primary economic activity. On the other hand, an "auxiliary establishment" in the SIC grouping scheme is primarily engaged in providing assistance or support to an operating establishment of the same owner. Notably, an auxiliary establishment in the SIC system does not have its own primary economic activity. Furthermore, under the SIC scheme, some establishments that otherwise meet the general definition of auxiliary establishment are nevertheless classified as operating establishments on the basis of their primary activity if they are primarily engaged in producing goods for other establishments of the same owner when such goods are covered by certain SIC Major Groups involving Manufacturing, Mining, Construction and Agriculture. U.S. Census Bureau, NAICS Clarification Memorandum No. 3, "Classifying SIC Auxiliary Establishments in NAICS," Appendix 1 (excerpted from pp. 13-17 of 1987 SIC Manual); *see* http://www.census.gov/eped/www/naimemo3.htm, last visited Apr. 8, 2011.

The parallels between the industrial classification approach of the SIC Manual and the industrial grouping method of the PSD regulations are apparent. A "stationary source" is the regulatory counterpart of an "operating establishment" in the SIC system, where either entity primarily produces goods and has its own primary economic activity. Moreover, a "support facility" is the regulatory counterpart of an "auxiliary establishment" in the SIC system, where either entity is primarily engaged in providing assistance or support to another entity that primarily produces goods, and where the support facility, like the auxiliary establishment, does not have its own primary economic activity.

For example, EPA considered whether a salt manufacturing plant located on one side of the Great Salt Lake and a pump station supplying brine to the plant but located on the other side of the Lake should be considered a single source or two separate sources. As EPA explained:

> The underlying facts indicate that the pump station operates solely as a support facility to the plant. Guidance in the Standard Industrial Classification (SIC) Manual … states that the SIC code is a system for classifying establishments by type of economic activity. Each establishment is classified according to its primary activity. The pump station activity [sic] does not have its own primary economic activity but only supports the activity of the main facility.

Letter from Richard Long, EPA Region VIII, to Lynn Menlove, Utah Division of Air Quality, of Aug. 8, 1997.

Based upon those principles within the SIC Manual, an establishment, such as a coal mine, that primarily produces goods for an operating establishment (stationary source) belonging to a different owner, such as a power plant, would also be classified as a separate operating establishment, i.e., as a separate stationary source. Because the mine has its own primary economic activity, it would not be considered as a support facility for the power plant. Thus, when the regulatory concept of "support facility" is properly applied in keeping with the underlying SIC concept of an auxiliary establishment, the support-facility concept serves to merely supplement, rather than replace, the regulatory SIC test as the appropriate method for grouping collocated, nominally different pollutant-emitting activities, consistent with the common sense notion of "plant."

E. *Summary*

The two-digit SIC code for the pollutant-emitting activities at San Juan Mine is 12, but the two-digit SIC code for the pollutant-emitting activities at San Juan Generating Station is 49. By regulatory definition, those activities at the Mine do not belong to the same industrial grouping as those activities at the Generating Station. Thus, in keeping with the plain language of the regulations, 20.2.70.7,R NMAC; 20.2.74.7.L NMAC, the pollutant-emitting activities at San Juan Mine and the pollutant-emitting activities at San Juan Generating Station cannot be parts of the same stationary source. That conclusion is fully consistent with prior findings by both EPA and the Congress that a coal mine and an adjacent coal-fired power plant constitute two separate stationary sources for PSD and Title V purposes.

Contrary to EPA's support-facility "guidance," San Juan Mine is not a support facility for San Juan Generating Station. First, EPA's support-facility "guidance" has no force of law and cannot serve to replace a regulatory requirement, i.e., the SIC test. Moreover, EPA's concept of a support-facility is fundamentally flawed because it is based on a single preamble sentence that the Agency has taken completely out of context. The San Juan Mine has its own primary economic activity. Therefore, consistent with EPA's original reliance on the industrial classification scheme of the SIC Manual as applied to the definition of stationary source, San Juan Mine cannot constitute a "support facility" for some other stationary source.

III. "Under Common Control of the Same Person"

In defining the term "stationary source," EPA prescribed that all pollutant-emitting activities that are part of the same stationary source must, among other criteria, be "under the control of the same person (or persons under common control)." 40 C.F.R. § 52.21(b)(6). The language in New Mexico's Title V rule expresses that criterion slightly differently, i.e., "under common control of the same person(s)." 20.2.70.7.R NMAC. That language seems rather redundant since activities that are under control of the same person are, in fact, under common control. Nevertheless, EPA's and the State's meanings are intended to be the same.

As stated previously, application of the appropriate regulatory meanings for each of the three stationary-source criteria requires a well-informed understanding of the history of why and how EPA established each criterion. The regulatory background for the "common control" prong of the stationary-source definition is not nearly as extensive as the history and related documentation of EPA's decision to use two-digit SIC codes to determine which pollutant-emitting activities "belong to the same industrial grouping."

Nevertheless, EPA's preambles to the 1979 proposed PSD rules and the 1980 promulgated PSD rules provide general discussions of how EPA viewed the "control" component of the definition of stationary source. Shortly after that promulgation, EPA expanded on that viewpoint in a separate Federal Register explanation. In addition, contemporary Agency discussions of the control criterion in several examples help to establish what EPA intended when it required emitting activities to be under control of the same person. Finally, EPA's original PSD regulatory program prior to enactment of the PSD program under the Clean Air Act illustrates how EPA initially determined when emitting activities that belonged to the same stationary source were under common control. In short, around the time that EPA promulgated the control requirement as one element of a stationary source, the Agency provided sufficient information about how that regulatory criterion should be interpreted and applied in stationary source determinations.

Just as EPA has done over the years with respect to the regulatory criterion for emitting activities to belong to the same industrial grouping, EPA has issued a plethora of decisions, guidance memoranda and recommendation letters about how to evaluate whether emitting activities are under control of the same person, i.e., whether those activities are under common control. Some of those Agency determinations of control have been true to the original meaning of that regulatory criterion. Many other Agency determinations, however, have expanded the meaning of that control component far beyond what the original regulation ever intended.

Thus, as explained herein, while there are numerous purported "guidance" documents on how to interpret and apply the control criterion, many of those documents are not guidance at all. That is, many of those documents do not interpret the underlying regulation in the context of a specific factual situation. Rather, those particular documents actually change the regulatory meaning of the "control" term in some manner, most often by adding other characteristics of what it means to be under common control. Consequently, because interpretations of "common control" in those particular documents go beyond the limited scope of what common control meant with the 1980 definition of stationary source, those interpretations may represent EPA's current view, but they cannot lawfully replace, or even supplement, the regulatory meaning of control contained within the definition of stationary source.

Regulators and regulated alike need to understand the narrow meaning of "control" as that term was used in the 1980 regulatory definition of stationary source. Regulators and regulated alike also need to know that, subsequent to the 1980 promulgation of that definition with its three criteria, EPA has unlawfully expanded the meaning of the control criterion through a series of source determinations and associated documents. EPA's so-called tests for "contract-for-service relationship" and "support/dependency relationship" are not part of the original meaning of the term "control" when it was promulgated as one of the three criteria in the 1980 regulatory definition of stationary source. Therefore, a permitting authority cannot lawfully require reliance on those tests to determine whether emitting activities are under common control.

A. *The 1980 PSD Definition and EPA's Explanation of "Control"*

The PSD concept of "control" of pollutant-emitting activities first originated with EPA's PSD regulations that were promulgated prior to the statutory PSD program's enactment with the Clean Air Act Amendments of 1977. 39 Fed. Reg. 42,510 (Dec. 5, 1974) (codified at 40 C.F.R. § 52.21). The 1974 regulatory program required new source review for 18 different types of new and modified stationary sources, identified in those regulations using the common sense notion of "plant." 39 Fed. Reg. at 42,516. That regulatory program did not actually use the term "control." However, the 1974 regulatory program prohibited an owner or operator from constructing or modifying any source subject to the new source review requirements. *Id.* EPA explained in its preamble to the proposed regulations that the program's proposed preconstruction review "procedures require that owners or operators submit data to the State and apply for approval to construct[.]" 38 Fed. Reg. 18,986 (July 16, 1973). In other words, EPA's 1974 PSD program 1974 clearly implies that the emitting activities of a stationary source that were under common control were those that were <u>owned or operated</u> by the same person.

Furthermore, when the term "source" was first defined for PSD purposes after the 1977 Amendments, EPA contemplated aggregation of emitting activities that were "located on one or more contiguous or adjacent properties and which [were] <u>owned or operated</u> by the same person (or by persons under common control)." 43 Fed. Reg. 26,380, 26,404 (June 19, 1978) (emphasis added). The D.C. Circuit Court of Appeals subsequently referred to that language in the definition of "source" as "contiguous and commonly owned units," *Alabama Power Co. v. Costle*, 636 F.3d 323, 397 (D.C. Cir. 1979), and as "EPA's contiguity and common ownership criteria," *id.* 398.

When EPA proposed extensive amendments to its PSD regulations after the *Alabama Power* decision, the Agency retained that same "owned or operated" language. 44 Fed. Reg. 51,924, 51,952 (Sept. 5, 1979). EPA subsequently solicited additional public comment on its proposed definition of stationary source that "would make proximity and control the key factors in deciding whether to combine a particular [pollutant-emitting] activity with other ones for applicability purposes." 45 Fed. Reg. 6802, 6803 (Jan. 30, 1980). EPA's statement makes clear that it considered the words "owned or operated" to be interchangeabe with the term "control. Notably, at that time the Agency also explained that "EPA intends to use those factors in a reasonable way." *Id.*

That proposed "owned or operated" language was modified slightly with the 1980 final PSD regulations which envisioned aggregation of pollutant-emitting activities that were "<u>under the control</u> of the same person (or persons under common control)." 45 Fed. Reg. at 52,736 (Aug. 7, 1980) (definition of "building, structure, facility, or installation") (codified at 40 C.F.R. § 52.21(b)(6) (emphasis added)). Based on EPA's prior discussion of the two prongs of the proposed definition of stationary source, it is reasonable to conclude that the word "control" was intended to mean either ownership of an emitting activity or the management of an emitting activity's operation. (As explained previously, with promulgation of the 1980 PSD regulations, EPA added the third criteria for emitting activities to be part of the same stationary source, i.e., that they belong to the same industrial grouping, as determined by the two-digit SIC code of each activity.)

Shortly after its 1980 PSD rulemaking with the three-pronged definition of stationary source, EPA further explained that any determination of whether emitting activities were under common control would be made on a case-by-case basis, guided by the general definition of "control" used by the Securities and Exchange Commission (SEC). 45 Fed. Reg. 59,878 (Sept. 11, 1980). The SEC defines "control" as "the possession, direct or indirect, of the powers to direct or cause the direction of the management and policies of a person,[5] whether through the ownership of voting securities, by contract, or otherwise." 17 C.F.R. § 240.12b-2. Importantly, in the context of the definition of stationary source, the SEC definition of "control" involves the direction of the management of pollutant-emitting activities and not the management of a person.

Thus, with the promulgation of the 1980 PSD definition of stationary source, EPA's historical understanding of when emitting activities were under common control had consistently been whenever those activities were owned or operated by the same person (or persons under common control). In other words, the term "control" in the regulatory definition of stationary source means having dominion over the operation of an emitting activity. The plain meaning of the regulatory definition of that criterion is neither complex nor uncertain, thereby satisfying EPA's original intent to define stationary source with criteria that "offer[ ] objectivity and relative simplicity," i.e., that "maximize the predictability of aggregating activities and [ ] minimize the difficult of administering the definition." 45 Fed. Reg. at 52,695.

B. *NMED's Guidance for Applying the Meaning of "Under Common Control"*

NMED's *Single Source Determination Guidance* contains excerpts from various stationary source determinations that examined whether emitting activities were under "common control."

[5] The term "person" is defined broadly under the Securities Exchange Act of 1934 to mean "a natural person, company, government, or political subdivision, agency, or instrumentality of a government." 15 U.S.C. § 78C(a)(9).

For example, long after it promulgated the definition of stationary source based on three specific criteria, EPA stated that "common control" of pollutant-emitting activities could be established by a variety of different tests:

> First, common control can be established through ownership (i.e., same parent company or a subsidiary of the parent company). Second, common control can be established if an entity such as a corporation has decision-making authority over the operations of a second entity through a contractual agreement or voting interest. If common control is not established by the first two mechanisms, then one should next look at whether there is a contract for service relationship between the two companies or if a support/dependency relationship exists between the two companies[.]

Letter from Steve C. Riva, EPA Region II, to Michael L. Rodburg, Esq. of Nov. 25, 1997 (internal citations omitted) (emphases added).

Knowing the background of why and how EPA established the "common control" criterion in the regulatory definition of stationary source, one can only ask what particular regulation EPA has interpreted in making the statement above. The regulatory history of that criterion plainly demonstrates that ownership of emission units and decision-making authority for emission units were the two "mechanisms," and only "mechanisms," for determining whether emitting activities were under common control. At no time during its promulgation of the regulatory definition of stationary source did EPA suggest that common control could also be demonstrated either by a "contract for service relationship" or by a "support/dependency relationship."

The above EPA "guidance" is an obvious illustration of how, over the years, the Agency has revised the regulatory meaning of "common control" in the context of a stationary source. As explained earlier, EPA is certainly free to change its interpretation of a regulation under the Clean Air Act, but that change must be accomplished by notice-and-comment rulemaking. Because EPA has issued the above purported "guidance" that significantly revises the original regulatory meaning of "common control," those revisions to the regulation have no force of law. That is, EPA's "mechanisms" for determining "common control" of emitting activities by establishing a "contract for service relationship" or a "support/dependency relationship" are not part of the regulatory definition of stationary source and, for that reason, they are unenforceable.

Another example of EPA's determination of "common control" that goes far beyond the scope established in the 1980 regulations for that criterion is the Agency's assessment of three adjacent plants consisting of a steel mill that sold slag from its basic oxygen furnace to one slag processing plant and slag from its blast furnace to another slag processing plant. Each of the adjacent plants had a different owner. EPA stated that its analysis was "guided by the definition of control used by the [SEC]." EPA further stated that "[i]f two sources are under different ownership, but one company has some decision-making ability in the second facility through a contractual agreement or a voting interest, the sources can be considered under common control." Those statements reflect EPA's general understanding of what constitutes common control of emitting activities in the context of the 1980 definition of stationary source. (However, the contours of "some decision-making ability in the second facility" needs to be better defined, i.e., whether the first company actually had dominion over the operation of the

emitting activities of the second company.) *See* letter from Cheryl Newton, EPA Region V, to Robert Hodanbosi, Ohio EPA, of July 15, 1997.

However, after laying the regulatory groundwork for its determination of control, EPA then stated "[a]djacent sources under different, independent ownership may be considered under common control due to the nature of their operations." *Id.* The "nature" of adjacent sources' operations is not a factor within the regulatory scope of the common control criterion. Indeed, EPA went to great lengths during development of the 1980 PSD regulations to explain why the Agency did not want the meanings of its stationary source criteria to turn on subjective analyses of the functional interrelationships among emitting activities. 45 Fed. Reg. at 52,695. Contrary to EPA's statement, the possibility that the slag processing plants appeared to be entirely dependent upon agreements and contracts with the steel mill is not evidence of "common control" as that term was defined and explained with the 1980 regulations.

In that same example, EPA further stated that "if the primary function of one facility is to support the production of the other facility's principal product, then the two facilities should be considered as one source for permitting." *Id.* That statement is simply a gross misrepresentation of the fundamental regulatory concept of "support facility; it completely ignores the fact that each of the facilities has its own primary economic activity that precludes one stationary source from being a "support facility" for the other. In keeping with its original regulatory meaning which still remains applicable, the term "common control" of emitting activities is not determined by evaluating the functional interrelationships of those activities.

In several source determinations referenced in NMED's *Guidance*, EPA has referred to a list of numerous questions to be used as "screening criteria" in determining whether a "control relationship" exists. *See, e.g.*, letter to Peter Hamlin, Iowa Air Quality Bureau, from William Spratlin, EPA Region VII, of Sept. 18, 1995 ("The list of questions is not exhaustive."). EPA's promulgation of the regulatory definition of stationary source with its "common control" criterion never hinted at having "screening criteria" to establish the presence of that criterion. EPA also states in that letter that "[o]ur approach to looking at control is based in part on regulatory background information, prior EPA guidance materials, common sense, and limited formal decisions on the matter." *Id.* (emphasis added). While that may appear to be re-assuring, EPA fails to state the other factors on which its approach is based. Furthermore, EPA's reliance on "prior EPA guidance" undoubtedly involves its use of previous control determinations where the Agency also went far beyond the regulatory boundaries for that control criterion.

In sum, many of EPA's "common-control" determinations contained in NMED's *Guidance* are characterized by the Agency's consideration of numerous factors that simply are not within the original regulatory scope of the term "control." That EPA practice of "morphing" the original meaning of the control criterion beyond the scope of its regulatory definition has occurred for years. The fact that the Agency's excursion beyond applicable regulatory requirements has been a rather consistent, longstanding practice does not render those EPA determinations valid. "Guidance" that changes the meaning of the original regulatory criterion for "common control" cannot lawfully be used to supplement or replace the regulatory meaning of that term.

C. *Guidance Issued Contemporaneously with Promulgation of the Regulations Defining "Stationary Source"*

As noted previously, greater weight generally is given to regulatory interpretations that are contemporaneous with promulgation of the regulation itself, i.e., when the agency applying the regulation to specific facts is the same agency that recently developed and finalized that regulation. For example, in its 1980 PSD Manual that was issued in concert with the 1980 PSD regulations, EPA explained that "[i]n most cases, a source can clearly be defined on the basis of the property boundary and ownership criteria of the definition." 1980 PSD Manual at I-A-2 (emphases added). In other words, at the time the "common control" criterion was promulgated as part of the regulatory definition of stationary source, the absence of common ownership of emitting activities was sufficient in itself to determine that those activities were not under common control.

Similarly, EPA's 1990 NSR Manual developed just prior to EPA's promulgation of its Title V regulations provided an example of what was not deemed common control in the context of the regulatory definition of stationary source. That scenario consisted of a new coal-fired electric plant to be located near a separately-owned, existing surface lignite mine that would supply the fuel requirements of the new power plant. EPA concluded matter-of-factly that the power plant and the nearby mine "are neither under the same SIC major group number nor have the same owners, so they constitute separate sources." EPA 1990 NSR Manual at A.28-29 (emphasis added). Again, the fact that emitting activities did not have the same owner was sufficient in itself to determine that not all of the activities were part of the same stationary source. Notably, in the case of that contemporaneous guidance, no further assessments of other possible indicia of control were required for the stationary source determination. Since the mine had one owner and the nearby power plant had a separate owner, EPA held that the mine and the power plant were not under common control.

The previously cited legislatively history of Title V's enactment demonstrates that Congress also considered common ownership of pollutant-emitting activities to be synonymous with "common control" of those activities. As the House Committee Report for the 1990 Amendments acknowledged,

> [t]he definition of "major source" here and elsewhere in the bill uses the term "group of sources located within a contiguous area and under common control." The Committee understands this to mean a group of sources with a common industrial grouping, i.e., the same two-digit SIC code. It is the approach followed today by EPA as a result of the Alabama Power litigation. It avoids the possibility that dissimilar sources, like a power plant and an adjacent coal mine, will be considered as the same "source" because of common ownership.

H.R. REP. NO. 490(I), 101st Cong., 2d Sess. 236-37 (1990)) (emphasis added).

In sum, when EPA developed the regulatory definition of stationary source in 1980 to include the criterion that emitting activities must be under "common control," the Agency issued a number of contemporaneous statements explaining how that criterion should be interpreted and applied, in general, and with respect to a coal mine and an adjacent power plant having separate owners,

in particular. Because those statements serve to interpret the meaning of that regulatory criterion, that guidance should be given substantial consideration when applying the regulatory criterion to fact-specific circumstances.

D. *Summary*

In developing the three criteria for stationary-source determinations, EPA purposely avoided criteria that would be highly subjective, thereby leading to determinations that were unpredictable and difficult to administer. 45 Fed. Reg. 52,695. Consequently, when EPA defined the term stationary source to require that pollutant-emitting activities of a source be under common control, EPA also restricted the term "control" to mean either ownership of those activities or dominion over the operation of those activities.

