



NYSDEC

JUN - 2 2014

Division of
Environmental Permits

DOMINION TRANSMISSION, INC.
New Market Project

AIR STATE FACILITY PERMIT APPLICATION
BROOKMAN CORNERS COMPRESSOR STATION

Submitted to:
New York State Department of Environmental Conservation
Region 4 Office
Schenectady, NY

Filed June 2, 2014

Prepared By:



TETRA TECH

Dominion Resources Services, Inc.
5000 Dominion Boulevard
Glen Allen, Virginia 23060-3308



May 28, 2014

OVERNIGHT DELIVERY

Mr. William Clarke
Regional Permit Administrator
NYSDEC Region 4
1130 North Westcott Road
Schenectady, NY 12306-2014

RE: Dominion Transmission, Inc. – New Market Project
Brookman Corners Compressor Station
Application for Air State Facility Permit

Dear Mr. Clarke:

Dominion Transmission, Inc. (DTI) is planning to install new emission units at our Brookman Corners Compressor Station located in the town of Minden in Montgomery County, New York.

The new equipment will include a Solar Centaur 50L combustion turbine rated at 6,393 horsepower (59.67 MMBtu/hr HHV), and two Caterpillar G3608 reciprocating engines (2,370 horsepower and 17.86 MMBtu/hr HHV each). The Brookman Corners compressor station will remain a minor source of air emissions.

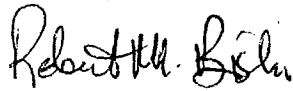
The enclosed Air State Facility Permit application addresses the items in a Compressor Station Application Checklist provided by Mr. Chris LaLone, at NYDEC and contains the following:

- Application narrative describing the facility, emissions, air dispersion modeling and regulatory applicability;
- Appendix A, Air Quality Model Protocol;
- Appendix B, completed application forms and attachments for the new equipment.

The Air Quality Model Protocol was previously submitted by email to Ms. Margaret Valis, at NYDEC in Albany and Mr. Don Spencer and Mr. Mark Lanzafame both at NYDEC. Ms. Valis provided verbal comments which are addressed in Appendix A.

DTI appreciates your timely review of our application. Please contact Mr. Laurence Labrie at (804) 273-3075 or via email at laurence.labrie@dom.com with questions regarding this application.

Sincerely,



Robert M. Bisha

~~Director Environmental Business Support~~

Enclosure: Air State Facility Application for Brookman Corners Compressor Station

cc/w encl: Chris Hogan – Project Manager, Division of Environmental Permits, NYSDEC
Don Spencer – Region 4 RAPCE
Margaret Valis – Chief, Impact Assessment and Meteorology, NYSEDEC

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1.0 DESCRIPTION OF PROJECT

1.1 Introduction

Dominion Transmission, Inc. (DTI) is seeking authorization from the New York State Department of Environmental Conservation (NYSDEC) to modify an existing natural gas compressor station near Brookman Corners (Town of Minden, Montgomery County), New York. The Brookman Corners compressor station is part of the proposed New Market Project (the Project), which overall consists of two new compressor station facilities and changes to four existing gas transmission facilities in Chemung, Tompkins, Madison, Herkimer, Montgomery and Schenectady Counties, New York.

Specifically, DTI proposes to make physical changes at the Brookman Corners facility as follows:

- The additional of approximately 11,133 hp in compression (one combustion turbine and two reciprocating engines); installation of additional coolers and other equipment, replacement of certain equipment. Existing compression is 7,410 hp.

As part of the overall project other facilities will be constructed or modified as follows:

New facilities:

- Horseheads Compressor Station (Chemung County) – a new 11,010 horsepower (hp) compressor station;
- Sheds Compressor Station (Madison County) – a new 10,880 horsepower (hp) compressor station;

Changes to existing facilities:

- Borger Compressor Station (Tompkins County) – installation of additional coolers, and pipe crossover work.
- Utica Compressor Station (Herkimer County) – installation of additional coolers.
- West Schenectady Meter Station (Schenectady County) – meter station upgrades.

The scope of the New Market Project as specified above constitutes all currently contemplated plans for these facilities. There are no future expansion plans or plans for installation of additional compression capacity at these locations.

A list and mapping of overall Project components and their locations is provided in Figure 1. Figure 2 presents a topographic map of the Brookman corners site.