A revision to a regulation is not lawful unless that revision goes through the notice-and-comment rulemaking process. Over the years, EPA has greatly expanded the meaning of "common control" through individual source determinations, purported "guidance" and recommendation letters. Despite any EPA claims to the contrary, determining "common control" of emitting activities by establishing a "contract for service relationship" or a "support/dependency relationship" was never part of the regulatory definition of stationary source. The fact that evaluations of "contract-for-service relationships" and "support/dependency relationships" require the very type of subjective, in-depth analyses that EPA sought to avoid is persuasive evidence that those factors go beyond the original regulatory meaning of "common control." Because EPA has added those other factors for determining "common control" without first subjecting them to notice-and-comment rulemaking, those other factors do not have the force of law.

EPA has applied its regulatory concept of common control to a scenario involving a coal-fired power plant and a nearby, separately owned coal mine that sells its coal to the power plant. EPA's assessment of whether those pollutant-emitting activities were under common control was objectively straightforward in keeping with its regulatory definition. That conclusion is fully consistent with other findings by both EPA and the Congress that a coal mine and an adjacent coal-fired power plant under different ownership constitute two separate stationary sources for PSD and Title V purposes

IV. <u>Conclusion</u>

Stationary-source determinations are fact-specific, case-by-case decisions. Although NMED has published its *Single Source Determination Guidance* to assist with making those decisions, NMED is required by law to make source determinations in accordance with applicable regulations. Should a provision in the regulations conflict with that provision's counterpart in any guidance, the interpretation given to the regulation is controlling. To the extent that guidance consists of a revision of the meaning of a regulation without prior notice-and-comment rulemaking, it may not be applied to any source determination

Under the PSD and Title V regulations, a stationary source is defined as all of the pollutant-emitting activities that satisfy three criteria, i.e. (1) they must belong to the same industrial grouping, as further defined in the regulations as having the same two-digit SIC codes; (2) they must be under common control; and (3) they must be located on contiguous or adjacent

properties. When EPA promulgated those three criteria with the PSD regulatory definition of stationary source, the Agency explained the purpose and meaning of each criterion, i.e., why the criterion was necessary, and how it should be interpreted and applied in determining which emitting activities are part of the same stationary source. Moreover, EPA guidance issued contemporaneously with that regulatory definition also demonstrated how each of the regulatory criteria should be applied.

The San Juan Mine and the San Juan Generating Station are unquestionably located on adjacent properties. However, because the Mine is classified under SIC major code 12, but the Station is classified under SIC major code 49, emitting activities of the Mine do not belong to the same industrial grouping as that of the emitting activities of the Station. On that basis alone in keeping with the regulatory definition of stationary source, the Mine and the Station cannot be parts of the same stationary source. Moreover, because the Mine is owned and operated by San Juan Coal Company, but the Station is owned by several entities other than SJCC and is operated by Public Service Company of New Mexico, the emitting activities of the Mine and the emitting activities of the Station are not under common control. On that basis alone in keeping with the regulatory definition of stationary source, the Mine and the Station cannot be parts of the same stationary source. In short, San Juan Mine is, by definition, a stationary source separate from the pollutant-emitting activities of San Juan Generating Station.

Unfortunately, an abundance of so-called "guidance" exists which would suggest a different conclusion, i.e., that the San Juan Mine and the San Juan Generating Station collectively constitute a single stationary source. However, as has been explained in detail herein, that particular "guidance" consists of unlawful revisions to the original regulatory meanings of stationary source and its component criteria.

For example, EPA's "support-facility" concept would likely find the Mine to be a support facility of the Station, thereby belonging to the same stationary source as the Station. EPA's support-facility concept, however, arises from a major misinterpretation of one sentence in a regulatory preamble. That support-facility concept revises the regulatory test for industrial grouping, i.e., the two-digit SIC code, but that concept was never adopted through notice-and-comment rulemaking. Consequently, EPA's support-facility concept does not have the force of law, and any determination of the industrial grouping of emitting activities based on that concept is unenforceable.

In addition, EPA has greatly expanded upon the regulatory meaning of the term "common control" by adding a contract-for-services test, a support/dependency test and a host of other indicia of common control. Those additional characteristics of "common control" were also established, like the "support-facility" concept, through various "guidance" documents rather than through notice-and-comment rulemaking. Consequently, because those added characteristics of common control revise the regulatory meaning of the term "control" (ownership or dominion over the operation of emitting activities) without having gone through notice-and-comment rulemaking, those additional "common control" characteristics do not have the force of law, and any determination of common control of emitting activities based on those additional characteristics is unenforceable.

In sum, over the years the regulatory process for determining what pollutant-emitting activities are parts of the same stationary source has been compromised, i.e., drastically revised by

numerous incorrect source determinations and inapplicable, unlawful "guidance." In evaluating the stationary source attributes of San Juan Mine, NMED is requested to distinguish between the applicable criteria established as part of the regulatory definition of stationary source and the multitude of unlawful "guidance" and misinformation that has been created after the regulatory meanings of those criteria were adopted. The Company is confident that application of the regulatory definition of stationary source, as explained at the time it was promulgated, will find San Juan Mine to constitute a stationary source by itself as opposed to being part of a larger stationary source.

Section 12

Section 12.A
PSD Applicability Determination for All Sources

(Submitting under 20.2.72, 20.2.74 NMAC)

A PSD applicability determination for all sources. For sources applying for a significant permit revision, apply the applicable requirements of 20.2.74 NMAC to determine whether this facility is a major or minor PSD source, and whether this modification is a major or a minor PSD modification. It may be helpful to refer to the procedures for Determining the Net Emissions Change at a Source as specified by Table A-5 (Page A.45) of the EPA New Source Review Workshop Manual to determine if the revision is subject to PSD review.

A. This facility is:

- ☐ **a minor source before and after this modification (if so, delete C and D below).**
- ☐ **a major source before this modification. This modification will make this a PSD minor source.**
- ☐ **an existing PSD Major Source that has never had a major modification requiring a BACT analysis.**
- ☐ **an existing PSD Major Source that has had a major modification requiring a BACT analysis**
- ☐ **a new PSD Major Source after this modification.**

B. **This facility [is or is not] one of the listed 20.2.74.501 Table I – PSD Source Categories. The "project" emissions** for this modification are **[significant or not significant]. [Discuss why.] The "project" emissions listed below [do or do not] only result from changes described in this permit application, thus no emissions from other [revisions or modifications, past or future] to this facility. Also, specifically discuss whether this project results in "de-bottlenecking", resulting in higher emissions. The project emissions (before netting) for this project are as follows:**

a. **NOx: XX.X TPY**
b. **CO: XX.X TPY**
c. **VOC: XX.X TPY**
d. **SOx: XX.X TPY**
e. **PM: XX.X TPY**
f. **GHG: XX.X TPY**

C. **Netting [is required, and analysis is attached to this document.] OR [is not required (project is not significant)] OR [Applicant is submitting a PSD Major Modification and chooses not to net.]**

D. **BACT** is **[not required for this modification, as this application is a minor modification.] OR [required, as this application is a major modification. List pollutants subject to BACT review and provide a full top down BACT determination.]**

E. If this is an existing PSD major source, or any facility with emissions greater than 250 TPY (or 100 TPY for 20.2.74.501 Table 1 – PSD Source Categories), determine whether any permit modifications in the last two years were related, or could be considered a single project with this action, and provide an explanation for your determination whether a PSD modification is triggered.

Not Applicable

Section 13

Discussion Demonstrating Compliance With Each Applicable State & Federal Regulation

Provide a discussion demonstrating compliance with applicable state & federal regulation. If there is a state or federal regulation (other than those listed here) for your facility's source category that does not apply to your facility, but seems on the surface that it should apply, add the regulation to the appropriate table below and provide the analysis. Examples of regulatory requirements that may or may not apply to your facility include 40 CFR 60 Subpart OOO (crushers), 40 CFR 63 Subpart HHH (HAPs), or 20.2.74 NMAC (PSD major sources). We don't want a discussion of every non-applicable regulation, but if there is questionable applicability, explain why it does not apply. All input cells should be filled in, even if the response is 'No' or 'N/A'.

In the "Justification" column, identify the criteria that are critical to the applicability determination, numbering each. For each unit listed in the "Applies to Unit No(s)" column, after each listed unit, include the number(s) of the criteria that made the regulation applicable. For example, TK-1 & TK-2 would be listed as: TK-1 (1, 3, 4), TK-2 (1, 2, 4). Doing so will provide the applicability criteria for each unit, while also minimizing the length of these tables.

As this table will become part of the SOB, please do not change the any formatting in the table, especially the width of the table.

If this application includes any proposed exemptions from otherwise applicable requirements, provide a narrative explanation of these proposed exemptions. These exemptions are from specific applicable requirements, which are spelled out in the requirements themselves, not exemptions from 20.2.70 NMAC or 20.2.72 NMAC.

APPLICABLE FEDERAL REGULATIONS

FEDERAL REGU-LATIONS CITATION	Title	Applies to Entire Facility	Applies to Unit No(s).	Federally Enforce-able	Does Not Apply	JUSTIFICATION:
40 CFR Part 50	National Ambient Air Quality Standards (NAAQS)	X		X		Included in definition of "applicable requirement" at 20.2.70.7..E(11) NMAC.
40 CFR Part 60, Subpart A	New Source Performance Standards (NSPS) - General Provisions	No	S5-S22	X		Applies because NSPS for coal preparation plants applies.
40 CFR Part 60, Subpart Y	NSPS – Coal Preparation Plants	No	S5-S22	X		20% opacity standard applies to each type of unit at coal prep plant that is designated as "affected facility" under original (1976) Subpart Y and which commenced construction after Oct. 24, 1974.

FEDERAL REGU-LATIONS CITATION	Title	Applies to Entire Facility	Applies to Unit No(s).	Federally Enforce-able	Does Not Apply	JUSTIFICATION:
40 CFR Part 60, Subpart IIII	NSPS – Stationary Compression Ignition Internal Combustion Engines				X	By definition (40 CFR § 1068.30), the portable IC engines at source are "nonroad engines," i.e., mobile, not stationary, sources.
40 CFR Part 63, Subpart ZZZZ	MACT – Stationary Reciprocating Internal Combustion Engines				X	By definition (40 CFR § 1068.30), portable IC engines at source are "nonroad engines," i.e., mobile, not stationary, sources.
40 CFR Part 64	Compliance Assurance Monitoring				X	Source does not have any pollutant-specific emissions unit with potential pre-control device emissions ≥ 100 tpy.
40 CFR Part 82	Protection of Stratospheric Ozone				X	No refrigerant charge > 50 lb.

APPLICABLE STATE REGULATIONS

STATE REGU-LATIONS CITATION	Title	Applies to Entire Facility	Applies to Unit No(s).	Federally Enforce-able	Does Not Apply	JUSTIFICATION: Identify the applicability criteria, numbering each (i.e. 1. Post 7/23/84, 2. 75 m^3, 3. VOL)
20.2.3 NMAC	State Ambient Air Quality Standards (NMAAQS)	X		X		SIP-approved regulation limits maximum allowable ambient concentrations of Total Suspended Particulates, Sulfur Compounds, Carbon Monoxide and Nitrogen Dioxide. Not an "applicable requirement" under 20.2.70 NMAC.
20.2.5 NMAC	Source Surveillance	X		X		Contains general recordkeeping and reporting provisions, as required by NMED.
20.2.7 NMAC	Excess Emissions	X		X	X	Requirements for a source whose operation results in excess emissions; currently does not apply.
20.2.42 NMAC	Coal Mining & Preparation Plants – Particulate Matter	No	S5-S22, S24	No		Not in SIP. Source consists of an underground coal mine that includes a coal preparation plant.
20.2.61 NMAC	Smoke & Visible Emissions			X	X	Source does not include any stationary facilities subject to this regulation.
20.2.70 NMAC	Operating Permits	X		X		Under the assumption that methane released from underground mining operations and subsequently exhausted to the atmosphere through the Mine's ventilation and degasification systems constitutes "non-fugitive" emissions for Title V purposes, the Mine is subject to Title V. Source is not major for PM, PM_{10} or $PM_{2.5}$.

STATE REGU-LATIONS CITATION	**Title**	Applies to **Entire Facility**	Applies to **Unit No(s).**	**Federally Enforce-able**	**Does Not Apply**	**JUSTIFICATION:** Identify the applicability criteria, numbering each (i.e. 1. Post 7/23/84, 2. 75 m^3, 3. VOL)
20.2.71 NMAC	Operating Permit Emissions Fees	X		X		Applicability of 20.2.70 NMAC makes source also subject to this regulation.
20.2.72 NMAC	Construction Permits	X		X		Potential emissions from previous construction of preparation plant and previous addition of underground mine were below threshold levels that trigger this regulation.
20.2.73 NMAC	Notice of Intent & Emissions Inventory Requirements	X		X		NOI requirement applies, but emissions inventory requirements are not triggered, nor has NMED required any such inventories.
20.2.74 NMAC	Permits - PSD	X		X		Under the assumption that methane released from underground mining operations and subsequently exhausted to the atmosphere through the Mine's ventilation and degasification systems constitutes "non-fugitive" emissions for PSD purposes, the Mine is an existing "major stationary source" for PSD purposes.
20.2.75 NMAC	Construction Permit Fees	X		X		Will apply in the future if either a notice of intent or application to modify the Mine is filed with NMED.
20.2.77 NMAC	New Source Performance Standards	No	S5-S22	No		This State-only regulation incorporates most of the federal NSPS requirements by reference, including Subpart A and Y of 40 C.F.R. Part 60.
20.2.78 NMAC	Emission Standards for HAPS			No	X	This State-only regulation incorporates specific Subparts of the federal NESHAP requirements by reference. However, the Mine is not subject to any requirements under the federal NESHAP.
20.2.79 NMAC	Permits – Nonattainment Areas			X	X	The source is not located in a nonattainment area, nor do its emissions have a significant ambient impact in a nonattainment area.
20.2.80 NMAC	Stack Heights			X	X	This regulation does not apply because San Juan Mine does not rely on any stack with a height that exceeds good engineering practice, nor does it rely on any prohibited dispersion technique.
20.2.82 NMAC	MACT standards for source categories of HAPS			No	X	This State-only regulation incorporates most of the federal MACT and associated requirements of 40 C.F.R. Part 63. However, this source does not belong to a source category with HAPS emissions regulated under 40 C.F.R. Part 63.

Supplement to Section 13
Discussion of Compliance

FEDERAL REGULATIONS

I. NAAQS (40 C.F.R. Part 50)

The State's definition of "applicable requirement" at 20.2.70.7.E NMAC includes "[a]ny national ambient air quality standard." The only criteria pollutant emitted from San Juan Mine in significant amounts is particulate matter.

When a Part 70 source does not have either an operating permit under 20.2.70 NMAC or a construction permit under 20.2.72 NMAC, application for a permit under 20.2.72 NMAC must be submitted to NMED within 60 days after an application for a permit under 20.2.70 NMAC is submitted. 20.2.70.201.D(2) NMAC. In the alternative, the applicant for a Part 70 operating permit may demonstrate compliance with the NAAQS through dispersion modeling or other method approved by NMED, requesting that appropriate conditions be included in that Part 70 permit to ensure compliance with those ambient standards. 20.2.70.201.D(3) NMAC.

San Juan Coal Company has elected to utilize that alternative approach by modeling particulate emissions from San Juan Mine to demonstrate that those emissions do not result in any ambient impacts of PM_{10} or $PM_{2.5}$ that would exceed applicable NAAQS. The Company's compliance demonstration is presented in Section 16 of this application.

II. NSPS - General Provisions (40 C.F. R. Part 60, Subpart A)

As explained below, certain coal preparation facilities at San Juan Mine are subject to the original NSPS Subpart Y that was promulgated in 1976. The General Provisions of NSPS apply when the stationary source contains any facility(ies) that are subject to one or more of the NSPS applicable to specific source categories. Because the subpart Y affected facilities at the Mine were constructed thirty (30) years ago and because the original Subpart Y has few applicable requirements, there are no applicable general provisions within NSPS Subpart A at this time for which the Mine must periodically demonstrate compliance.

III. NSPS – Coal Preparation Plants (40 C.F.R. Part 60, Subpart Y)

A. *NSPS "Affected Facilities"*

Installed after October 24, 1974, the following coal preparation operations at San Juan Mine are designated as "affected facilities" under EPA's original New Source Performance Standards for coal preparation plants:

1. Raw Coal Unloading to Hoppers (4) [equipment conveying raw coal to processing equipment]

- via haul truck end dump or dozer push

2. Underground Feeders' (4) Inlets [equipment conveying raw coal to processing equipment]
   - via hoppers' (4) discharges

3. Underground Chutes' (2) Inlets [equipment conveying raw coal to processing equipment]
   - via feeders' (4) discharges

4. Underground Chutes' (2) Discharges to Conveyor Belt #1 [equipment conveying raw coal to processing equipment]

5. Underground Conveyor Belt #1 transfer coal to Underground Conveyor Belt #2 [equipment conveying coal to processing equipment]

6. Aboveground Conveyor Belt #2 to Enclosed Feed Bin [equipment conveying raw coal to processing equipment]

7. Enclosed Secondary Crushers[1] (4) [processing equipment]
   - includes crushers' inlets and discharges to Conveyor Belt #3

8. Conveyor Belt #3 [equipment conveying processed coal from processing equipment]

At coal preparation plants particulate matter is generally emitted from processing equipment at feed and discharge points of that equipment and from coal conveying and transfer equipment at that equipment's transfer points. Particulate matter emissions from each of the above Subpart Y affected facilities are subject to a 20% opacity standard. An affected facility's compliance with the NSPS opacity standard is typically achieved by a wet dust suppression system operating in concert with physical enclosure of that facility.

B. *Wet Dust Suppression System*

Since EPA first developed NSPS Subpart Y, the Agency has acknowledged the high control efficiencies achieved by wet dust suppression systems at coal prep plants. As EPA stated, "[W]ater sprays have been demonstrated to be very effective for suppressing fugitive emissions and can be used to control even the most difficult fugitive emission problems." 41 Fed. Reg. 2233 (Jan. 15, 1976).

With wet suppression, moisture is applied by spraying water or water with a wetting agent at critical dust-producing points in the process flow. Addition of moisture causes dust particles either to adhere to large coal particles or to agglomerate and become too heavy to remain airborne. The primary objective of a dust suppression system is not to capture and remove

[1] The coal preparation plant design initially included a primary crusher downstream of each of the two chutes. However, once underground mining began with its longwall mining machine in 2001, coal extracted by that machine was already crushed to the point that primary crushing was no longer required.

emitted particles but rather to prevent particulate emissions by keeping the coal moist at all process stages.

To achieve that objective, the wet dust suppression system at San Juan Mine's preparation plant is designed to apply moisture to the coal being processed and conveyed by spraying water or water-plus-a-wetting-agent at critical dust-producing points in the process flow. Consequently, wet dust suppression at the Mine's prep plant begins with water spray bars at the grizzlies on top of the four hoppers that receive raw coal for the plant. In addition to their basic purpose of dust suppression, these particular sprays also serve to capture some dust particles that become entrained in the upward-flowing air as the dumped coal displaces that air from the hopper.

Those spray bars for controlling particulate emissions from coal unloading at the Mine's prep plant are actuated when raw coal that has been temporarily held in an open storage pile is delivered to the preparation plant. On the other hand, when raw coal comes to the prep plant directly from the Mine's underground stackouts, the typical high moisture content of that coal precludes the need for water spray bars at the grizzlies to achieve compliance with the NSPS opacity limit.

Water sprays are also employed at the next critical dust-producing point, i.e., downstream of the raw coal feeders where the coal is dropped onto Conveyor Belt #1 and then transferred onto Conveyor Belt #2. This dust suppression system starts-up when those conveyor belts begin to operate. Dust suppression at this location is enhanced by the use of a wetting agent. Small quantities of the wetting agent are blended with the water to reduce its surface tension, thereby improving the wetting efficiency of the sprayed water so that dust is suppressed with a minimum of added moisture.

Water sprays are also employed at the crushers' discharges, the final, critical dust-producing location in the process flow where new dry surfaces with the associated dust have been generated by fracturing of the coal. At this stage of the process, an encrusting agent is added with the water sprays in order to retard subsequent wind erosion when the processed coal is transferred to the customer's open storage piles.

C. *Enclosures*

Since EPA first developed NSPS Subpart Y, the Agency has acknowledged that the typical process design which encloses most coal preparation equipment has the collateral benefit of effectively minimizing fugitive particulate matter emissions. As EPA explained:

> The opacity of emissions can also be reduced by effectively covering or sealing the process from the atmosphere so that any avenues for escaping emissions are small. By minimizing the number and the dimensions of the openings through which fugitive emissions can escape, the opacity and the total mass rate of emissions can be reduced independently of the air pollution control devices. *Id.*

The design of the Subpart Y affected facilities at San Juan Mine includes enclosure of process equipment which realizes the collateral benefit of reduced particulate matter emissions. Some form of physical enclosure is employed for each of the NSPS Subpart Y affected facilities at the plant. For example, the 4 hoppers, the 4 feeders, the 2 chutes, Conveyor Belt #1 and the tail end of Conveyor Belt #2 are all located in an underground compartment. Some of the equipment components, e.g., the feeders, are installed within their individual enclosures. Hoppers and chutes by necessity are fully enclosed by necessity except for their inlets and outlets. Ventilation air is pumped into the underground compartment which encloses all of the facilities collectively, and the compartment's air along with any fugitive emissions that may remain airborne is exhausted through a small vent off Conveyor Belt #2 at the point where it emerges from underground.

Moreover, each secondary crusher is installed within its own individual enclosure. The head end of Conveyor Belt #2, the enclosed feed bins, the four (4) secondary crushers and their discharges, and the tail end of Conveyor Belt #3 are all enclosed collectively within the Secondary Crusher Building which has a vent at the top of that structure. Similarly, the transfer point between the head end of Conveyor Belt #3 and the tail end of Conveyor Belt #4 is contained within the Sample Building which likewise has a vent at the top of that structure.

D. *Compliance*

A 20% opacity standard is the only emission limitation prescribed by NSPS Subpart Y. With the exception of the Raw Coal Unloading to Hoppers, all other Subpart Y affected facilities at San Juan Mine are installed within their individual enclosures and/or within either an underground compartment or a building. The underground compartment and buildings are each vented to the atmosphere. In the past EPA has stated that the lack of visible emissions on the exterior of a building provides reasonable assurance of compliance with opacity limits for fugitive emission sources inside buildings. Letter from Beverly H. Banister, EPA Region IV, to Jeryl W. Stewart, Tennessee Division of Air Pollution Control, of Mar. 5, 2003. Under normal operation of the Mine's coal preparation plant, visible emissions are not present in air exhausted from the vents on the underground compartment, the Crusher Building and the Sample Building.

With respect to the Raw Coal Unloading to Hoppers that is also subject to Subpart Y, the upward flow of displaced air exhausting from the hoppers during coal unloading can exhibit a momentary high opacity when the coal is dumped too quickly into the hoppers. However, that visible "puff" is quickly dispersed within the surrounding air. Exceedance of the 20% opacity standard is not threatened by the short-lived "puff" because the standard is based on an average of visible emission readings taken over a period of 6 minutes.

The original NSPS Subpart Y promulgated in 1976 is one of the few, or perhaps the only, NSPS with an emission limitation that is not accompanied by some form of monitoring, recordkeeping or reporting requirements for affected facilities. Moreover, because the preparation facilities at the Mine have never required any new source review, monitoring, recordkeeping and reporting requirements have not been imposed during any preconstruction review. As a result, the coal preparation facilities at the Mine have no requirement at this time to demonstrate compliance with the applicable 20% opacity standard through some form of periodic monitoring,

recordkeeping and reporting requirements. As discussed further in Section 19 of this Application, once covered by Title V, the coal preparation facilities subject to Subpart Y will be subject to periodic monitoring requirements under 20.2.70.302.C NMAC.

IV. NSPS – Stationary Compression Ignition Internal Combustion Engines (40 C.F.R. Part 60, Subpart IIII)

As explained below, the gob vent engines at San Juan Mine cannot be subject to the NSPS for stationary compression ignition internal combustion engines because those engines are mobile sources that are not regulated by New Mexico's Title V program.

The Mine's degasification system removes air containing high levels of methane from surface vents for gob wells. Exhaust flow from those vents is powered by eight diesel engines. The locations of active gob wells with their surface vents change over time to keep pace with the progression of the underground mining. Consequently, the engines serving those gob vents must be moved from time to time as well. For that reason, the gob vent engines are mounted on a movable trailer and transported to a new location at average intervals of every 3-4 months.

Unlike EPA's Title V regulations at 40 C.F.R. Part 70, New Mexico's title V regulations contain a definition for the term "portable source." 20.2.70.7.Z NMAC. The Mine's gob vent engines satisfy the State's Title V definition of "portable source." Title V does not contain any provision for excluding portable or temporary emission units from the definition of "major source." *See, e.g.,* EPA Region IX, "Title V Implementation Q & A," 12 (Dec. 1995) (Attachment 13-A); letter from Steven C. Riva, EPA Region II, to Evelyn Rodriguez, Puerto Rico Environmental Quality Board, of June 1, 2004 (Attachment 13-B). Therefore, on its face, New Mexico's Title V program appears to apply to the Mine's portable gob vent engines.

The NSPS and MACT programs under Title I and Title III of the Clean Air Act, respectively, apply solely to stationary sources. CAA § 111(b); CAA § 112(c). Title V of the Clean Air Act also applies solely to stationary sources. CAA § 502. Section 302(z) of the Clean Air Act defines the term "stationary source" to mean "generally any source of an air pollutant except those emissions resulting directly from an internal combustion engine for transportation purposes or from a nonroad engine or nonroad vehicle as defined in section 7550 of this title." (Emphases added). In other words, "nonroad engines are a category of units/equipment that, under the Clean Air Act Section 302(z), are excluded from the definition of 'stationary source,' and, hence, are exempt from stationary source permitting requirements, i.e., Title V." Letter from Jack P. Broadbent, EPA Region IX, to Marc Chytilo, Esq. of Dec. 14, 2001 (Attachment 13-C). Nonroad engines are regulated as mobile sources under Title II of the Clean Air Act. CAA § 209(e)(2).

EPA regulations at 40 C.F.R. § 89.2 define a "nonroad engine" to include an internal combustion engine that "is portable or transportable, meaning designed to be and capable of being carried or moved from one location to another." However, those regulations also provide that a portable or transportable internal combustion engine is not a nonroad engine if it "remains or will remain at a location for more than 12 consecutive months . . . A location is any single site at a building, structure, facility, or installation." *Id.* Each gob vent engine at San Juan Mine

satisfies EPA's regulatory definition of a "nonroad engine" because it remains at any one location at the Mine for less than 12 months before it is transported to a new location.

Thus, although the gob vent engines at San Juan Mine satisfy the definition of "portable source" in New Mexico's Title V regulations, those engines do not satisfy the definition of "stationary source" in the Clean Air Act. Instead, those gob vent engines satisfy the regulatory definition of "nonroad engine" which is regulated under the Act as a mobile source.[2] Consequently, because the Mine's gob vent engines do not satisfy the Act's definition of "stationary source," those emission units cannot be regulated under the NSPS program, and NSPS Subpart IIII is not a Title V applicable requirement for San Juan Mine's gob vent engines.

V. MACT – Stationary Reciprocating Internal Combustion Engines (40 C.F.R. Part 63, Subpart ZZZZ)

For the reasons explained above, because the Mine's gob vent engines do not satisfy the Act's definition of "stationary source," those emission units cannot be regulated with federal MACT requirements, and Subpart ZZZZ of Part 63 is not a Title V applicable requirement for San Juan Mine's gob vent engines.

VI. Compliance Assurance Monitoring (40 C.F.R. Part 64)

Please refer to the discussion of this matter in Section 19 of this Application.

VII. Protection of Stratospheric Ozone (40 C.F.R. Part 82)

Please refer to the discussion of this matter in Section 19 of this Application.

STATE REGULATIONS

I. NMAAQS (20.2.3.NMAC)

New Mexico Ambient Air Quality Standards (NMAAQS) are not "applicable requirements" under the State's Title V regulations. 20.2.3.9 NMAC. The only pollutant regulated under the NMAAQS that is emitted from San Juan Mine in significant amounts is total suspended particulate matter (TSP).

When a Part 70 source does not have either an operating permit under 20.2.70 NMAC or a construction permit under 20.2.72 NMAC, application for a permit under 20.2.72 NMAC must be submitted to NMED within 60 days after an application for a permit under 20.2.70 NMAC is

[2] This finding is consistent with numerous EPA and State policy decisions. See, e.g., letter to John McDowell, P.E., from R. Douglas Neeley, EPA Region IV, of Sept. 23, 1996 (Attachment 13-D); letter to Edward Cutrer, Jr., Georgia Environmental Protection Div., from Brian Beals, EPA Region IV, of Mar. 12, 1996 (Attachment 13-E); memorandum to Alaska Air Permit Program Staff from John Kuterbach, Alaska Div. of Air Quality,, of Sept. 2, 2009 (Attachment 13-F); memorandum to Karen Sismour, Virginia Dep't of Environmental Quality, from C. L. Turner, Virginia Dep't of Environmental Quality, of Dec. 1, 1999 (Attachment 13-G).

submitted. 20.2.70.201.D(2) NMAC. In the alternative, the applicant for a Part 70 operating permit may demonstrate compliance with the NAAQS through dispersion modeling or other method approved by NMED, requesting that appropriate conditions be included in that Part 70 permit to ensure compliance with those ambient standards. 20.2.70.201.D(3) NMAC.

San Juan Coal Company has elected to utilize that alternative approach by modeling TSP emissions from San Juan Mine to demonstrate that those emissions do not result in any ambient impacts of TSP that would exceed applicable NMAAQS. The Company's compliance demonstration is presented in Section 16 of this application.

II. Source Surveillance (20.2.5 NMAC)

This provision contains general recordkeeping and reporting requirements as required by NMED. To date, the Department has not issued any such requirements for San Juan Mine.

III. Excess Emissions (20.2.7 NMAC)

This provision addresses certain notification and reporting requirements for excess emissions. Although several preparation facilities at the Mine are subject to the 20% opacity standard of the original NSPS Subpart Y, no corresponding periodic monitoring requirement for determining excess visible emissions from those facilities currently exists. Applicability of this provision will be triggered, however, with issuance of the Mine's Title V permit that will contain such periodic monitoring provisions.

IV. Coal Mining & Preparation Plants – Particulate Matter (20.2.42 NMAC)

The Mine currently complies with this State-only requirement by enclosing crushers, conveyors and chutes where reasonably necessary to prevent particulate matter from becoming airborne. Water sprays to prevent particulate matter from becoming airborne are also installed at the discharges from the crushers and from the feeders. When raw coal is being pushed into the hoppers by a dozer, water spray at the grizzlies at the top of the hoppers is used to prevent particulate matter from becoming airborne. When raw coal is being dumped by haul trucks into the hoppers, the residual moisture in that coal from the stackout pile is able to minimize the release of any fugitive particulate matter. Finally, the main coal haul roads at the Mine are periodically sprayed as needed to prevent fugitive dust from becoming airborne.

V. Smoke & Visible Emissions (20.2.61 NMAC)

The Mine does not include any of the types of stationary facilities that are regulated by this provision.

VI. Operating Permits (20.2.70 NMAC)

As explained in detail in Section 22 of this Application, San Juan Mine is subject to the requirements of "Part 70," provided that fugitive methane releases from underground mining activities that are subsequently exhausted to the atmosphere by the Mine's ventilation and

degasification systems are considered to be "non-fugitive" emissions for Title V purposes. Acting under that assumed applicability, the Company has submitted this Application by June 30, 2012 in order for the "application shield" to allow continued lawful operation of the Mine beyond that deadline. Should either EPA or NMED subsequently determine that such methane discharges to the atmosphere should be regarded as "fugitive" emissions for Title V purposes, the Company has reserved its right to withdraw this Application.

VII. Operating Permit Emissions Fees (20.2.71 NMAC)

If a "Part 70" permit is issued for San Juan Mine, San Juan Coal Company will be obligated to pay an annual permit fee assessed by the Department.

VIII. Construction Permits (20.2.72 NMAC)

This regulation codifies the State's minor new source review (NSR) program. The Department's Title V regulations require an operating permit to contain any requirements already applicable to the particular Part 70 source, including "any term or condition of any preconstruction permit." 20.2.70.7.E(2) NMAC. However, to date San Juan Mine has not been subject to preconstruction permitting under 20.2.72 NMAC.

In 1982 when San Juan Coal Company proposed to install coal preparation facilities at San Juan Mine, the New Mexico Air Quality Bureau (AQB) concluded that a construction permit was not required although the Bureau did register the Mine as a stationary source of air pollutants. Letter from A.S. Shankar, New Mexico AQB, to Jim Mainard, SJCC, of Feb. 25, 1982 (no Notice of Intent identification number).

Similarly, in 2001 when SJCC proposed to add a conveyor system to transfer raw coal from underground to an aboveground storage pile, New Mexico AQB concluded that a construction permit was not required. Letter from Lany Weaver, New Mexico AQB, to Jim Luther, BHP Minerals, of Apr. 19, 2001 (NOI No. 2537).

This minor NSR regulation will apply to future construction or modification projects at the Mine if emissions from a particular project exceed the thresholds specified in the regulation.

IX. Notice of Intent & Emissions Inventory Requirements (20.2.73 NMAC)

An appropriate, timely notice will need to be provided in the future to NMED if the Company intends to modify the Mine and a threshold emission rate specified in this rule would be exceeded.

To date, no requirement for any emissions inventory under this regulation has been triggered, nor has NMED requested any such inventory.

X. Permits – PSD (20.2.74 NMAC)

The Department's Title V regulations require an operating permit to contain any requirements already applicable to the particular Part 70 source, including "any term or condition of any preconstruction

permit." 20.2.70.7.E(2) NMAC. However, to date San Juan Mine has not been subject to preconstruction permitting under the PSD program at 20.2.72 NMAC.

As explained in detail in Section 22 of this Application, San Juan Mine is an existing major stationary source for PSD purposes due to its GHG emissions, provided that fugitive methane releases from underground mining activities that are subsequently exhausted to the atmosphere by the Mine's ventilation and degasification systems are considered to be "non-fugitive" emissions for Title V purposes. Acting under that assumed applicability, the State's PSD regulations will apply to future projects at the Mine (1) if the emissions increase of any regulated pollutant from a particular project and the net emissions increase of that pollutant resulting at the source both exceed the pollutant-specific "significant" levels in the regulation, or (2) if the emissions increase of the project itself is sufficient to constitute a major stationary source. *See* 20.2.74.200 NMAC.

XI. Construction Permit Fees (20.2.75 NMAC)

This provision will apply in the future in the event that the Company files either a notice of intent or an application to modify the existing San Juan Mine.

XII. New Source Performance Standards (20.2.77 NMAC)

This provision is not approved by EPA as part of New Mexico's state implementation plan (SIP). This State-only regulation incorporates by reference most of the federal NSPS at 40 C.F.R. Part 60, including Parts A and Y that currently apply to specific facilities at San Jan Mine. Compliance with those applicable federal NSPS requirements will ensure compliance with applicable State NSPS requirements.

XIII. Emission Standards for HAPS (20.2.78 NMAC)

This provision is not approved by EPA as part of New Mexico's state implementation plan (SIP). This State-only regulation incorporates by reference specific Subparts of the federal National Emission Standards for Hazardous Air Pollutants (NESHAP) at 40 C.F.R. Part 61. This regulation does not apply to San Juan Mine because the Mine does not emit any HAPS regulated under 40 C.F.R. Part 61.

XIV. Permits – Nonattainment Areas (20.2.79 NMAC)

This preconstruction permitting regulation is not applicable because the San Juan Mine is neither located in a designated nonattainment area for any pollutant nor do its emissions have the potential to cause a significant impact in any nonattainment area.

XV. Stack Heights (20.2.80 NMAC)

This regulation does not apply because San Juan Mine does not rely on any stack with a height that exceeds good engineering practice, nor does it rely on any prohibited dispersion technique.

XVI. MACT Standards for Source Categories of HAPS (20.2.82 NMAC)

This State-only regulation incorporates most of the federal MACT and associated requirements of 40 C.F.R. Part 63. However, this source does not belong to a source category with HAPS emissions regulated under 40 C.F.R. Part 63.

San Juan Coal Company

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bhpbilliton.com

March 4, 2013

Ms. Cille Pritchard-Hoback
Air Permits Specialist
Air Quality Bureau
New Mexico Environment Department
1301 Siler Road, Building B
Santa Fe, NM 87507

Re: Title V Permit Application for San Juan Mine (AI #1409) – Subpart CCCCCC applicability

Dear Ms. Pritchard-Hoback:

In keeping with 20.2.70.300.C(3) NMAC, San Juan Coal Company ("SJCC" or "Company") hereby notifies the Department that the referenced Application did not identify an emissions unit at San Juan Mine ("Mine"). The purpose of this letter is to supplement the subject Application by providing relevant information about that emissions unit and its applicable requirements.

The Mine utilizes a gasoline dispensing facility ("GDF") which includes a single, aboveground storage tank having a maximum operating capacity of 6,500 gallons. In accordance with 20.2.82.2 NMAC, that GDF is subject to certain provisions of Subpart CCCCCC of 40 C.F.R. Part 63, i.e., the National Emission Standards for Hazardous Air Pollutants ("NESHAP") for gasoline dispensing facilities. In particular, because that facility has a monthly throughput of less than 10,000 gallons of gasoline, it is only subject to the following applicable requirements under Subpart CCCCCC:

- the general duty for minimizing emissions (§ 63.11115);
- the general measures for preventing vapor releases to the atmosphere for extended periods of time (§ 63.11116); and
- the general recordkeeping requirement (§ 63.11125(d)).

The facility is not, however, subject to any notification or reporting requirements under Subpart CCCCCC. The Company understands that estimates of VOC or HAP emissions from this facility are not "required at all . . . where a quantifiable emissions rate is not applicable (e.g., . . . a work practice standard)." EPA, "White Paper for Streamlined Development of Part 70 Applications" ("White Paper #1"), 6-7 (July 10, 1995).

SJCC respectfully requests that the subject GDF with the above applicable requirements be included in the pending Title V operating permit for San Juan Mine. Enclosed is a Supplement to Section 13 of the Company's original application which identifies those State and federal regulations applicable to the subject gasoline dispensing facility.

If you have any questions regarding this matter, please contact Mr. Dennis Vaughn at (505) 598-3269.

Yours sincerely,

Steven Perkins
Superintendent Environmental Permitting and Technical Services

Enclosure:

Section 13 - Supplement

Section 13 -- Supplement

Discussion Demonstrating Compliance With Each Applicable State & Federal Regulation

---

Provide a discussion demonstrating compliance with applicable state & federal regulation. If there is a state or federal regulation (other than those listed here) for your facility's source category that does not apply to your facility, but seems on the surface that it should apply, add the regulation to the appropriate table below and provide the analysis. Examples of regulatory requirements that may or may not apply to your facility include 40 CFR 60 Subpart OOO (crushers), 40 CFR 63 Subpart HHH (HAPs), or 20.2.74 NMAC (PSD major sources). We don't want a discussion of every non-applicable regulation, but if there is questionable applicability, explain why it does not apply. All input cells should be filled in, even if the response is 'No' or 'N/A'.

In the "Justification" column, identify the criteria that are critical to the applicability determination, numbering each. For each unit listed in the "Applies to Unit No(s)" column, after each listed unit, include the number(s) of the criteria that made the regulation applicable. For example, TK-1 & TK-2 would be listed as: TK-1 (1, 3, 4), TK-2 (1, 2, 4). Doing so will provide the applicability criteria for each unit, while also minimizing the length of these tables.

As this table will become part of the SOB, please do not change the any formatting in the table, especially the width of the table.

If this application includes any proposed exemptions from otherwise applicable requirements, provide a narrative explanation of these proposed exemptions. These exemptions are from specific applicable requirements, which are spelled out in the requirements themselves, not exemptions from 20.2.70 NMAC or 20.2.72 NMAC.

APPLICABLE STATE REGULATIONS -- SUPPLEMENT

STATE REGU-LATIONS CITATION	Title	Applies to Entire Facility	Applies to Unit No(s).	Federally Enforce-able	Does Not Apply	JUSTIFICATION: Identify the applicability criteria, numbering each (i.e. 1. Post 7/23/84, 2. 75 m^3, 3. VOL)
20.2.82 NMAC	MACT Standards for source categories of HAPS	No	Tank SJ-7	Yes		This regulation applies to all sources emitting hazardous air pollutants, which are subject to the requirements of 40 CFR Part 63, as amended through December 31, 2010.

APPLICABLE FEDERAL REGULATIONS -- SUPPLEMENT

FEDERAL REGU-LATIONS CITATION	Title	Applies to Entire Facility	Applies to Unit No(s).	Federally Enforce-able	Does Not Apply	JUSTIFICATION:
MACT 40 CFR 63, Subpart A	General Provisions	No	Tank SJ-7	Yes		Applies if any other subpart applies.
MACT 40 CFR 63 Subpart CCCCCC	National Emissions Standards for Hazardous Air Pollutants for Gasoline Dispensing Facilities (GDFs)	No	Tank SJ-7	Yes		Federal program delegated to State for administration and enforcement; GDF with < 10,000 gal. monthly throughput requires compliance with general duty for minimizing emissions, § 63.11115, general measures for preventing vapor releases for extended periods, § 63.11116, and general recordkeeping requirement of § 63.11125(d).