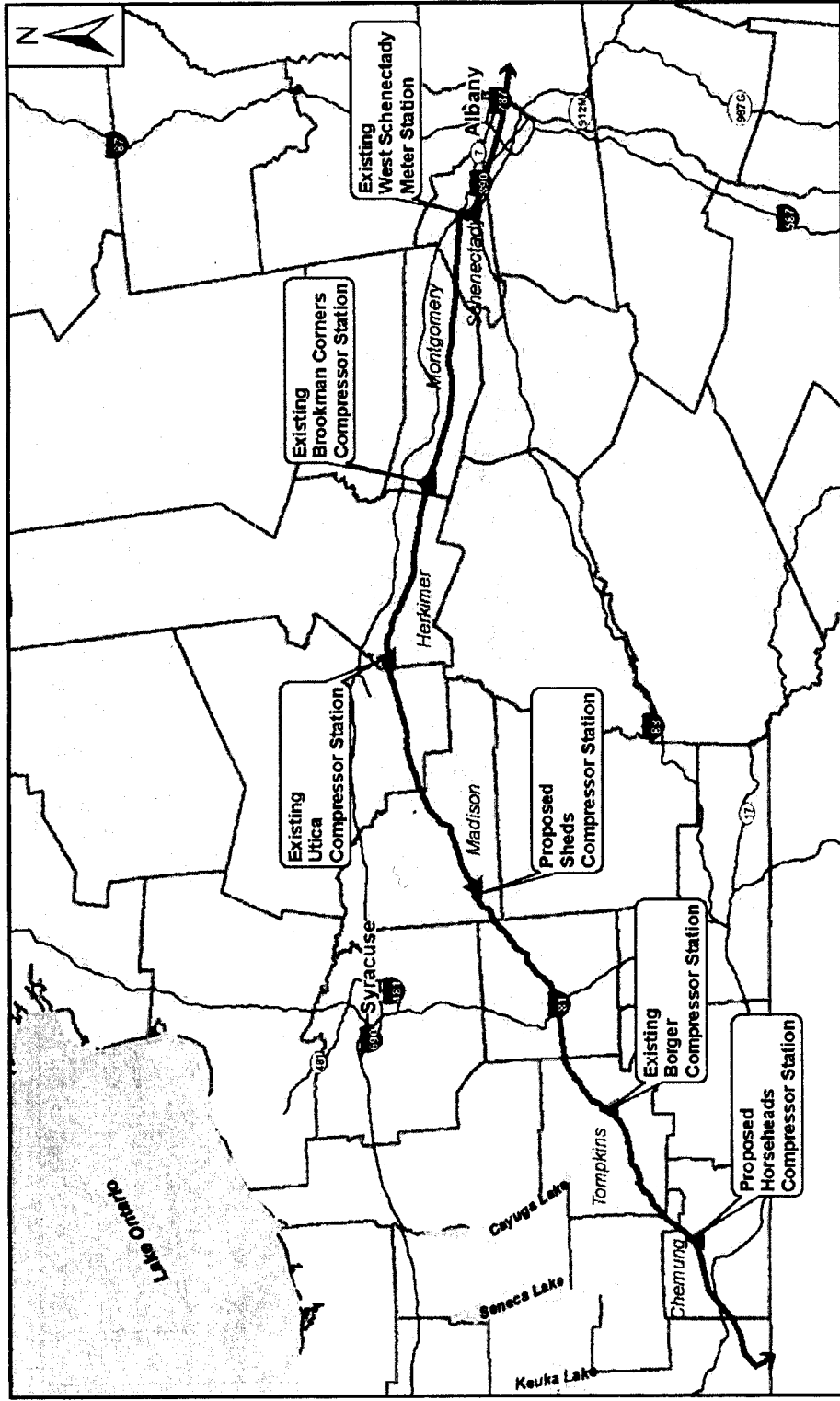


Figure 1. Project Overview Map
 Dominion New Market Project, New York



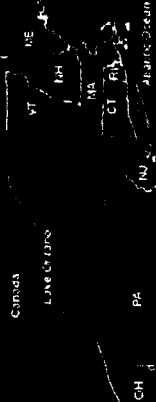
Dominion Transmission, Inc.

Prepared By:  TETRA TECH
 April 23 2014

Legend

- Dominion's Existing Transmission Pipeline
- New or Existing Station
- ▲ New York Counties
- Interstate Highway

0 25 50 75 Miles



Source: 2010 Bing Aerials maps from ArcGIS online.
 Available at: services.arcgis.com/ArcGIS/services.html