ATTACHMENT 13-A

TITLE V IMPLEMENTATION Q & A; Region IX (EXCERPT)
December 1995

Applicability

1. Are districts responsible for applicability determinations of delegated standards (e.g., what changes qualify as reconstruction)?

> Yes. Part of the district's implementation of any delegated standard is making applicability determinations. Given that applicability issues may be difficult, EPA is available to assist districts in such determinations.
>
> Please note that EPA can take enforcement action for noncompliance as a result of an incorrect applicability determination. If the incorrect applicability determination is inadvertently included in a permit shield, the permit will have to be reopened and revised.

2. What should a permitting authority do if the actual number of title V sources in the district is different than the number initially estimated in the program submittal?

> EPA considers the subject sources listed in the program description to be an estimate and expects that this number may increase or decrease as districts and sources more closely evaluate title V applicability, especially given that sources may be more closely evaluating emissions and taking synthetic minor permit restrictions during this period.

3. Do sources ever have to quantify fugitive dust from roads?

> Yes. Fugitive dust from roads, and other non-HAP fugitive emissions, must be counted in major source determinations if the fugitive emissions are part of a stationary source that is listed as one of the 27 source categories under the definition of "major source." (HAP fugitives must always be counted in applicability determinations.) However, once a source is determined to be a major source, all emissions, both fugitive and non-fugitive, must be quantified to the extent required by permit application requirements in section 70.5(c) and by section II.B.2 of the Implementation White Paper.

count HAP fugitives in applicability determinations. EPA will not have to do a separate section 302(j) rulemaking.

* Temporary/Portable Sources

1. If a portable source operates in multiple districts/states, how should it be permitted?

Portable unit is major -- Portable sources that are of themselves major sources are required to obtain title V operating permits. A portable source could rely on a single title V permit issued by its "home" district or state. That permit could be used in any other area as long as the permit assures compliance with all applicable requirements in the "host" district and the host district agrees to accept and can enforce the outside permit. Another way to permit portable sources is with general permits. If the district has issued a general permit that covers the portable unit, then the portable unit would not need to obtain a separate operating permit in that district.

Major source visited by portable unit -- Portable sources that are not by themselves major but operate at major facilities should be incorporated into the host facility's title V permit. Depending on the applicability of requirements, duration of operation, and content of the host facility's permit, the portable source may be considered to be a temporary source and be able to operate off-permit if it would not violate any applicable requirements. (See Implementation White Paper, II.B.5, "Short Term Activities.")

Miscellaneous

1. How are the terms start-up and shut-down defined? Are the terms ever defined in terms of time? Should the definitions of start-up and shut-down be included in the permit?

The terms "start-up" and "shut-down" are defined in various regulations where the terms are applicable. While time is usually a factor, definitions do vary. Permits should contain or reference the definitions of "start-up" and "shut-down" if the underlying applicable requirement regulates or exempts start-up or shut-down activities.

2. Are mobile sources that are permanently located at stationary sources subject to title V?

ATTACHMENT 13-B

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 Broadway
New York, NY 10007-1866

June 1, 2004

Mr. Evelyn Rodriguez, Director
Air Quality Area
Puerto Rico Environmental Quality Board
P.O. Box 11488
Santurce, Puerto Rico 00910

Dear Ms. Rodriguez:

This is in response to your May 6, 2004 request for guidance regarding a temporary operating permit dated April 25, 2003 that the Puerto Rico Environmental Quality Board (PREQB) issued to Caribbean Architects & Engineers (CAE) for a period of one (1) year which has expired. CAE had been contracted by the Fluor Daniels Company to build the structure for the pharmaceutical processes to produce Humalog at a new plant (PR5) in Eli Lilly's Carolina facilities. CAE had this temporary operating permit for the installation and operation of 68 electric generators and 8 light towers that they needed for the construction. The electrical generators were permitted to operate for 12 months with emissions over the major source threshold. On September 5, 2003, CAE applied for a modification to the temporary operating permit to extend the operation of the equipment for 8 additional months. PREQB denied the extension request and allowed the temporary operating permit to expire on April 25, 2003. PREQB's position is that the temporary permitted operation became subject to Title V according to Rule 602(a)(1)(ii). PREQB strongly believes that Eli Lilly should be responsible in addressing these temporary emissions in its Title V permit.

As you know, the Clean Air Act Amendments of 1990 (the Act) require that nonroad engines be regulated as mobile sources, not stationary sources. Regulations for nonroad engines have been codified in 40 CFR Part 89. As far as we know, no formal determination was made whether the equipment in question was considered to be nonroad engines during the initial 12-month period when CAE received a temporary operating permit. Notwithstanding, according to the definition of nonroad engines in 40 CFR §89.2, internal combustion engines are **not** considered to be nonroad engines if they remain or will remain at a location for more than 12 consecutive months or a shorter period of time for an engine located at a seasonal source. The regulation also defines "location" as "any single site at a building, structure, facility, or installation." It further states that "any engine (or engines) that replaces an engine at a location and that is intended to perform the same or similar function as the engine replaced will be included in calculating the consecutive time period." Based on this definition, it is EPA's determination that the electric

generators and the light towers (whether or not they were considered to be nonroad engines prior to the expiration of the 12-month period) do not meet the definition of nonroad engines if they continue to be used at Eli Lilly after the initial 12-month period expired. Therefore, if CAE wants to continue to use the electric generators and light towers, the equipment will be regulated as stationary sources.

The definition of major source found in 40 CFR §70.2 requires all stationary sources located on contiguous or adjacent properties under common control and belonging to a single major industrial grouping to be considered as the same source. This approach of grouping sources according to their 2-digit Standard Industrial Classification (SIC) code has been established in the New Source Review (NSR) and Prevention of Significant Deterioration of Air Quality (PSD) programs under Title I of the Clean Air Act. There are no provisions in Title I or Title V of the Act, or in regulations developed pursuant to them, for excluding contracted or temporary operation in defining major sources. Accordingly, it has been EPA's policy that temporary and contractor-operated units be included as part of the source with which they operate or support. As such, we agree with your assessment that if Eli Lilly plans to extend the usage of the temporary equipment beyond the original 12-month period, it will have to submit a revised Title V permit application within 12 months in accordance with Rule 602(a)(1)(ii) and a Prevention of Significant Deterioration of Air Quality (PSD) applicability demonstration.

If you have any questions, please contact Mr. Frank Jon of my staff, at (212) 637-4085.

Sincerely yours,

/ s /

Steven C. Riva, Chief
Permitting Section
Air Programs Branch

bcc: Steven Riva
Frank Jon
Suilin Chan
Umesh Dholakia
Francisco Claudio, EPA-CEPD
Monica Gibson, OGC
Loan Nguyen, OECA

ATTACHMENT 13-C

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

EXCERPT

December 14, 2001

Mr. Marc Chytilo
Law Office of Marc Chytilo
P.O. Box 92233
Santa Barbara, California 93190

Attorneys for Communities for Land,
Air, Water and Species

Dear Mr. Chytilo:

Thank you for your comment letter dated March 12, 2001 to our Acting Regional Administrator at the time, Ms. Laura Yoshii, regarding possible deficiencies in the title V operating permit programs in California. Your letter was in response to EPA's announcement made in the Federal Register on December 11, 2000, that members of the public, during the 90-day period that followed our announcement, could identify deficiencies they perceive exist in State and local agency operating permits programs required by title V of the Clean Air Act ("Act")(65 FR 77377). Enclosed is our response to your comments.

By way of background, the opportunity for the public to comment on the title V programs was the result of a settlement between EPA and the Sierra Club and New York Public Interest Group (NYPIRG) resolving a challenge to EPA's extension of the interim approval period for 86 operating permit programs. In the context of discussing settlement of that litigation, Sierra Club and NYPIRG raised concerns that many programs with interim approval, as well as those with full approval, have program and/or implementation deficiencies.

In our December 11, 2000 Federal Register notice we asked members of the public to be as specific as possible in their comments and to not include in the comments any program deficiencies that were already identified as such by EPA when we granted the program interim approval. Further, we stated that comments that generically assert deficiencies for multiple programs would not be considered. As you may be aware, Region 9 oversees title V programs for 43 permitting authorities and more than 2,000 title V sources are located within Region 9's jurisdiction. For reasons related to administrative limitations, EPA requested the public to be as specific as possible.

Your letter generally described twenty (20) deficiencies that you allege exist in the California part 70 programs. Your comments raised concerns over: 1) the adequacy of public access to information regarding permitting decisions; 2) the adequacy of enforcement programs

Our Response to Comment #11:

Our treatment of this issue is addressed in the final rulemaking dated December 7, 2001 (66 FR 63503).

Comment #12:

Portable equipment exemption. CARB's implementation of the statewide portable equipment rule has allowed otherwise major sources to avoid NSR and Title V permitting requirements by facilitating segregation of a source that would otherwise be considered a single source for permit threshold purposes. All sources that are elements of or attributable to a major source must be counted and controlled under the Title V permit. This has weakened and circumvented the federal Title V program.

Our Response to Comment #12:

The majority of qualified portable engines/equipment under the statewide Rule meet EPA's definition of nonroad engine (40 CFR § 89.2). Nonroad engines are a category of units/equipment that, under the Clean Air Act Section 302(z), are excluded from the definition of "stationary source," and, hence, are exempt from stationary source permitting requirements, i.e., Title V (e.g., garden tractors, off-highway mobile cranes and bulldozers). However, there are some engines included in the State's rule that are not non-road engines. There is, for example, a very limited universe of military tactical support equipment (TSE) turbines in California. EPA has reviewed emissions data for TSE turbines and determined that they play an insignificant role in emissions from military facilities and do not affect Title V applicability. Region 9 has concluded that California's statewide portable equipment rule has not allowed sources to circumvent the Title V program. Your comment does not identify any examples of a source that has avoided Title V because of the improper exclusion of emissions from registered portable engines and equipment units that do not meet EPA's definition of nonroad engines. Therefore, EPA Region 9 does not agree that the implementation of the California Statewide Portable Equipment Registration Rule constitutes a deficiency to any of the Title V programs administered in the State.

Comment #13:

Electricity crisis issues. Throughout California's "emergency" electricity crisis, all Title V requirements have remained in effect, but have been largely ignored. Various state and federal Executive Orders have directed expedited permitted processes, but not waiver of applicable substantive or procedural Title V or state permitting requirements. Nevertheless, state responses to this situation have included deferred offsets, waived substantive requirements, and the operation of dirty peaking power stations in excess of permit limits. Each of these actions implicates substantive Title V issues which must be addressed.

Our Response to Comment #13:

Again, your comment is very general and you did not provide any examples where title V requirements have been ignored or waivers have been granted that are inconsistent with title V. EPA is not aware of any applicable substantive or procedural requirements that have been waived as part of the title V or state permitting requirements. If a District has a merged title V and NSR program (i.e., a permitting program combines the public review of proposed NSR and title V

ATTACHMENT 13-D

September 23, 1996

4APT-ARB

Mr. John R. McDowell, P.E.
4416 Topside Road
Knoxville, TN 37920

SUBJECT: TITLE V APPLICABILITY ISSUES RELATED TO THE CINCINNATI/NORTHERN KENTUCKY INTERNATIONAL AIRPORT

Dear Mr. McDowell:

Your letter of August 27, 1996, requested clarification from the Environmental Protection Agency (EPA) concerning the subject matter. These issues were discussed in part, with Mr. Alan Drake of my staff, and Mr. Hank Wiseman of the Kentucky Division of Air Quality (KDAQ). Specifically, you requested clarification regarding the exclusion of emissions from aircraft, ground service equipment, and privately-owned vehicles (POVs) on airport roadways. In addition, you requested confirmation on Regional policy for tenant facilities. Lastly, you requested clarification of Regional policy concerning emissions of ethylene glycol during deicing operations. Below is our response to each topic identified in your letter.

Aircraft

Aircraft emissions do not have to be included in a title V applicability determination. You may wish to note that jet engine test cells (i.e., aircraft engine is removed from the aircraft prior to testing) are considered stationary sources and must aggregate such emissions when determining title V applicability.

Ground Service Equipment

According to the definition of nonroad engine in 40 CFR Part 89.2, internal combustion engines are not considered to be nonroad engines if they remain or will remain at a location for more than 12 consecutive months or a shorter period of time for an engine located at a seasonal source. 40 CFR Part 89.2 specifically defines a location as any single site at a building, structure, facility, or installation. As such, a specific piece

of aerospace ground equipment would be considered a stationary source unless it is determined that it is moved (for reasons other than to solely qualify it as mobile) to another location within the requisite time period. Determinations concerning whether particular pieces of aerospace ground equipment are considered nonroad engines should be made by the permitting authority on a case-by-case basis.

POVs on Airport Roadways

Emissions from POVs on airport roadways do not have to be included in a title V applicability determination.

Tenant Facilities

With respect to airports, tenant facilities are generally considered as separate sources for title V applicability. This is because, under a landlord-tenant relationship, the landlord (property owner) does not have common control (i.e., partial ownership, voting interest, funding, etc.) over tenant (separately owned airlines) operations. Landlord-tenant relationships are considered by the permit authority on a case-by-case basis. Based upon conversations with KDAQ, it appears that individual airlines operating out of the Cincinnati/Northern Kentucky International Airport will be treated as separate sources under title V permitting. It is important to note that emissions from support facilities under common control (e.g., ownership) of a particular airline must be aggregated with the airline's emissions.

Deicing with Ethylene Glycol

To date, the Region has not issued guidance concerning this issue. KDAQ has indicated that they intend to require each individual airline to include in their emissions inventory, potential emissions of ethylene glycol that would occur during that airline's deicing operations. As an aside, if deicing operations were shared among the airlines (i.e., at a deicing station), potential emissions would be counted by the owner of the deicing operation. If an airline had common control of the deicing operation, the source would be considered a support facility as indicated above.

Thank you for the opportunity to assist you in this matter. If you should have any questions regarding this letter, please contact Mr. Alan Drake of my staff at 404/562-9123.

Sincerely yours,

/s/

R. Douglas Neeley
Chief
Air and Radiation Technology Branch
Air, Pesticides and Toxics
Management Division

cc: Hank Wiseman, KDAQ

ATTACHMENT 13-E

March 12, 1996

4APT-AEB

Mr. Edward A. Cutrer, Jr.
Air Protection Branch
Environmental Protection Division
Georgia Dept. of Natural Resources
4244 International Pkwy., Ste. 120
Atlanta, GA 30354

RE: Aerospace Ground Equipment, Hush Houses, and Jet Engine Test Cells

Dear Mr. Cutrer:

We have received your January 8, 1996, letter which was submitted in response to our December 1, 1995, letter regarding aerospace ground equipment, hush houses, and jet engine test cells. In your letter, you have brought to our attention that aerospace ground equipment does not meet the criteria of a stationary source, since it is typically moved around and deployed wherever needed and does not usually remain at a particular site or location on a property. We have also received letters from the Department of the Air Force dated January 29, 1996, and February 9, 1996, which address this issue and present other questions related to Title V permitting at their facilities. Copies of these two letters are enclosed.

As stated in our December 1, 1995, letter, the definition of stationary source in section 302 of the Clean Air Act (CAA) does not include nonroad engines or nonroad vehicles, as defined in section 216. According to the definition of nonroad engine in 40 CFR Part 89.2, internal combustion engines are not considered to be nonroad engines if they remain or will remain at a location for more than 12 consecutive months or a shorter period of time for an engine located at a seasonal source. Your letter is correct in that 40 CFR Part 89.2 specifically defines a location as any single site at a building, structure, facility, or installation. As such, a specific piece of aerospace ground equipment would be considered a stationary source unless it is determined that it is moved (for reasons other than to solely qualify it as mobile) to another location within the requisite time period. Determinations concerning whether particular pieces of aerospace ground equipment are considered nonroad engines should be made by the permitting authority on a case-by-case basis.

In the January 29, 1996, letter from the Department of the Air Force, trim pads and the emissions from trim pads are described. Similar to hush houses, trim pads are not considered stationary sources, since the aircraft engines are not removed from the aircraft prior to testing.

Jet engine test cells, as discussed in EPA's December 1, 1995, letter, are considered stationary sources. Since the aircraft engine is removed from the aircraft prior to testing in a test cell, the engine is not considered a "nonroad engine" as

defined in 40 CFR Part 89, because it is not "in or on a piece of equipment that is self-propelled...." Since the engine is physically secured in the test cell, which is a permanent structure, the test cell operation is considered a stationary source. As stated in our December 1, 1995, letter, this position is consistent with prior Prevention of Significant Deterioration (PSD) determinations which have been made regarding test cells at jet engine manufacturing facilities.

We disagree with the argument by the Air Force in its letters that coverage of test cells under a state's Title V program is preempted by federal law. Section 233 of the Act, 42 U.S.C. 7573, provides that states may not "adopt or attempt to enforce any standard respecting emissions of any air pollutant from any aircraft or engine thereof" unless the standard is identical to a standard applicable to the aircraft under Subchapter II, Part B of the Act. Likewise, in the 1990 Amendments to the Act, Congress directed EPA to study the potential regulation of nitrogen oxides emissions from the "testing of uninstalled aircraft engines in enclosed test cells." 42 U.S.C. 7571. States are permitted to adopt and enforce standards for nitrogen oxides emissions only after giving public notice of whether the standards are in accordance with the findings of the study. Id.

Title V "does not impose substantive new requirements..." (ref. 40 CFR Part 70.1). The requirement that a source obtain, and operate only pursuant to, a Title V permit is not an emission standard. Therefore, the Act's prohibition against state emission standards for aircraft or aircraft engines different from federal standards and its public notice requirement for state emission standards for test cells have no bearing on whether operators of test cells are required to obtain a Title V permit or whether test cells should be included in Title V applicability determinations. For the same reasons, the fact that the test cells study apparently has been completed and was inclusive, as reported by the Air Force in its letter of February 9, 1996, has no bearing on Title V.

The Air Force argues in a similar vein that regulation of Air Force engine test cells may be a discriminatory regulation of a federal agency under Section 118(a) of the Act, which gives states the authority to regulate federal agencies only "in the same manner and to the same extent as any nongovernmental entity." The apparent claim here is that the treatment of test cells as stationary sources potentially subject to Title V regulates the Air Force to a greater extent than "other similar sources." There is no basis for this claim, however, since there would be no reason to differentiate between a test cell operated by the Air Force and one operated by a nongovernmental entity. As noted above, prior PSD determinations of manufacturers have taken test cell emissions into account. Also, an argument that the Air Force would be regulated to a greater extent because no nongovernmental entity operates post-installation test cells would similarly fail. In that case, there would be no "other similar sources" under Section 118(a).

If there are any questions regarding this letter, please contact Mr. Keith Goff of my staff at (404)347-5014 or contact Mr. David Savage of the Office of Regional Counsel at (404)347-2641.

Sincerely yours,

/s/

Brian Beals
Chief
Source Evaluation Unit
Air Enforcement Branch
Air, Pesticides, and Toxics
Management Division

Enclosures

cc: Erich O. Hart
Department of the Air Force

Bobby Ficquette
Department of the Air Force

Thomas D. Sims
Department of the Air Force

ATTACHMENT 13-F

MEMORANDUM

State of Alaska

Department of Environmental Conservation

Division of Air Quality

TO: Air Permit Program Staff DATE: September 2, 2009

FROM: John Kuterbach

Air Permit Program Manager

Subject: Interpretation of the term "non-road engine" with respect to pre-construction permitting requirements in AS 46.14 and 18 AAC 50.

A recently concluded enforcement case has revealed a misunderstanding some members of the regulated community may have when determining if a preconstruction permit is required prior to installing an engine at a location. Under 18 AAC 50.100, the emissions of non-road engines are not counted when determining the classification of a modification. As a result, the installation of a non-road engine often avoids classification as a modification that requires a minor or construction permit before beginning construction or installation[1]. Owners and operators sometimes presume that an engine they intend to be temporary is a non-road engine, and do not count its emissions.

If the engine meets the definition of nonroad engine, then this approach is consistent with permitting rules, and no permit is required. If the engine does not meet the definition of nonroad engine, then this approach may circumvent the requirement to obtain a preconstruction permit. Everyone understands that intentional circumvention is unlawful. The situation is less clear when an owner or operator intends to meet the definition of nonroad engine, but fails to do so.

[1] The requirement to obtain a permit before commencing construction or installation is known as a preconstruction permit requirement.

At issue are the following provisions in the federal definition 40 CFR 89.2, adopted by reference under 18 AAC 50.990 (highlights and footnote added):

> Nonroad engine means:
> (1) …
>
> (2) An internal combustion engine is not a nonroad engine if:
> (i) …
>
> (ii)…; or
> (iii) the engine otherwise included in paragraph (1)(iii) of this definition ***remains or will remain at a location*** for more than ***12 consecutive months*** or a shorter period of time for an engine located at a seasonal source. A location is any single site at a building, structure, facility, or installation. ***Any engine (or engines) that replaces an engine at a location and that is intended to perform the same or similar function as the engine replaced will be included in calculating the consecutive time period.*** An engine located at a seasonal source is an engine that remains at a seasonal source during the full annual operating period of the seasonal source. A seasonal source is a stationary source that remains in a single location on a permanent basis (i.e., at least two years) and that operates at that single location approximately three months (or more) each year. This paragraph does ***not apply to an engine*** after ***the engine is removed*** from the location[2].

The Department interprets this definition as follows: An engine that actually remains at a location for more than 12 months never qualified as a nonroad engine, regardless of whether the owner or operator intended this result. The phrase "or will remain" demonstrates that the rule does not exempt the first 12 months of residence at a location. Furthermore, the definition does not explicitly consider the owner's or operator's intent. The Department will, however, consider the owner's or operator's intent in determining the appropriate enforcement response for installing an engine without proper permits.

The definition does not rely on operation at the site. Therefore, the strategy of shutting down an engine before the 12th month, getting a permit, and resuming operation does not make the engine a nonroad engine during the first operational period. If the engine remains at the location more than 12 months, then it is not, and never was, a nonroad engine per paragraph (2)(iii) of the nonroad engine definition.

Some owners or operators have proposed removing the engine from the site before the 12th consecutive month, getting the necessary permits, and returning the engine to the site. The Department looks at the phrase "***Any engine (or engines) that replaces an engine at***

[2] 40 CFR 89.1003(a)(5) states that it is a prohibited act to circumvent or attempt to circumvent the residence time requirements of paragraph(2)(iii) of the nonroad engine definition.

a location and that is intended to perform the same or similar function as the engine replaced will be included in calculating the consecutive time period." This means that removing and returning an engine is treated the same as though the engine was never removed. As discussed earlier, the Department finds that the engine in this case was never a nonroad engine; therefore, the original installation should have met the applicable preconstruction permitting requirements for a stationary source. While the subsequent permitting corrects the violation, it does not excuse it. Again, the owner's or operator's intent and specific circumstances would be examined to determine the appropriate response to the violation.

One may note that the definition specifies 12 *consecutive* months. If an engine is removed from a site for a full calendar month, one could argue that it did not remain at the location for more than 12 consecutive months. Upon the engine returning to the location, a new 12 consecutive month period would begin. This, however, ignores the prohibition in 40 CFR 89.1003(a)(5). Under 89.1003(a)(5), a person may not circumvent or attempt to circumvent the residence time in the nonroad engine definition. Removing the engine for a calendar month and returning it to the same location could be an attempt to circumvent the residence time, and must be carefully scrutinized. There is no clear rule on the amount of time that an engine must remain off-site before circumvention is no longer an issue. The basic rule of thumb is that an engine must be removed for at least one calendar month before the clock could be reset, and an engine removed for an entire year definitely resets the clock without a concern about circumvention.

A similar concern arises if an engine is moved to different locations within a stationary source. The purpose of moving the engine must be examined to confirm that the engine was moved for operational needs and not merely to circumvent the 12 consecutive month residence time at a location.

A final source of confusion is the last sentence highlighted from the definition. "This paragraph does ***not apply to an engine*** after ***the engine is removed*** from the location." This sentence merely states that the 12 month time limit applies to the location, not the specific engine. Removing an engine from a location does not reset the time limit for the location, but the time expended at a location does not follow an engine to a new location.

Examples:

1. Installing and operating an engine for twelve months, shutting it down, and then obtaining a permit to authorize continued operation.

    a. As noted above, the initial installation of the engine must be evaluated as installation of a stationary engine.

b. If the original installation evaluated under (a) required a permit, then failure to obtain that permit is a violation. The violation is corrected by the receipt of the subsequent permit; however, the initial installation is still unlawful and subject to compliance penalties.

2. Installing and operating an engine for less than twelve months, shutting it down, removing it from the site, obtaining a permit to authorize operation of a stationary engine intended to perform the same or similar function, and installing that engine at the location.

   a. As noted above, this situation is legally indistinguishable from Example 1.

   b. Installing and operating an engine without a permit for more than twelve months at different locations to serve the same function, without a legitimate business purpose. If it is concluded that this action circumvents or attempts to circumvent the residence time, then this would be a violation of 40 CFR 89.1003(a)(5).

3. Stationary engines include:

   a. Engines fixed to one location

   b. Portable engines used at one location, moved to a storage site while not in use.

   c. Portable engines which reside at one location for 12 consecutive months or more.

4. Any engine such as backup or stand-by engine, that replaces a non-road engine at a location and is intended to perform the same or similar function as the engine being replaced, will be included in calculating the consecutive time period. In that case, the cumulative time of both engines, including the time between the removal of the original engine and installation of the replacement engine, will be counted toward the consecutive time period.

5. An engine will be considered to reside at a location for 12 consecutive months or more at a seasonal source if:

   a. the engine is located at a seasonal source and operates during the full annual operating period of the seasonal source, where a seasonal source is a stationary source that remains in a single location on a permanent basis (i.e., at least two years) and that operates at that single location at least three months each year or,

   b. the engine is moved from one location to another in an attempt to circumvent the residence time violation of 40 CFR 89.1003(a)(5).

Summary

Owners and operators may install engines without preconstruction permits based on their intent to operate as nonroad engines, but the owners and operators do so at their own risk. If the engine fails to comply with the time limitation in the definition of nonroad engine, the department will evaluate the initial installation as a stationary engine. Any enforcement response for installing an engine without proper permits will consider the specific circumstances of the case, including evidence of the owner or operator's original intent.

Removing an engine temporarily from a site does not reset the 12 consecutive month clock unless 1) the engine is removed for at least one full calendar month AND 2) the engine was not removed to circumvent the residence time requirements of the non-road engine definition.

ATTACHMENT 13-G

Appendix K

B. Policy Guidance Memo on Non-Road Engines

OAPP-043-99

MEMORANDUM

TO: Karen Sismour
Regional Permit Manager, Tidewater Regional Office

FROM: C. L. Turner
Director, Office of Air Permit Programs

SUBJECT: Permitting and Compliance Issues for Non-road Internal Combustion Engines

DATE: December 1, 1999

Copies: John M. Daniel, Director, Division of Air Programs Coordination
John E. Schubert, Air Inspections Coordinator

Background and Issues Raised

A number of facilities are known to employ mobile diesel engines to provide compressed air, high-pressure water, or electricity as an integral part of their processes. These engines vary widely in size and emission rates. Many are at facilities which are permitted, although some are not. Types of sources using these engines include shipyards doing abrasive blasting operations, container cranes and □straddle carriers[5] at Virginia Port Authority terminals, certain rides at Busch Gardens, and cement import/export terminals, among others. These engines frequently have uncontrolled or potential emissions above permit exemption levels. Some types of internal

[5] A □straddle carrier□ is a diesel-powered wheeled vehicle that moves cranes and other equipment around on a facility. It is essentially shaped like an upside-down U, hanging over equipment it is carrying.

combustion engines have historically been subject to permitting, such as generators[6] and crushers. Others, such as hydroblasters and portable air compressors, have not traditionally received permits. The aggregate emissions of such engines and the rest of the facility where they are employed may trigger PSD major source levels. Some of these engines are rental units rather than being owned by the facility where they are employed.

The questions addressed by this Memo are: 1. what is the nature of our regulatory jurisdiction relative to these engines, and 2. what courses of action are open to us once the question of regulatory jurisdiction is resolved.

Discussion of Regulatory Jurisdiction

According to the Regulations for the Control and Abatement of Air Pollution (□the Regulations□), a stationary source is □a building, facility, structure, or installation which emits or may emit any air pollutant.□[7] The rules do not specify whether an emission unit which is movable within the facility is stationary. However, the Clean Air Act excludes from its definition of □stationary source□ the emissions □resulting from a non-road engine or non-road vehicle as described in section 216.□[8] Section 216, in turn, defines □non-road vehicle□ as a vehicle that is powered by a non-road engine and that is NOT:

-- a motor vehicle, or

-- a vehicle used solely for competition.[9]

Thus, internal combustion engines at shipyards that meet the definition of □non-road engines□ cannot be regulated as stationary sources. However, if they are not non-road engines, they could be either stationary or mobile sources. For this reason, it is worth examining the □non-road engines□ definition in federal rules.

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[6] See Memo No. 97-1001, dated January 22, 1997, subject: □Emergency Generators -- Permit Exemption Guidance.□ This is available at □K:\AGENCY\AIRGIDE\POLICY\97-1001.□ It is based on an EPA guidance memo issued the preceding year to help determine the potential to emit of seldom-used emergency generators.

[7] See the definitions of □stationary source□ in the permit program rules, as follows: for minor new source review, 9 VAC 5-80-10 B.; for PSD, 9 VAC 5-80-1710 C.; for non-attainment major, 9 VAC 5-80-2010 C.; for state operating permits, 9 VAC 5-80-810 C.; and for Title V, 9 VAC 5-80-60 C.

[8] Section 302(z) of the Clean Air Act, as cited in an EPA letter to the South Coast Air Quality Management District, dated March 30, 1993, page 2. This appears in Title III of the Act, pertaining to general provisions.

[9] Clean Air Act Amendments of 1990, Title II, part A, section 216(11). Title II of the Act pertains to □Emission Standards for Moving Sources.□ Section 216 is one of the authorities for 40 CFR Part 89, the federal rules governing emissions from non-road engines.

Non-Road Engines under Federal Rules

The federal rules on emissions from non-road engines appear in Title 40, Code of Federal Regulations, Part 89. These rules mandate EPA certification for the manufacture of □non-road engines□ that □have a gross power output at or above 37 kilowatts and that are used for any purpose.□[10] Non-road engines are defined as:

-- engines in or on a piece of equipment that is self-propelled and also accomplishes another function, such as lawn mowers;

-- engines that, by themselves or on a piece of equipment, are portable or transportable from one location to another.

Engines used in mining, aircraft, marine vessels, and some other uses are exempted.[11]

The definition in Part 89 provides several □indicia of transportability,□ which include but are not limited to 1) skids, 2) a carrying handle, 3) a dolly, 4) a trailer, or 5) a platform.[12] The definition continues to specify things that are not non-road engines:

-- engines used for motor vehicles or competition vehicles;

-- engines subject to an NSPS;[13] and

-- engines which are portable, but which stay at one location for 12 consecutive months (including replacement engines) or more (or full seasons at seasonal sources).[14]

Based on these definitions:

(1) **self-propelled cranes, straddle carriers, and other moving or movable machinery with internal combustion engines** are not stationary sources because they are powered by □non-road engines□ as defined above;

(2) **Hydroblasters and portable air compressors** are powered by □non-road□ engines if they possess any of the indicia of transportability mentioned above, and as such are not stationary sources;

---

[10] Part 89, Sub-part A, section 89.1(a).

[11] Part 89, Sub-part A, section 89.2, definition of □non-road engine,□ sub-section (1).

[12] See sub-section (1)(iii).

[13] These are limited to stationary gas turbines. See the NSPS at 40 CFR Part 60, sub-part FF.

[14] Part 89, Sub-part A, section 89.2, definition of □non-road engine,□ sub-section (2).

(3) **If a piece of equipment is powered by an internal combustion engine but does not possess indicia of transportability**, it may, though it is portable, be treated as a stationary source if it stays in place for 12 consecutive months or more.

(4) **Sources which are movable** only through temporary construction or placement of rails and wheels for their movement, or through disassembly, are stationary sources.

Courses of Action

We have three essential interests in addressing the emissions from these internal combustion engines that can move around industrial or shipyard sites. The first interest is in having these engines meet requirements or standards which may apply to them. The second is in making sure adequate records are kept, so that the Department can tell when or whether the emissions budget is exceeded, or a PSD (or other) threshold is reached. The third is the collection of permit fees, based on annual emissions, from sources that happen to be Title V sources or sources subject to state operating permits.

Inspectors who find internal combustion engines during site visits should look to see whether the engines possess □indicia of transportability□ as discussed in this Memo and in Part 89. If they do, or if they are in fact movable under their own power, they are mobile sources, and not a matter of concern for stationary source permitting. If the engines can not move under their own power and have been in the same location for more than 12 consecutive months (possibly since the last annual site visit), they are stationary sources and the inspector may inform the source of the need to submit sufficient information to determine if the engine is subject to permitting. If the engines are discovered during permit review, the permit writer should request sufficient information to determine if emissions exceed the appropriate exemption level and should communicate the existence of the engine to compliance personnel.

I would like to thank you and your staff for their contributions to the drafting of this memorandum, and for your patience in this matter. If you have any questions regarding the content of this memo, please contact Charlie Ellis at (804) 698-4016.

Section 14

Operational Plan to Mitigate Emissions

(submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

✓ **Title V Sources** (20.2.70 NMAC)**:** By checking this box and certifying this application the permittee certifies that it has developed an **Operational Plan to Mitigate Emissions During Startups, Shutdowns, and Emergencies** defining the measures to be taken to mitigate source emissions during startups, shutdowns, and emergencies as required by 20.2.70.300.D.5(f) and (g) NMAC. This plan shall be kept on site to be made available to the Department upon request. This plan should not be submitted with this application.

☐ **NSR** (20.2.72 NMAC)**, PSD** (20.2.74 NMAC) **& Nonattainment** (20.2.79 NMAC) **Sources:** By checking this box and certifying this application the permittee certifies that it has developed an **Operational Plan to Mitigate Source Emissions During Malfunction, Startup, or Shutdown** defining the measures to be taken to mitigate source emissions during malfunction, startup, or shutdown as required by 20.2.72.203.A.5 NMAC. This plan shall be kept on site to be made available to the Department upon request. This plan should not be submitted with this application.

✓ **Title V** (20.2.70 NMAC)**, NSR** (20.2.72 NMAC)**, PSD** (20.2.74 NMAC) **& Nonattainment** (20.2.79 NMAC) **Sources:** By checking this box and certifying this application the permittee certifies that it has established and implemented a Plan to Minimize Emissions During Routine or Predictable Startup, Shutdown, and Scheduled Maintenance through work practice standards and good air pollution control practices as required by 20.2.7.14.A and B NMAC. This plan shall be kept on site or at the nearest field office to be made available to the Department upon request. This plan should not be submitted with this application.

Plan available at mine for review.

Section 15

Alternative Operating Scenarios

(submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

Alternative Operating Scenarios: Provide all information required by the department to define alternative operating scenarios. This includes process, material and product changes; facility emissions information; air pollution control equipment requirements; any applicable requirements; monitoring, recordkeeping, and reporting requirements; and compliance certification requirements. Please ensure applicable Tables in this application are clearly marked to show alternative operating scenario.

"NORMAL OPERATING SCENARIO"
and
"ALTERNATIVE OPERATING SCENARIO #1"

Background

Federal regulations at 40 C.F.R. Part 70 require and specify the minimum elements of state operating permit programs developed in accordance with Title V of the CAA. Those regulations prescribe that alternative operating scenarios ("AOSs") identified by the source be included in a state operating permit as part of the mandate in CAA § 502(b)(6) to include "adequate, streamlined and reasonable procedures" for permit actions. 57 Fed. Reg. 32,250, 32,276 (July 21, 1992). Accordingly, a Part 70 permit shall include "[t]erms and conditions for reasonably anticipated AOSs indentified by the source in its application as approved by the permitting authority." 40 C.F.R. § 70.6(a)(9).

New Mexico implements the AOS permit requirement at 20.2.70.302(A)(3) NMAC by requiring terms and conditions for alternative operating scenarios, as identified in the application and approved by NMED, to:

(1) require that the permittee maintain a log at the permitted facility which documents, contemporaneously with any change from one operating scenario to another, the scenario under which the facility is operating; and

(2) meet all applicable requirements and the requirements of New Mexico's Part 70 regulations, for each such alternative scenario.

Conditions representative of the "Normal Operating Scenario" at San Juan Mine include operations of as many as four (4) emergency generators (EG-1, EG-2, EG-3 and EG-4), depending upon the specific need for each emergency generator. However, San Juan Mine has two (2) other emergency generators (EG-5 and EG-6) which are currently in a "cold storage" status. That is, each of those two other emergency generators is not currently maintained in a "standby" status, capable of being immediately activated during a loss in electric power to a particular activity.

Nevertheless, under "Alternative Operating Scenario #1,"with a minimum of equipment preparation and connections, either or both of those existing "cold storage" emergency generators could be placed into service, either as a temporary replacement for one of the four existing "standby" generators or as an emergency power supply to some yet-to-be-identified critical application at the Mine which has experienced a loss of electric power from the local utility.

APPLICATION INFORMATION FOR AOS #1

Description of AOS #1

San Juan Mine will be operating under Alternative Operating Scenario #1 when any or all emitting activities included in Normal Operating Scenario are operating and when either Emergency Generator EG-5 and/or Emergency Generator EG-6 has been placed into operation. Emergency Generators EG-5 and EG-6 will operate only when electric power from the local utility cannot be supplied to the activity served by that emergency generator or when that emergency generator must be operated for brief periods of testing or maintenance. Design and construction details relevant to both EG-5 and EG-6 are provided in Table 2-A.

Emissions from EG-5 and EG-6

By definition, Emergency Generators EG-5 and/or EG-6 will operate only during AOS #1. Maximum emissions and requested allowable emissions from each unit during its operation under AOS #1 are shown in Tables 2-D and 2-E, respectively.

Applicable Requirements under AOS#1

Unit EG-5 and Unit EG-6 are each classified as existing emergency stationary reciprocating internal combustion engine (RICE) located at an area source of hazardous air pollutant (HAP) emissions. 40 C.F.R. § 63.6590(a)(1)(iii). Supplement 2 to Section 13 of this Application discusses specific federal requirements under Subpart ZZZZ of 40 C.F.R. Part 63 and State requirements under 20.2.82 NMAC that apply to both EG-5 and EG-6. The Mine will need to maintain a log that documents when the Normal Operating Scenario is active and when the Alternative Operating Scenario #1 is active.

Section 16

Air Dispersion Modeling

NSR (20.2.72 NMAC) and PSD (20.2.74 NMAC) Modeling: Provide an air quality **dispersion modeling** demonstration (if applicable) as outlined in the Air Quality Bureau's Dispersion Modeling Guidelines. If air dispersion modeling has been waived for this permit application, attach the AQB Modeling Section modeling waiver documentation.

SSM Modeling: Applicants must conduct dispersion modeling for the total short term emissions using realistic worst case scenarios following guidance from the Air Quality Bureau's dispersion modeling section. Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications (http://www.nmenv.state.nm.us/aqb/permit/app_form.html) for more detailed instructions on SSM emissions modeling requirements.

Title V (20.2.70 NMAC) Modeling: Title V applications must specify the NSR Permit number for which air quality dispersion modeling was last submitted. Additionally, Title V facilities reporting new SSM emissions require modeling or a modeling waiver to demonstrate compliance with standards.

This section presents a summary of the results for the Dispersion Model Analysis that was performed by Class One Technical Services, Inc. (CTS) on behalf of BHP Billiton's (BHP's) San Juan Coal Company (Company) to determine compliance of ambient air quality impacts from the Company's San Juan Mine (SJM) under 20.2.70.201.D.3 NMAC as part of that stationary source's 20.2.70 NMAC, Title V permit application. The objective of this modeling evaluation is to predict if maximum operation of SJM results in ambient air concentrations of particulate matter, i.e., total suspended particles (TSP), and both 10 microns or less (PM_{10}) and 2.5 microns or less ($PM_{2.5}$), that are below New Mexico and federal ambient air quality standards, NMAAQS and NAAQS respectively.

SJM is located near Farmington, New Mexico, north of Fruitland in New Mexico Meridian Township 30N and Ranges 15W and 14W. SJM is a coal mine which consists of an underground mine, a loadout system, open raw coal storage piles, coal preparation plant, and reclamation operations. SJM also accepts coal combustion by-products (CCBs) in the form of fly ash and gypsum from San Juan Generating Station. These CCBs are utilized in the ongoing reclamation process at a now-retired surface mine.

The underground mine is a source of particulate matter and methane. Methane emissions are exhausted by the Mine's ventilation and degasification systems, both of which are mandated by the federal Mine Safety and Health Administration (MSHA) to order to maintain safe working conditions in the underground mine.

The mine loadout conveyor system includes two transfer towers (Units S1 and S2) and coal stackout with storage pile (Unit S3), which takes the coal from the underground mine face and transports the coal to a storage pile and truck loading area (Unit S4). This system is a source of particulate matter emissions.

Run-of-mine coal from the coal stackout pile can be transported directly to the coal preparation plant or to one of two coal storage piles. Transportation of the coal is performed by coal haul trucks (Unit S24). Coal delivered to the coal prep plant is unloaded into underground hoppers for subsequent processing (Units S5 through S22). Raw coal delivered to one coal pile is stored until it ultimately pushed by bulldozer into the nearby hoppers of the coal prep plant. Coal pile maintenance is performed by bulldozers (Units S29, S30, 32, and S35). All actions are sources of particulate emissions.

The coal preparation plant crushes the coal to size and conveys the coal to San Juan Generating Station. The coal prep plant is enclosed in buildings and controlled with additional moisture added by sprays of water/chemicals. Particulate matter emissions from the coal prep plant are vented from buildings by passive venting.

CCBs from San Juan Generating Station are transported by haul trucks to surface mine reclamation areas (Units S25 and S26). At the reclamation areas, bulldozers cover the delivered CCBs and contour the existing overburden piles as part of the ongoing reclamation (Units S31, S33, S34, and S36). This process is a source of particulate matter emissions.

Other SJM sources of particulate matter emissions modeled include: light vehicle traffic on paved and unpaved roads (Units 23 and 27), unpaved road maintenance (Unit 28), bulldozer operations in the gob vent borehole (GVB) area (Unit 37), and underground mining activities exhausted through ventilation shafts (Units 38 and 39).

The SJM operates 8760 hours per year over three shifts per day. Particulate matter emissions from haul truck traffic are based on annually hauling 8,200,000 tons of coal, 1,840,000 tons of fly ash, and 390,000 tons of gypsum. Particulate matter emissions from the coal preparation plant are based on a maximum throughput capacity of 13,000,000 tons per year.

A significant majority of the modeled particulate matter emissions are from ground-release, fugitive dust sources where the maximum modeled concentrations were seen at the mine boundary. All ground-release, fugitive dust sources were modeled as "flat terrain" sources. The most recent version of AERMOD was used.

The results of the PM dispersion modeling for SJM are found in the table below.

TABLE 16-1: Summary of Air Dispersion Modeling Results for Particulate Emitting Sources Results

Model Year	Pollutant	Pollutant Averaging Period	Significant Level ($\mu g/m^3$)	Lowest Applicable Standard ($\mu g/m^3$)	Maximum Modeled Conc. ($\mu g/m^3$)	Maximum Modeled Conc. + Background ($\mu g/m^3$)	Date of Maximum Concentration (mo/day/hr)
4/2011 - 5/2012	TSP	Highest 24 Hour	5	150	**294.0**	**331.8**	**12/30/2011**
		Highest Annual	1	60	**87.2**	**107.8**	**1 YEAR**
4/2011 - 5/2012	PM_{10}	1st Highest 24 Hour	5	150	131.7	160.1	12/11/2011
		2nd Highest 24 Hour			**113.8**	**133.4**	**02/01/2012**
4/2011 - 5/2012	$PM_{2.5}$	1st Highest 24 Hour	1.2	35	17.9	33.2	12/30/2011
		8th Highest 24 Hour	**1.2**	**35**	**13.0**	**26.7**	**12/17/2011**
		Annual	**0.3**	**15**	**5.44**	**11.44**	**1 YEAR**

A complete modeling report including discussions on model inputs and settings, meteorological data used in the dispersion modeling, plus all AERMOD dispersion modeling files will be submitted under a separate cover.

Section 17

Compliance Test History

(submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

To show compliance with existing NSR permits conditions, you must submit a compliance test history. The table below provides an example.

NOT APPLICABLE

Section 18

Addendum for Streamline Applications

NOT A STREAMLINE APPLICATION

Section 19

Requirements for Title V Program

Do not print this section unless this is a Title V application.

Who Must Use this Attachment:

* Any major source as defined in 20.2.70 NMAC.
* Any source, including an area source, subject to a standard or other requirement promulgated under Section 111 - Standards of Performance for New Stationary Sources, or Section 112 Hazardous Air Pollutants, of the 1990 federal Clean Air Act ("federal Act"). Non-major sources subject to Sections 111 or 112 of the federal Act are exempt from the obligation to obtain an 20.2.70 NMAC operating permit until such time that the EPA Administrator completes rulemakings that require such sources to obtain operating permits. In addition, sources that would be required to obtain an operating permit solely because they are subject to regulations or requirements under Section 112(r) of the federal Act are exempt from the requirement to obtain an Operating Permit.
* Any Acid Rain source as defined under title IV of the federal Act. The Acid Rain program has additional forms. See http://www.nmenv.state.nm.us/aqb/index.html. Sources that are subject to both the Title V and Acid Rain regulations are encouraged to submit both applications simultaneously.
* Any source in a source category designated by the EPA Administrator ("Administrator"), in whole or in part, by regulation, after notice and comment.

19.1 - 40 CFR 64, Compliance Assurance Monitoring (CAM) (20.2.70.300.D.10.e NMAC)

Any source subject to 40CFR, Part 64 (Compliance Assurance Monitoring) must submit all the information required by section 64.7 with the operating permit application. The applicant must prepare a separate section of the application package for this purpose; if the information is already listed elsewhere in the application package, make reference to that location. Facilities not subject to Part 64 are invited to submit periodic monitoring protocols with the application to help the AQB to comply with 20.2.70 NMAC. Sources subject to 40 CFR Part 64, must submit a statement indicating your source's compliance status with any enhanced monitoring and compliance certification requirements of the federal Act.

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40 C.F.R. part 64 does not apply to San Juan Mine because that major source:

(1) does not include any emissions unit with respect to greenhouse gases (GHGs) that is subject to an emission limitation or standard for GHGs; and

(2) does not include any emissions unit with respect to particulate matter that has a potential pre-control device emissions of particulate matter equal to or greater than 100 tpy of TSP, PM_{10} or $PM_{2.5}$.

See 40 C.F.R. § 64.2.

19.2 - Compliance Status (20.2.70.300.D.10.a & 10.b NMAC)

Describe the facility's compliance status with each applicable requirement at the time this permit application is submitted. This statement should include descriptions of or references to all methods used for determining compliance. This statement should include descriptions of monitoring, recordkeeping and reporting requirements and test methods used to determine compliance with all applicable requirements. Refer to

Section 2, Tables 2-N and 2-O of the Application Form as necessary. (20.2.70.300.D.11 NMAC) For facilities with existing Title V permits, refer to most recent Compliance Certification for existing requirements. Address new requirements such as CAM, here, including steps being taken to achieve compliance.

19.2.A. Existing Compliance Status

Section 13 of this Application provides a "Discussion Demonstrating Compliance with Each Applicable State & Federal Regulation." For the reasons explained therein, there are currently no emission standards or work practice standards applicable to a specific pollutant-emitting activity at San Juan Mine for which compliance must be determined and documented with appropriate monitoring, testing, recordkeeping and reporting requirements. Moreover, the Mine is not currently subject to any general source-wide requirement for which compliance must be determined, except for the need for air quality impacts from the source's emissions to comply with federal and State ambient air quality standards (AAQS). A dispersion modeling analysis to demonstrate compliance with those AAQS is presented in Section 16 of this Application.

19.2.B New Requirement -- Periodic Monitoring for NSPS 20% Opacity Standard

As explained further in Section 13, several coal preparation facilities and activities at San Juan Mine are subject to the New Source Performance Standards (NSPS) for coal preparation plants, subpart Y of 40 C.F.R. part 60. Each subpart Y "affected facility" at the Mine is subject to a standard for particulate matter which prohibits visible emissions of 20% opacity or greater. 40 C.F.R. § 60.252(c). However, the 20% opacity standard of subpart Y is not accompanied by any applicable monitoring requirement. Therefore, the Title V permit requested by this Application will need to require periodic testing or monitoring in accordance with 20.2.70.302.C NMAC and related recordkeeping and reporting in accordance with 20.2.70.302.D & E NMAC. San Juan Coal Company (SJCC) has proposed the following determination of what constitutes sufficient periodic monitoring for the Mine's affected facilities subject to NSPS subpart Y.

Statutory and Regulatory Requirements for Monitoring

The federal Clean Air Act prescribes that "[e]ach permit issued under [title V] shall set forth . . . monitoring . . . requirements to assure compliance with the permit terms and conditions." CAA § 504(c). EPA has summarized those monitoring requirements as follows:

> EPA's Part 70 monitoring rules (40 C.F.R. §§ 70.6(a)(3)(i)(A) and (B) and 70.6(c)(1)) are designed to satisfy the statutory requirement that "[e]ach permit issued under [title V] shall set forth . . . monitoring . . . requirements to assure compliance with the permit terms and conditions." CAA § 504(c). * * * First, under 40 C.F.R. § 70.6(a)(3)(i)(A), permitting authorities must ensure that monitoring requirements contained in applicable requirements are properly incorporated into the title V permit. Second, if the applicable requirement contains no periodic monitoring, permitting authorities must add "periodic monitoring sufficient to yield reliable data from the

> relevant time period that are representative of the source's compliance with the permit." 40 C.F.R. § 70.6(a)(3)(i)(B).[1]

In re Williams Four Corners, LLC, Sims Mesa CDP Compressor Station, Petition VI-2011- __, 14 (July 29, 2011) (Order Granting Petition for Review) ("Williams Four Corners Order") (citing *In re CITGO Refining and Chemicals Co. L.P.*, Petition VI-2007-01 (May 28, 2009) ("CITGO Order"); *In re Premcor Refining Group, Inc.*, Petition VI-2007-02 (May 28, 2009) ("Premcor Order")).

Determination of whether monitoring is sufficient in particular circumstances is generally made on a case-by-case basis considering site-specific factors. *Williams Four Corners Order* at 14. EPA has explained that

> some factors that permitting authorities may consider in determining appropriate monitoring are (1) the variability of emissions from the unit in question; (2) the likelihood of a violation of the requirements; (3) whether add-on controls are being used for the unit to meet the emission limit; (4) the type of monitoring, process, maintenance, or control equipment data already available for the emissions unit; and (5) the type and frequency of the monitoring requirements for similar emission units at other facilities.

Id. at 14-15 (internal citation omitted). EPA has further stated that the monitoring design criteria of the Compliance Assurance Monitoring ("CAM") rule, 40 C.F.R. part 64, may prove helpful in establishing monitoring requirements in title V permits. *Id.* at 14, n.8 (citing *Premcor Order* at 8). EPA guidance also notes that periodic monitoring that meets the requirements of 40 C.F.R. § 70.6(a)(3)(i)(B) will also be sufficient to satisfy the requirements of 40 C.F.R. § 70.6(c)(1), i.e., will be sufficient to assure compliance with permit terms and conditions. *CITGO Order* at 7.

In addition, EPA has long held that "all new standards proposed under the authority of section 111 NSPS and section 112 NESHAP after November 15, 1990 are presumed to have adequate monitoring to meet the periodic monitoring requirement for those standards." *See* "Periodic Monitoring Guidance," attached to memorandum from Eric Schaeffer, Director of EPA's Office of Regulatory Enforcement, and John Seitz, Director of EPA's Office of Air Quality Planning and Standards to various EPA Regional Directors, of Sept. 15, 1998 (vacated on other grounds, *Sierra Club v. EPA*, 535 F.3d 672 (D.C. Cir. 2008)); *see also In re Al Turi Landfill, Inc.*, Petition II-2002-13-A, 17 (Jan. 30, 2004); letter from Jeff KenKnight, EPA Region 10, to John Kuterbach, Alaska Dep't of Environmental Conservation, of Jan. 27, 2005 (State can assume monitoring requirement of NSPS subpart GG satisfies periodic monitoring required for subpart GG NO_x emission limitation.). "[I]n many cases, monitoring from applicable requirements will be sufficient to assure compliance with permit terms and conditions." *In re Waste Management of La. L.L.C., Woodside Sanitary Landfill & Recycling Center*, Petition VI-2009-01, 9 (May 27, 2010).

[1] EPA guidance specifies a third step for permitting authorities to satisfy the monitoring requirements when the applicable requirement contains some periodic monitoring, but that monitoring is not sufficient. San Juan Mine has no applicable requirement where existing periodic monitoring is inadequate.

Finally, San Juan Coal Company acknowledges that an analysis of the adequacy of monitoring is generally "made on a case-by-case basis and other site-specific factors may be considered." *Williams Four Corners Order* at 8. The Company also understands that such an approach involves a certain amount of subjective analysis and judgment, where different factors and considerations may be weighed according to the perspective of the one doing the analysis. In other words, in determining what constitutes periodic monitoring, rarely will there be only a single "right" answer, but the monitoring approach must nevertheless be reasonable.

Periodic Monitoring for San Juan Mine's NSPS Facilities

NSPS affected facilities at San Juan Mine are subject to the originally promulgated NSPS subpart Y which contained no applicable monitoring requirements. 41 Fed. Reg. 2232 (Jan. 15, 1976). However, subpart Y has since been revised. 74 Fed. Reg. 51,950 (Oct. 8, 2009). The revised subpart Y establishes a 10% opacity standard for certain coal preparation facilities constructed, modified or reconstructed after April 28, 2008. 40 C.F.R. § 60.254(b). The revised subpart Y also contains applicable NSPS monitoring requirements for those same new, modified and reconstructed facilities. 40 C.F.R. § 60.255.

Revised subpart Y's 10% opacity standard and its associated monitoring requirement were developed after November 15, 1990. In keeping with established EPA policy, the monitoring requirements of revised subpart Y are presumed to be adequate to meet the periodic monitoring requirement for the revised NSPS subpart Y opacity standard. For the reasons explained below, the Company believes that the recently developed (2009) monitoring requirements of revised subpart Y are also adequate to meet the periodic monitoring requirements of the Company's facilities subject to the original subpart Y opacity standard.

1. <u>Periodic Monitoring for Processing and Conveying Equipment Other Than Coal Unloading to Hoppers</u>

Required monitoring to determine continuing compliance with revised subpart Y's 10% opacity standard for coal processing and conveying equipment other than coal unloading is prescribed at 40 C.F.R. § 60.255(b)(2). First, an initial opacity performance test is required to be conducted in accordance with 40 C.F.R. § 60.8. *Id.* Thereafter, a subsequent opacity performance test must be repeated at periodic intervals depending upon the results of the preceding performance test. Each performance test must be conducted in accordance with Reference Method 9 and will last for one hour. 40 C.F.R. § 60.257(a). In the event that all of the 6-minute average opacity readings in the first 30 minutes of a Method 9 test are less than or equal to 10%, then the duration of that test may be reduced to 30 minutes. *Id.*

After completion of the initial performance test, 40 C.F.R. § 60.255(b)(2)(i) specifies that:

> If any 6-minute average opacity reading in the most recent performance test exceeds half the applicable opacity limit, a new performance test must be conducted within 90 operating days of the date that the previous performance test was required to be completed.

On the other hand, 40 C.F.R. § 60.255(b)(2)(ii) specifies that:

> If all 6-minute average opacity readings in the most recent performance test are equal to or less than half the applicable opacity limit, a new performance test must be conducted within 12 calendar months of the date that the previous performance test was required to be completed.

Finally, 40 C.F.R. § 60.255(h) addresses the situation where a subpart Y affected facility is enclosed in a building,

> and emissions from the building do not exceed any of the standards of § 60.254 that apply to the affected facility , then the facility shall be deemed to be in compliance with such standards.

The 20% opacity standard of the original subpart Y applies to any fugitive particulate emissions from each of the following points of emissions from processing or conveying equipment at San Juan Mine:

- Four Hoppers Transfer to Four Feeders
- Four Feeders Transfer to Two Chutes
- Two Chutes Transfer to Conveyor Belt #1
- Conveyor Belt #1 Transfer to Conveyor Belt #2
- Conveyor Belt #2 Transfer to Feed Bin
- Four Secondary Crushers Inlets (from Feed Bin)
- Four Secondary Crushers Discharges (to Conveyor Belt #3)

For emissions from each of those facilities to demonstrate compliance with the 20% opacity standard, San Juan Coal Company proposes periodic monitoring to consist of opacity performance tests in accordance with § 60.255(b)(2) and (c). SJCC's rationale for selection of that performance-testing approach as periodic monitoring for the Mine's subpart Y facilities other than coal unloading is based on a number of factors, as explained below.

First, the proposed periodic monitoring approach of § 60.255(b)(2) and (c) utilizes a direct measurement of opacity to determine compliance with an opacity standard. Measurement of some other parameter from which compliance with an opacity limit must be inferred is not a feature of the proposed method for periodic monitoring. Alternative monitoring methods that attempt to relate other process measurements to the level of opacity only constitute indicators of a compliance problem. EPA, "Region 7 Policy on Periodic Monitoring for Opacity," 4 (Apr. 18, 1997).

Second, the emission control inherent within the designs of the Mine's affected facilities strongly supports the Company's determination of periodic monitoring for those units. As EPA acknowledged when it promulgated the original NSPS subpart Y:

> The opacity of emissions can also be reduced by effectively covering or sealing the process from the atmosphere so that any avenues for escaping emissions are small. By minimizing the number and the dimensions of the openings through which fugitive emissions can escape, the opacity and the total mass rate of emissions can be reduced independently of the air pollution control devices.

41 Fed. Reg. 2233 (Jan. 15, 1976). San Juan Coal Company's determination of periodic monitoring in this instance is appropriate in large part because the design of the NSPS processing or conveying facilities at San Juan Mine relies heavily on that fundamental principle for reducing visible emissions by enclosing the source.

For example, each NSPS crusher is itself effectively sealed since its design only provides a small opening for raw coal to enter the crusher and a second small opening for crushed coal to exit that facility. As a consequence, air flow through the crusher is minimized, thereby limiting the amount of air-entrained dust that can escape. Moreover, the overall prep plant design provides for enclosing each crusher within the crusher building, thereby providing a "stilling zone" whereby any small amount of entrained dust that does escape a crusher can deposit inside the building by gravitational settling. As a result of that enclosure-within-enclosure design, the amount of visible, fugitive particulate emissions that escapes from the crusher to the atmosphere is minimized. The same basic design principle applies to most of the NSPS facilities' transfer points for conveying equipment, i.e., sealing of the transfer point minimizes air flow that can entrain fugitive dust, and enclosure of the transfer point in turn within a building or underground compartment establishes a stilling zone for particle deposition prior to exhaust of building/compartment air to the atmosphere.

In addition, the steady-state operation of the Mine's NSPS equipment and the consistent physical properties of the coal being handled are considerations that also affected BHP Billiton's selection of periodic monitoring. Steady-state operation means that the mechanical forces that generate dust from the equipment remain the same over time, i.e., there are no transients in operations that might significantly increase dust generation. For the same reason, consistent properties of the coal being handled, e.g., its hardness, ash content and moisture content, ensures that the rate of dust generated by the processing and conveying of that coal does not change appreciably. In short, steady-state operation of each NSPS facility processing or conveying a consistent coal quality helps to ensure that particulate emissions for each facility do not vary significantly. Of course, the inherent, consistent control of those emissions provided by the facilities' enclosure-within-enclosure design means the rate of controlled emissions actually subject to periodic monitoring varies even less.

The nature of the NSPS facilities' operations and the inherent level of control that is always present with enclosure of those facilities means that representative emissions from those facilities routinely consist of little, if any, visible emissions. Furthermore, the application of water sprays and surfactant at process locations having the greatest likelihood for emitting particulate matter provides supplemental control that helps to ensure any visible emissions that do occur will be minimal, i.e., far below the 20% opacity limit.

Because operations of the Mine's NSPS facilities and their attendant particulate emissions change so little over time and because substantial control of fugitive particles from those operations is a constant, inherent within those facilities' design, exceedance of the 20% opacity limit on those facilities' emissions is highly unlikely. San Juan Coal Company therefore believes that monitoring any visible emissions from each NSPS facility at the Mine (other than coal unloading) in keeping with § 60.255(b)(2) and (c) is "sufficient to yield reliable data from the relevant time period that are representative of the [Mine's subpart Y facilities'] compliance" with the applicable 20% opacity standard. Moreover, because the proposed periodic monitoring meets the requirements of 40 C.F.R. § 70.6(a)(3)(i)(B), it also is sufficient to assure compliance with the pending permit condition limiting each NSPS facilities' particulate emissions to less than 20% opacity.

2. Periodic Monitoring for Coal Unloading to Hoppers

"A coal preparation and processing plant begins at the first hopper (i.e., drop point) used to unload coal[.]" 74 Fed. Reg. 51,950, 51,952 (Oct. 8, 2009). At the San Juan Mine's preparation plant, coal is unloaded by two different methods into four side-by-side hoppers. Coal haul trucks with rear-dump capability unload raw coal into Hoppers #1 and #4. A bulldozer pushes raw coal from an adjacent open stockpile into Hoppers #2 and #3. Although those coal unloading operations are subject to the 20% opacity standard of the original NSPS subpart Y, there is no associated monitoring requirement for visible emissions from those operations.

The process of coal unloading into hoppers is intermittent, and each "event" occurs over a short period of time. When coal is dumped into a hopper, the volume of air inside the hopper is displaced by incoming coal. That upward pulse of air entrains smaller coal particles, resulting in a "puff" of visible emissions from the hopper.

At San Juan Mine wet dust suppression is provided by water spray bars at the grizzlies on top of the four hoppers that receive raw coal for the plant. In addition to their basic purpose of dust suppression, these particular sprays also serve to capture some dust particles that become entrained in the upward-flowing air as the dumped coal displaces that air from the hopper. Those spray bars for controlling particulate emissions from coal unloading at the Mine's prep plant are actuated when raw coal that has been temporarily held in an open storage pile is delivered to the preparation plant. On the other hand, when raw coal comes to the prep plant directly from the Mine's underground stackouts, the typically high moisture content of that coal precludes the need for water spray bars at the grizzlies to achieve compliance with the NSPS opacity limit.

When EPA revised NSPS subpart Y in 2009, the Agency promulgated a specific opacity monitoring protocol that accounted for the intermittent, short-term nature of visible emissions from coal dumping into hoppers. In particular, EPA has established a monitoring approach for truck dump operations that determines the opacity of their visible emissions as the average of 15-second opacity readings made during the duration of three separate truck dump events. 40 C.F.R. § 60.255(h). Under EPA's approach, a truck dump event commences when the truck bed begins to elevate and concludes when the truck bed returns to a horizontal position. *Id.* After using that opacity monitoring protocol to conduct the initial performance test of a new truck

dumping operation, the same monitoring protocol must be conducted on the dumping operation "at least once every 5 calendar years for each affected facility." *Id.* Because that NSPS opacity monitoring approach was promulgated so recently to specifically address the intermittent nature of visible emissions from trucks dumping raw coal to hoppers, San Juan Coal Company has determined that approach also constitutes periodic monitoring for its truck dumping facility at San Juan Mine.

There is no revised subpart Y monitoring protocol for visible emissions from a dozer pushing coal into a hopper, i.e., the alternative coal unloading operation at San Juan Mine's prep plant. Nevertheless, the primary cause of visible emissions from coal being pushed into a hopper by a dozer is the same cause of visible emissions from coal being dumped into a hopper by a truck. In each instance the upward flow of air displaced from the hopper entrains dust particles in a visible "puff" from the hopper. Therefore, San Juan Coal Company has determined that revised subpart Y's opacity monitoring protocol for truck dumping also constitutes periodic monitoring for San Juan Mine's dozer pushing coal into hoppers. In this instance, the dozer-push "event" commences when the dozer begins to push coal into the hoppers and concludes when that dozer push is completed.

SJCC has identified EPA's performance-testing approach for truck dumping as periodic monitoring for San Juan Mine's coal unloading operation primarily because the Agency's NSPS approach has just recently been developed to specifically address the intermittent nature of visible emissions peculiar to unloading coal from a mine into hoppers of a preparation plant. The regulatory credibility of that approach is established by its reliance on well-established Method 9 principles that have been "customized" to fit the characteristics of visible emissions from coal unloading. Moreover, reliance on Method 9 procedures ensures a direct measurement of opacity to determine compliance with a visible emissions standard rather than a parametric monitoring approach.

19.3 - Continued Compliance (20.2.70.300.D.10.c NMAC)

Provide a statement that your facility will continue to be in compliance with requirements for which it is in compliance at the time of permit application. This statement must also include a commitment to comply with other applicable requirements as they come into effect during the permit term. This compliance must occur in a timely manner or be consistent with such schedule expressly required by the applicable requirement.

San Juan Mine will continue to be in compliance with applicable requirements for which it is in compliance at the time this Application is submitted to NMED, and will, in a timely manner or at such schedule expressly required by the applicable requirement, meet additional applicable requirements that become effective during the term of the permit to be issued in response to this Application.

19.4 - Schedule for Submission of Compliance (20.2.70.300.D.10.d NMAC)

You must provide a proposed schedule for submission to the department of compliance certifications during the permit term. This certification must be submitted annually unless the applicable requirement or the department specifies a more frequent period. A sample form for these certifications will be attached to the permit.

Compliance certifications will be submitted during the term of the permit to be issued in response to this Application no less frequently than annually, or more frequently if specified by the underlying applicable requirement or by NMED.

19.5 - Stratospheric Ozone and Climate Protection

In addition to completing the four (4) questions below, you must submit a statement indicating your source's compliance status with requirements of Title VI, Section 608 (National Recycling and Emissions Reduction Program) and Section 609 (Servicing of Motor Vehicle Air Conditioners).

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1. Does your facility have any air conditioners or refrigeration equipment that uses CFCs, HCFCs or other ozone-depleting substances? ✓ **Yes** ☐ **No**

2. Does any air conditioner(s) or any piece(s) of refrigeration equipment contain a refrigeration charge greater than 50 lbs? ☐ **Yes** ✓ **No**

   (If the answer is yes, describe the type of equipment and how many units are at the facility.)

3. Do your facility personnel maintain, service, repair, or dispose of any motor vehicle air conditioners (MVACs) or appliances ("appliance" and "MVAC" as defined at 82. 152)? ☐ **Yes** ✓ **No**

4. Cite and describe which Title VI requirements are applicable to your facility (i.e. 40 CFR Part 82, Subpart A through G.)

19.6 - Compliance Plan and Schedule

Applications for sources, which are not in compliance with all applicable requirements at the time the permit application is submitted to the department, must include a proposed compliance plan as part of the permit application package. This plan shall include the information requested below:

A. Description of Compliance Status: (20.2.70.300.D.11.a NMAC)
A narrative description of your facility's compliance status with respect to all applicable requirements (as defined in 20.2.70 NMAC) at the time this permit application is submitted to the department.

B. Compliance plan: (20.2.70.300.D.11.B NMAC)
A narrative description of the means by which your facility will achieve compliance with applicable requirements with which it is not in compliance at the time you submit your permit application package.

C. Compliance schedule: (20.2.70.300D.11.c NMAC)
A schedule of remedial measures that you plan to take, including an enforceable sequence of actions with milestones, which will lead to compliance with all applicable requirements for

your source. This schedule of compliance must be at least as stringent as that contained in any consent decree or administrative order to which your source is subject. The obligations of any consent decree or administrative order are not in any way diminished by the schedule of compliance.

D. Schedule of Certified Progress Reports: (20.2.70.300.D.11.d NMAC)
A proposed schedule for submission to the department of certified progress reports must also be included in the compliance schedule. The proposed schedule must call for these reports to be submitted at least every six (6) months.

19.6.A Description of Compliance Status: At the time this Application is submitted to NMED, San Juan Mine complies with applicable requirements as discussed within Sections 13 and 19. The Mine will need to comply with the following pending applicable requirement once a Title V permit is issued in response to this Application.

19.6.A(1) – Periodic Monitoring of Opacity from NSPS Subpart Y Facilities

As a new part 70 source as of July 1, 2011,[2] San Juan Mine must apply for a part 70 permit under 20.2.70 NMAC by no later than July 2, 2012.[3] Because the 20% opacity standard of NSPS subpart Y that applies to certain coal preparation facilities at the Mine does not require periodic testing or monitoring, the part 70 permit to be issued to San Juan Mine must "require periodic monitoring sufficient to yield reliable data from the relevant time period that are representative of the source's compliance" with that 20% opacity standard. 20.2.70.302.C(2) NMAC.

Therefore, as a matter of law, the subject opacity monitoring does not become an applicable requirement for San Juan Mine until the part 70 permit for San Juan Mine is issued. Nevertheless, San Juan Coal Company plans to take appropriate steps to be ready to implement the periodic monitoring approaches proposed herein by the time the part 70 permit for the Mine is issued.

19.6.B Compliance Plan

19.6.B(1) – Periodic Monitoring of Opacity from NSPS Subpart Y Facilities

The subject periodic monitoring for opacity is not an applicable requirement prior to issuance of the part 70 permit for the Mine. Nevertheless, after submittal of this Application, San Juan Coal Company intends to commence development of the opacity periodic monitoring program proposed herein. For all Subpart Y processing and conveying equipment at the Mine, other than coal unloading at the prep plant, the monitoring program will be consistent with the revised subpart Y monitoring procedures at 40 C.F.R. § 60.255(b)(2) and (c). For all coal unloading

[2] Assuming that underground methane releases that subsequently exhaust through the Mine's ventilation and degasification systems are determined to be "non-fugitive" emissions for purposes of Title V.

[3] Assuming that the 12-month period by which an application must be filed, 20.2.70.300.B(1) NMAC, is governed by the Department's procedure for computation of time at 20.1.4.100.F(1) NMAC.

operations at the Mine's prep plant, the monitoring program will be consistent with the revised subpart Y monitoring procedures at 40 C.F.R. § 255(h).

Field monitoring procedures and data analysis procedures will be developed for each of the two different opacity monitoring programs. Visible emissions observers will be re-certified in accordance with Method 9 and then trained in the proper application of the monitoring and data analysis procedures.

19.6.C Compliance Schedule

19.6.C(1) – Periodic Monitoring of Opacity from NSPS Subpart Y Facilities

The Company's application for a part 70 permit for San Juan Mine will be submitted to NMED no later than July 2, 2012. Assuming the requested Title V permit is issued nine (9) months after that application, key milestones for the Company's implementation of expected periodic opacity monitoring requirements are as follows:

4 Months after Application:	Complete field testing procedures manual. Complete data analysis procedures manual.
8 Months after Application:	Complete re-certification of visible emissions observers. Complete observers' training in use of new procedures manuals.
9 Months after Application:	San Juan Mine's part 70 permit is issued, and periodic opacity monitoring programs are initiated without any period of non-compliance.

19.6.D Schedule of Certified Progress Reports

19.6.D(1) – Periodic Monitoring of Opacity from NSPS Subpart Y Facilities

Certified progress reports will be issued upon completion of each of the three key milestones.

19.7 - 112(r) Risk Management Plan (RMP)

Any major sources subject to section 112(r) of the Clean Air Act must list all substances that cause the source to be subject to section 112(r) in the application. The permittee must state when the RMP was submitted to and approved by EPA.

San Juan mine is not subject to 112(r) requirements.

19.8 - Distance to Other States, Bernalillo, Indian Tribes and Pueblos

Will the property on which the facility is proposed to be constructed or operated be closer than 80 km (50 miles) from other states, local pollution control programs, and Indian tribes and pueblos (20.2.70.402.A.2 and 20.2.70.7.B NMAC)? Yes

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Navajo Nation - 2.4 km
Ute Mountain Ute - 5.2 km
State of Colorado - 22 km
State of Arizona - 55 km
State of Utah - 59 km
Southern Ute - 27 km

19.9 - Responsible Official

Scott Jones, General Manager of San Juan Mine, has been authorized by San Juan Coal Company to serve as the Mine's Responsible Official, acting on behalf of the Company to address all pertinent requirements of a part 70 source as codified at title 20, chapter 2, part 70 of the New Mexico Administrative Code and as contained in the pending Title V permit for the Mine.

Section 20

Other Relevant Information

Other relevant information. Use this attachment to clarify any part in the application that you think needs explaining. Reference the section, table, column, and/or field. Include any additional text, tables, calculations or clarifying information.

Additionally, the applicant may propose specific permit language for AQB consideration. In the case of a revision to an existing permit, the applicant should provide the old language and the new language in track changes format to highlight the proposed changes. If proposing language for a new facility or language for a new unit, submit the proposed operating condition(s), along with the associated monitoring, recordkeeping, and reporting conditions. In either case, please limit the proposed language to the affected portion of the permit.

DISCLAIMER FOR TITLE V AND PSD APPLICABILITIES

In determining applicability of either Title V or PSD, fugitive emissions are included in calculating the source's actual emissions or potential to emit only if the particular category to which that source belongs has been listed at 20.2.70.7.R(2). Coal mining is not one of those "listed" source categories. Therefore, fugitive emissions from mining operations are not included in either a Title V or PSD threshold applicability determination (TAD) for San Juan Mine.

Nevertheless, in Section 22 of this Application, San Juan Coal Company has certified that the San Juan Mine is classified as both "Title V Major for GHG Emissions" and "PSD Major for GHG Emissions" based upon the GHG applicability criteria in Section 22 <u>and based on methane discharged to the atmosphere from the Mine's ventilation and degasification systems being classified as non-fugitive emissions</u>. If, on the other hand, the subject underground methane releases that subsequently are exhausted through the Mine's ventilation and degasifications systems to the atmosphere were considered to be fugitive emissions, then the Mine would not be classified as "Title V Major for GHG Emissions" and "PSD Major for GHG Emissions."

The Company explained in Section 22 of this Application that considerable uncertainty currently exists among regulated and regulatory communities alike as to whether methane released in an underground coal mine and then exhausted through the mine's ventilation and degasification systems should be classified as fugitive emissions for Title V and PSD purposes. Upon further analysis, EPA could possibly issue a national policy decision that such methane discharges to the atmosphere must be regarded as fugitive emissions for Title V and PSD applicability determinations. Upon further analysis, NMED could possibly find a rationale that distinguishes the subject methane releases from underground coal mines from the Department's traditional meaning of the term "fugitive emissions."

In light of the controversy surrounding this issue at the time when this Application is submitted, San Juan Coal Company cautions that its completion of any portion of this Application or its

submittal of same to NMED must not be construed as an admission by the Company that methane released during San Juan Mine's underground operations and then exhausted through the Mine's ventilation and degasification systems are classified as non-fugitive (stack) emissions for Title V and PSD purposes. Nor should this Application be construed as the Company's agreement with NMED's position at this time that such methane emissions are likely non-fugitive for Title V and PSD purposes

Because either EPA or NMED could take the aforementioned action that finds the methane emissions in question to be fugitive for Title V purposes, San Juan Coal Company hereby reserves its right to withdraw this application for a Title V permit for San Juan Mine in the event that such action is taken. Moreover, to the extent that NMED should ultimately process this application and issue a Title V permit for the Mine prior to either EPA or NMED taking the aforementioned action, then the Company would seek NMED's revocation of that permit on the grounds that a material mistake was made in determining that the Mine's methane emissions subjected it to Title V applicability.

DETERMINING PSD APPLICABILITY TO AN EXISTING MAJOR STATIONARY SOURCE

Section 22 of this Application explains that San Juan Mine's emissions of methane cause that stationary source to be "major" for purposes of Title V and PSD, provided that underground fugitive releases of methane due to mining operations that subsequently are exhausted to the atmosphere by the Mine's ventilation and degasification systems are considered to be "non-fugitive" emissions. Once the Mine is classified as an existing major stationary source for PSD purposes, then certain future physical changes to, or future changes in the method of operation of, the Mine could trigger preconstruction review under New Mexico's PSD program. Although not a part of this Application, PSD applicability to planned changes at the Mine is an issue that may eventually need to be addressed by the Company and the Department.

An important point to understand in considering PSD applicability to an existing underground mine is that significant increases in actual methane emissions are not conclusive evidence of a physical or operational change having occurred at that mine. Indeed, an underground mine's emission rate of methane may increase significantly while coal production rate remains unchanged. Consequently, as addressed in Section 22, the Company has no accurate and reliable methodology for estimating San Juan Mine's potential to emit methane.

That same variability in annual methane emissions from an underground mine hampers the ability to accurately and reliably predict the extent to which those emissions might change as a result of some physical or operational change in San Juan Mine's mining operations. Although an underground mine's rate of annual coal production affects the quantity of annual methane emissions from the mine,[1] other independent factors also influence how much methane is released underground. A reduction in barometric pressure typically results in an increased rate of methane emitted from the mine. Because the amount of methane that can be stored in coal

[1] An increase in production rate per se, unless prohibited by regulations or a permit, is not a physical change or change in the method of operation that could constitute a major modification which would trigger PSD applicability. 20.2.74.7.AE(1)(f) NMAC.

and surrounding rock strata increases with depth, mining at deeper levels within an underground mine emits more methane than does the same rate of coal production occurring at shallower depths. In short, methane emissions from an underground mine may increase significantly without being caused by any physical or operational change at the mine.

This phenomenon begs the question of how to compute changes in methane emissions that are caused by a physical or operational change in an underground mine's operations. A PSD threshold applicability determination of a major modification at an existing major stationary source requires calculating the difference between the source's baseline actual emissions (BAE) and its projected actual emissions (PAE). 20.2.74.200.D NMAC. EPA has developed methodologies for estimating CH_4 emissions from underground coal mining and from post-mining operations. EPA, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2010*, EPA 430-R-12-001, Annex 3.3, pp. A-157 to A- 163 (Apr. 15, 2012). However, those methodologies are based upon generic approaches that rely on broad assumptions, and, as such, are not suitable for quantifying source-specific emission changes for the purpose of PSD threshold applicability determinations.

The difference between post-project and pre-project methane emissions from an underground coal mine will consist of (1) the net emissions change resulting from the project and (2) the change in methane emissions due to previously discussed independent factors other than the project itself. In order to accurately and reliably determine PSD applicability, one would need to be able to distinguish between methane emission changes due to the project and methane emission changes due to those other independent factors. The Company is unaware at this time of any emission-estimation methodology that could examine an overall increase in methane emissions from an underground mine and then identify that portion of the increase caused solely by a physical or operational change to the methane-emitting mining activities.

In sum, without further substantive analysis by the Department and the Company, San Juan Coal Company is unaware of any credible means for determining baseline actual methane emissions and projected actual methane emissions for its San Juan Mine in a manner consistent with how those terms are defined in the PSD regulations.

Section 21

Addendum for Landfill Applications

Do not print this section unless this is a landfill application

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NOT APPLICABLE

Section 22

Green House Gas Applicability

(submitting under 20.2.70, 20.2.72, 20.2.73, 20.2.74 NMAC)

Title V (20.2.70 NMAC), NSR (20.2.72 NMAC), NOI (20.2.73 NMAC) and PSD (20.2.74 NMAC) applicants must determine if they are subject to Title V permitting and/or PSD permitting for green house gas (GHG) emissions. GHG emissions are the sum of the aggregate group of six green house gases that include carbon dioxide (CO_2), nitrous oxide (N_2O), methane (CH_4), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). There are two thresholds that must be computed to determine applicability. The first threshold is the sum of GHG mass emissions in TPY. GHG mass emissions are the sum of the total annual tons of green house gases without adjusting with the GWPs. The second threshold is the sum of CO_2 equivalent (CO_2e) emissions in TPY GHG. CO_2e emissions are the sum of the mass emissions of each individual GHG multiplied by its global warming potential (GWP) found in Table A-1 in 40 CFR 98 Mandatory Greenhouse Gas Reporting.

Green House Gas TV and PSD Applicability Determination:

☐ **Notice of Intent Sources** (20.2.73 NMAC): By checking this box and certifying this application the applicant certifies that the facility, based upon the quantity of stack emissions, including start up, shut down, and maintenance emissions, is not subject to 20.2.70 NMAC or 20.2.74 NMAC for Green House Gas (GHG) Emissions. The Department may request the emissions calculations and other documents supporting this determination.

Minor NSR (20.2.72 NMAC), PSD Major (20.2.74 NMAC), and Title V (20.2.70 NMAC) sources must complete the steps outlined below to determine GHG TV and/or PSD applicability.

1. Calculate existing mass GHG and CO_2e emissions from your source. For PSD purposes, if this is a modification to an existing source, you must also calculate the increase in mass GHG and CO_2e emissions due to the modification. Start up, shut down, and maintenance emissions must be included.
2. See Tables 1 and 2 below and compare your mass GHG and CO_2e emissions to the appropriate category for your source.
3. If your source meets all of the criteria within a category, then you must obtain a PSD permit and/or a Title V permit for green house gas emissions.
4. If this is a GHG Major source with an existing BACT or if this is a permit application for a PSD or Title V permit with GHG above the thresholds in Tables 1 or 2, include the emissions calculations and supporting documents in the appropriate sections of this application unless instructed otherwise in Tables 1 or 2. Report GHG mass and CO_2e emissions in Table 2-P of this application unless instructed otherwise in Tables 1 or 2. Emissions are reported in **short** tons per year and represent each emission unit's Potential to Emit (PTE).

NSR (20.2.72 NMAC), PSD Major (20.2.74 NMAC), and Title V (20.2.70 NMAC): Based upon the GHG applicability criteria in this section the applicant certifies that the source is (check all that apply):

☐ Title V Minor and PSD Minor for GHG Emissions [The Department may request the emissions calculations and other documents supporting this determination.]

XX Title V Major for GHG Emissions, based on methane discharged to the atmosphere from the Mine's ventilation and degassing systems being classified as non-fugitive emissions.

XX PSD Major for GHG Emissions, based on methane discharged to the atmosphere from the Mine's ventilation and degassing systems being classified as non-fugitive emissions.

Table 1 - Title V Applicability Criteria

On or after July 1, 2011, newly constructed source, or existing source that does not have a Title V permit	**On or after July 1, 2011, modification or Renewal to Existing Title V Source**	**Requirement**
Source emits or has potential to emit (PTE) ≥ 100,000 TPY CO_2e **and** 100 TPY GHG mass basis	Source emits or has PTE of ≥100,000 TPY CO_2e **and** 100 TPY GHG mass basis	**For new sources:** For a source that meets the criteria on July 2011, submit a Title V permit application later than June 30, 2012.

Table 1 - Title V Applicability Criteria		
		For a source that meets the criteria after July 1, 2011, submit a Title V application within 12 months of becoming subject to the GHG operating permit program (12 months from commencement of operation of the new unit or modification that caused the source to be subject to Title V). **For existing sources:** Include GHG with the next Title V application for a renewal or modification. **For both new and existing sources:** Include in the TV application, GHG emissions calculations and supporting documents, report CO_2e and GHG emissions in Table 2-P, and address any applicable CAA requirements (e.g. PSD BACT, NSPS). If there are no applicable requirements and if GHG emissions have been reported to the Department under 20.2.73 NMAC, the requirements of the previous sentence do not apply, but changes in GHG emissions resulting in GHG emission limits must be calculated and reported in Table 2-P for Title V permit modifications. Typically GHG emission limits would be established only when there is an applicable requirement, such as a PSD GHG BACT or limits taken to be GHG synthetic minor.

Table 2 - PSD Applicability Criteria			
On or After July 1, 2011, New Source	**On or After July 1, 2011, Major Modification to Existing PSD Major Source**	**On or After July 1, 2011, Modification to Existing PSD Minor Source**	**Requirement**
Source is subject to PSD for another pollutant **and** GHG PTE is ≥ than 75,000 tpy CO_2e **or** GHG PTE is ≥ 100,000 TPY CO_2e **and** ≥ 100/250 TPY mass basis	Source is subject to PSD for another regulated pollutant **and** net GHG emissions increase is ≥ 75,000 tpy CO_2e and greater than zero TPY mass basis **or** existing source has GHG PTE ≥ 100,000 TPY CO_2e **and** ≥ 100/250 TPY mass basis **and** net emissions GHG	Actual or potential emissions of GHGs from the modification is ≥ 100,000 TPY CO_2e **and** ≥ 100/250 TPY mass basis. Minor PSD sources cannot net out of PSD review.	The source is subject to PSD permitting for GHG emissions and other regulated pollutants that are significant. In the application include GHG emissions calculations and supporting documents, report CO_2e and GHG emissions in Table 2-P, complete a GHG BACT determination, and include the TPY CO_2e and GHG mass emissions in the public notice. **Note:** If a minor source permit is issued after January 2, 2011, but before July 1, 2011, and construction has not commenced by

Table 2 - PSD Applicability Criteria			
	increase is ≥ 75,000 TPY CO_2e and greater than zero TPY mass basis		July 1, 2011, the permit must be cancelled, reopened, or an additional PSD permitting action taken, if the approved change/construction would trigger GHG PSD after July 1, 2011.

Additional Information:

Sources for Calculating GHG Emissions:

- Manufacturer's Data
- AP-42 Compilation of Air Pollutant Emission Factors at http://www.epa.gov/ttn/chief/ap42/index.html
- EPA's Internet emission factor database WebFIRE at http://cfpub.epa.gov/webfire/
- Subparts C through UU of 40 CFR 98 Mandatory Green House Gas Reporting except that tons should be reported in short tons rather than in metric tons for the purpose of PSD and TV applicability.
- API Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Natural Gas Industry. August 2009 or most recent version.
- Sources listed on EPA's NSR Resources for Estimating GHG Emissions at http://www.epa.gov/nsr/ghgresources.html:
  - ENERGY STAR Industrial Sector Energy Guides and Plant Energy Performance Indicators (benchmarks) http://www.energystar.gov;
  - US EPA National Greenhouse Gas Inventory, http://epa.gov/climatechange/emissions/usinventoryreport.html;
  - EPA's Climate Leaders, http://www.epa.gov/climateleaders/index.html
  - EPA Voluntary Partnerships of GHG Reductions that include the landfill methane outreach program, the CHP partnership program, the Green Power Partnership, the Coalbed Methane Outreach program, the Natural Gas STAR program, and the Voluntary Aluminum Industrial Partnership.
  - SF Emission Reduction Partnership for the Magensium Industry http://www.epa.gov/highgwp/magnesium-sf6/index.html
  - PFC Reduction/Climate Partnership for the Semiconductor Industry http://www.epa.gov/highgwp/semiconductor-pfc/index.html

Global Warming Potentials (GWP):
Applicants must use the Global Warming Potentials codified in Table A-1 of the most recent version of 40 CFR 98 Mandatory Greenhouse Gas Reporting. Please note that sources not subject to 40 CFR 98 and/or 20.2.300 NMAC may still be subject to the GHG PSD and/or TV permitting. The GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to that of one unit mass of CO_2 over a specified time period.

"Greenhouse gas" for the purpose of this part is defined as the aggregate group of the following six gases: carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. **(20.2.70.7.O NMAC, 20.2.74.7.Y NMAC).** You may also find GHGs defined in 40 CFR 86.1818-12(a).

Short Tons:
Short tons for GHGs and other regulated pollutants are the standard unit of measure for PSD and title V permitting programs. 40 CFR 98 Mandatory Greenhouse Reporting requires metric tons.
1 metric ton = 1.10231 short tons (per Table A-2 to Subpart A of Part 98 – Units of Measure Conversions)

EPA's GHG Tailoring Rule:
To review EPA's final GHG Tailoring rule and pre-amble, See "Final GHG Tailoring Rule dated May 13, 2010 located on EPA's NSR Regulations Webpage or Federal Register June 3, 2010 Volume 75, No. 106
http://www.epa.gov/nsr/actions.html

EPA Permitting Guidance:
EPA's Permitting Guidance for GHG and other GHG information can be found on EPA's NSR Clear Air Act Permitting for Greenhouse Gases webpage.
http://www.epa.gov/nsr/ghgpermitting.html

Supplement to Section 22
Determination of GHG Emissions

I. Title V Threshold Applicability Determination

San Juan Mine is classified as a coal mine because that source category describes the primary economic activity at the site. Nevertheless, a separate source category – coal preparation plant – is "nested" within the boundaries of the Mine. Coal preparation plant is one of the stationary source categories that was being regulated under CAA § 111 (NSPS) as of August 7, 1980. Therefore, fugitive emissions from a coal preparation plant must be included in a Title V threshold applicability determination. 20.2.70.7.R(2)(aa) NMAC. On the other hand, an underground coal mine is not one of the stationary source categories listed at 20.2.70.7.R(2) NMAC for which fugitive emissions must be included in a Title V threshold applicability determination.

Therefore, a Title V threshold applicability determination for San Juan Mine must include fugitive and non-fugitive (stack) emissions from all coal preparation facilities as well as any non-fugitive emissions from all coal mining operations. In other words, a Title V threshold applicability determination for San Juan Mine is not required to include fugitive emissions from any coal mining operations. For an existing stationary source that does not currently have a Title V permit, such as San Juan Mine, Table 1 above indicates that Title V became applicable to that source on July 1, 2011 if the source emits or has the potential to emit (PTE) ≥ 100,000 tpy CO_2e and ≥ 100 tpy GHG mass basis.[1]

II. San Juan Mine's Methane Emissions Appear to Exceed the Title V Thresholds for Triggering Title V Applicability

Methane (CH_4) is defined as a greenhouse gas. 20.2.70.7.O NMAC. During the past three years, monitoring of methane emitted from San Juan Mine reveals that the Mine has emitted more than 100 tpy CH_4 and more than 100,000 tpy CO_2e. On its face, the Mine's measured emissions of GHGs on a mass basis and on a CO_2e basis exceed those respective amounts in Table 1 above, indicating that San Juan Mine became subject to Title V on July 1, 2011.

III. Should the Mine's Measured Methane Emissions Be Included in the Title V Threshold Applicability Determination?

At issue, however, is whether the measured emissions of CH_4 from the Mine are emissions that must be included in a Title V threshold applicability determination. The CH_4 emissions in question were measured in the exhaust air of (1) two ventilation shafts serving the Mine's ventilation system for the underground mining activities and (2) numerous "gob" vents serving the Mine's degasification system for the underground mining activities. As explained above, a Title V threshold applicability determination for the Mine would not include those particular emissions from underground mining activities if those emissions are classified as "fugitive.

[1] The existing Mine constitutes a "major stationary source" for PSD purposes as of July 1, 2011 if the Mine emits or has the potential to emit ≥ 100,000 tpy CO_2e and ≥ 250 tpy GHG mass basis.

The State's Title V regulations define "fugitive emissions" to mean "those emissions which could not reasonably pass through a stack, chimney, vent, or other functionally-equivalent opening." 20.2.70.7.M NMAC (emphasis added). EPA has explained that "it is axiomatic that any emissions actually collected or captured by the source are non-fugitive emissions." 73 Fed. Reg. 77,891 (Dec. 19, 2008) (emphasis added). In the instant case, although methane is initially released underground as fugitive emissions from the coal seams and surrounding rock strata during mining operations, that methane is subsequently captured and exhausted through "vents" to the atmosphere.

Applying the meaning of the plain language for the definition of "fugitive emissions" to the circumstances at San Juan Mine, NMED representatives indicated during a May 21, 2012 meeting that the Department will likely construe that definition to classify the Mine's methane emissions from its ventilation and degasification systems as non-fugitive emissions for purposes of Title V and PSD purposes. NMED representatives did concede that such a conclusion may not have been the intended consequence when the regulatory definition was developed.

Company representatives did advise NMED representatives during the aforementioned meeting that considerable uncertainty has arisen among owners of underground coal mines and various state permitting authorities over the issue of whether methane vented from such mines must be included in the Title V or PSD threshold applicability determinations for such stationary sources. Recently a number of those state permitting authorities have notified EPA that they do not intend to require underground coal mines to obtain Title V permits "since, at this time, the emissions of GHGs are most appropriately characterized as fugitive emissions." Letter to Janet McCabe, EPA Office of Air and Radiation, from Robert Hodanbosi, Ohio Division of Air Pollution Control, of June 5, 2012 (on behalf of Illinois, Indiana, Kentucky, Ohio, Virginia and West Virginia)[2] (attached hereto as "Attachment 22-A").

IV. Stipulation of Title V Applicability and "Protective Filing" Disclaimer

Permitting authorities may allow an applicant for a Title V permit to stipulate that its facility is a major source and subject to part 70 permitting without providing any additional information for the applicability determination. EPA, "White Paper Number 2 for Improved Implementation of the Part 70 Operating Permits Program," 34-35 (Mar. 5, 1996). Accordingly, if the State of New Mexico finds methane emissions from underground coal mines that are exhausted to the atmosphere through the mine's ventilation and degasification systems to be "fugitive emissions" for Title V purposes, then San Juan Mine became subject to the State's Title V regulations on July 1, 2011. In other words, given such a finding by the State, San Juan Coal Company stipulates that GHG emissions from its San Juan Mine cause that source to be subject to the State's Title V operating permit program.

The State's Title V regulations prescribe that, for first time applications such as San Juan Mine's, a timely application for a Title V permit is "one that is submitted within twelve (12) months after the source commences operation as a [Title V] source." 20.2.70.300.B NMAC. Consequently, based on those circumstances, a Title V permit application for the Mine must be submitted no

[2] It is understood that the State of Alabama, although not a signatory to the subject letter, also shares the opinion that the methane emissions in question are "fugitive" for purposes of Title V.

later than June 30, 2012.[3] Those regulations further provide that "[a] [Title V] source may operate after the time that it is required to submit a timely and complete application under this part only if . . . a timely permit . . . application has been submitted consistent with 20.2.70.300 NMAC." 20.2.70.201.A NMAC.

That so-called "application shield" remains in effect until the Title V permit is issued, so long as the applicant "submit[s] by the deadline specified in writing by the department any additional information identified as being needed to process the application." *Id.* Thus, because San Juan Coal Company understands that the State of New Mexico at this time likely considers methane emissions from San Juan Mine's ventilation and degasification systems to be "fugitive emissions" for Title V purposes, the Company is submitting this timely Title V permit application as a "protective filing," i.e., to ensure that the application shield allows for continued lawful operation of San Juan Mine after June 30, 2012.

Nevertheless, as the Company has advised NMED previously, sound legal and policy reasons argue for methane emissions from underground coal mines to be considered as fugitive emissions for Title V and PSD purposes. Those reasons are currently under review by EPA, and several states have already announced their intentions not to require Title V permits for underground coal mines due to their emissions of methane. Therefore, it is plausible that EPA in the not-too-distant future may issue a national policy decision that, in effect, advises the states that 40 C.F.R. part 70 requires methane emissions from underground coal mines to be considered as fugitive emissions for Title V and PSD purposes. By the same token, it is plausible that NMED, like other states have done already, may upon further analysis finalize an interpretation of its definition of "fugitive emissions" that finds it is not applicable to an underground mine's fugitive releases of methane that are subsequently exhausted to the atmosphere through the mine's ventilation and degasification systems.

In light of the uncertainty currently surrounding the question of whether methane emissions from underground coal mines must be considered as "fugitive" for Title V and PSD purposes, San Juan Coal Company's submission of a Title V permit application at this time for its San Juan Mine must not be construed as the Company's admission that such methane emissions are "non-fugitive" for Title V and PSD purposes. Nor should this application be construed as the Company's agreement with NMED's position at this time that such methane emissions are likely "non-fugitive" for Title V and PSD purposes

Finally, because either EPA or NMED could take the aforementioned action that finds the methane emissions in question to be "fugitive" for Title V purposes, San Juan Coal Company hereby reserves its right to withdraw this application for a Title V permit for San Juan Mine in the event that such action is taken. Moreover, to the extent that NMED should ultimately process this application and issue a Title V permit for the Mine prior to either EPA or NMED taking the aforementioned action, then the Company would seek NMED's revocation of that permit on the grounds that a material mistake was made in determining that the Mine's methane emissions subjected it to Title V applicability.

[3] On the other hand, if NMED's procedure for computation of time were applicable to that 12-month period, then the applicable filing deadline would be July 2, 2012. *See* 20.1.4.100.F(1) NMAC.

V. "Potential to Emit" as Applied to San Juan Mine

Title V and PSD applicability can each be triggered when either (1) a stationary source's actual emissions or (2) its potential to emit exceed the threshold prescribed in the respective regulations. Given the availability of actual CH_4 emissions data from the Company's monitoring of exhausts from the ventilation and degasification systems at San Juan Mine, calculation of the Mine's potential to emit (PTE) CH_4 was not required in order to determine that the Mine is a major stationary source of GHG emissions.[4] Therefore, with the caveat expressed above about classifying methane exhausted from underground as "non-fugitive" emissions, the Company's monitoring data has allowed it to stipulate that San Juan Mine is "Title V major for GHG emissions" and "PSD major for GHG emissions."

Nevertheless, it also must be recognized that the well-established regulatory definition of "potential to emit" cannot be readily applied to methane emissions from an underground coal mine. The term "potential to emit" is defined as

> the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation is federally enforceable.

20.2.70.7.AA NMAC. In general, a source's maximum capacity to emit an air pollutant is a function of its maximum combustion rate, maximum storage amount, maximum processing rate or the maximum rate of some other activity that gives rise to the pollutant's emissions. *See, e.g.,* http://www.epa.gov/ttn/chief/ap42/index.html, last visited June 19, 2012.

However, for underground coal mining, there is no single activity with which its maximum capacity to emit methane is directly correlated. Although an underground mine's maximum capacity to emit methane may be a function of its maximum production rate, there are other parameters, as explained below, which also concurrently influence the rate of methane released from the mine.

Methane and coal are formed together during coalification, a process in which vegetation is converted by geological and biological forces into coal. Methane is stored in large quantities within coal seams and also within the rock strata surrounding the seams. Changes in atmospheric pressure strongly affect the rate at which methane is released underground. For example, as barometric pressure drops, methane outflow from exposed coal seams and rock strata increases. Office of Surface Mining, Reclamation and Enforcement, "Technical Measures for the Investigation and Mitigation of Fugitive Methane Hazards in Areas of Coal Mining," 10 (Sept. 2001).

Two other important factors determining the amount of methane that will be stored in a coal seam and the surrounding strata are the rank and the depth of the coal. Coal is ranked by its carbon content; coals of a higher rank have higher carbon contents and generally higher methane

[4] Assuming, of course, that the methane discharged through those ventilation and degasification systems constitute "non-fugitive" emissions.

contents. The capacity to store methane increases as pressure increases with depth. Thus, within a given coal rank, deep coal seams tend to have higher methane contents than shallow ones coal seams. EPA 430-K-04-003, 2-2 to 2-3.

The International Panel on Climate Change (IPCC) notes that depth below ground also affects the temperature of a coal seam, which in turn affects how much methane is generated during coal formation. Moreover, in addition to pressure and temperature, the IPCC acknowledges that there are "other, less well-defined characteristics" that influence the amount of methane that can be stored in a coal seam. IPCC, *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories* (1997).

In other words, significantly influenced by several factors, the amount of methane stored within coal seams and surrounding rock strata of a particular underground coal mine typically varies throughout the mine and cannot be defined with any certainty. Consequently, the amount of methane that is released from those coal seams and rock strata during mining operations also varies significantly. Annual amounts of CH_4 emissions from a particular underground coal mine can vary significantly, even when the rate of coal production remains virtually constant. That is, the maximum capacity of an underground mine to emit methane can vary unpredictably from one year to the next without any concomitant change in annual coal production.

In sum, a particular underground mine's "maximum capacity to emit" methane based on the mine's physical and operational design cannot be defined with any degree of certainty because the relationship between that capacity to emit and the multiple variables that significantly influence that capacity to emit cannot be accurately and reliably characterized. As a result, San Juan Coal Company submits that there is no technically feasible methodology at this time for determining San Juan Mine's "potential to emit" methane, as that term is currently defined in the State's Title V and PSD regulations.

Section 23: Certification

Company Name: SAN JUAN MINE

I, SCOTT JONES, hereby certify that the information and data submitted in this application are true and as accurate as possible, to the best of my knowledge and professional expertise and experience.

Signed this 29 day of JUNE, 2012, upon my oath or affirmation, before a notary of the State of NEW MEXICO, San Juan County

OFFICIAL SEAL
CHERYLIN NEWMAN
Notary Public
State of New Mexico
My Comm. Expires 07-07-13

*Signature

6/29/12
Date

SCOTT JONES
Printed Name

VICE PRESIDENT
Title

Scribed and sworn before me on this 29th day of June, 2012.

My authorization as a notary of the State of New Mexico expires on the

7th day of July, 2013.

Cherylin Newman
Notary's Signature

06/29/2012
Date

Cherylin Newman
Notary's Printed Name

*For Title V applications, the signature must be of the Responsible Official as defined in 20.2.70.7.AD NMAC.

Section 23: Certification

Company Name: SAN JUAN MINE

I, MICHAEL J. FIDEL, hereby certify that the information and data submitted in this application are true and as accurate as possible, to the best of my knowledge and professional expertise and experience.

Signed this 06 day of NOVEMBER, 2013, upon my oath or affirmation, before a notary of the State of

NEW MEXICO, SAN JUAN COUNTY

*Signature

11/06/2013
Date

MICHAEL J FIDEL
Printed Name

GENERAL MANAGER
Title

Scribed and sworn before me on this 6th day of November, 2013

My authorization as a notary of the State of New Mexico expires on the

7th day of July, 2017.

Cherylin Newman
Notary's Signature

11/06/2013
Date

Cherylin Newman
Notary's Printed Name

OFFICIAL SEAL
CHERYLIN NEWMAN
Notary Public
State of New Mexico
My Comm. Expires 7-7-17

*For Title V applications, the signature must be of the Responsible Official as defined in 20.2.70.7.AD NMAC.