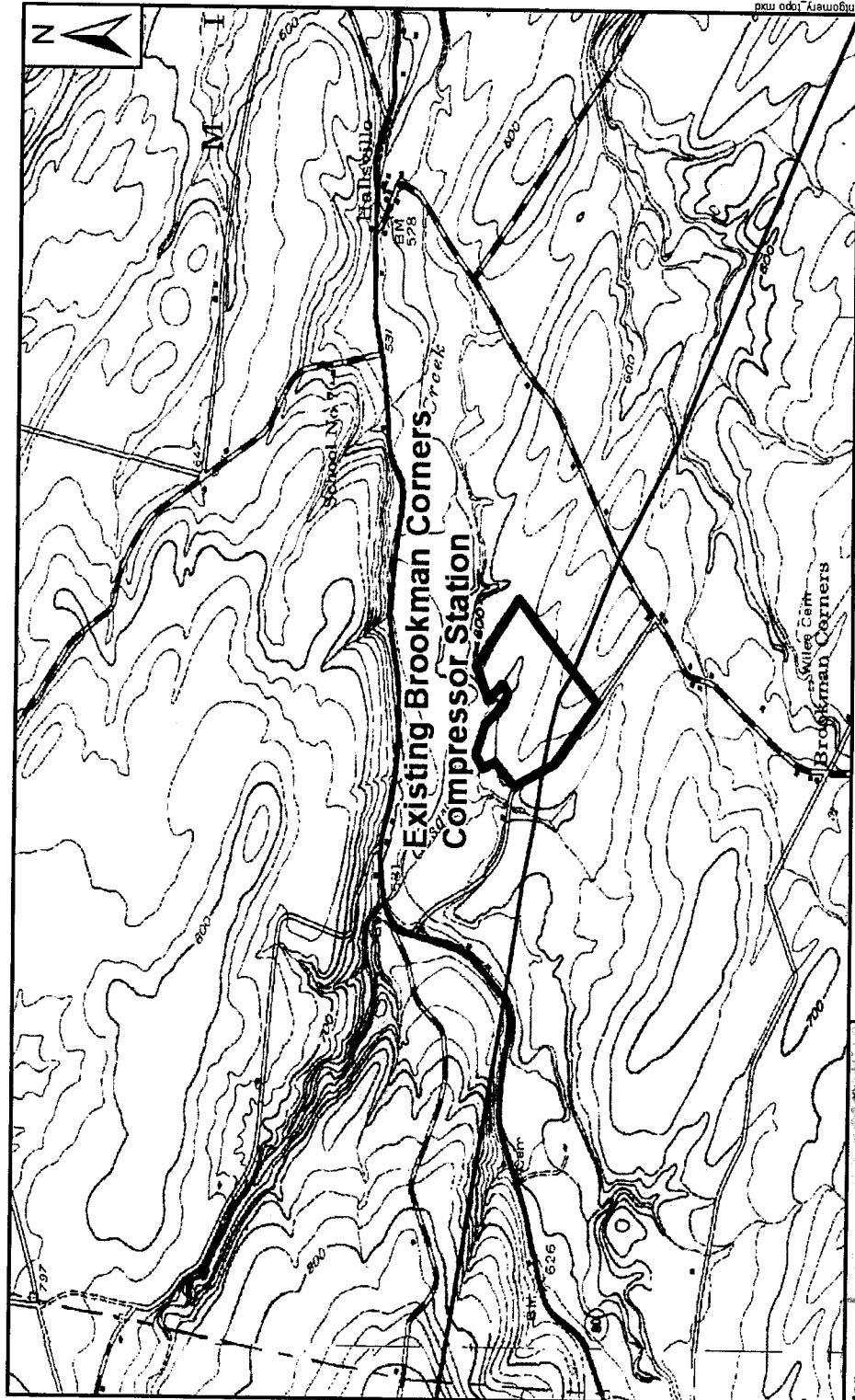


Figure 2c. Site Location of Existing Brookman Corners Compressor Station- Montgomery County
 Dominion New Market Project, New York

Prepared For: **Dominion Transmission, Inc.**

Prepared By: **TETRA TECH**

Date: **April 17 2014**

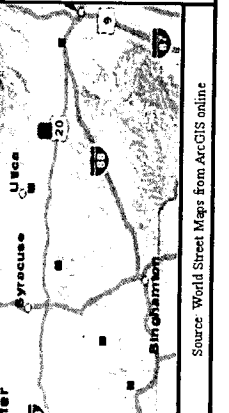
Legend

- Dominion's Existing Transmission Pipeline
- ▭ Limits of Disturbance/Study Area

Scale = 1:24,000

0 1,000 2,000 3,000 4,000 Feet

Source: USGS Topographic maps from USDA NRCS 2002 DRG of Montgomery Co. New York
 USGS Fort Plan Chart angle



This Air State Facility Permit Application provides the information required by NYSDEC in order to issue an Air State Facility Permit. This Application includes the following sections:

- 1.0 - Description of Project
- 2.0 - Emission Estimates
- 3.0 - Results of Dispersion Modeling
- 4.0 - Regulatory Discussion
- Appendix A – Modeling Protocol
- Appendix B – Application Forms and Attachments (Plot Plan and Calculations)

1.2 Project Details

Table 1 provides details of the emission sources associated with the proposed changes to the Brookman Corners Compressor Station. The principal new emission sources will be one (1) Solar Centaur 50L combustion turbine and two (2) Caterpillar G3608 spark-ignited reciprocating internal combustion engines (RICE). Additionally, the existing emergency generator will be replaced as part of this project. The replacement emergency generator will be an “exempt” activity. “Exempt” activities are defined in 6 NYCRR 201-3.2, and such “exempt” activities do not require air permitting under the NYSDEC regulations. All fuel combustion units at the site will strictly fire natural gas. There will also be two new small tanks. The lube oil tank is a reservoir for the lubricating oil used in the reciprocating compressors. This tank is pressurized during normal use so there will not be any routine breathing losses. The glycol tank is used for the coolant for the reciprocating compressors. In addition, there will be fugitive emissions (e.g., GHG) principally from the natural gas compressors.

Emission Unit/Source IDs for the non-exempt units are designated as follows:

Solar Centaur 50L (one unit):

- Emission Unit: U-0002
- Emission Point (single 50’ stack) : 0002
- Process: 102
- Emission Source: SCEN
- Emission Control Device (oxidation catalyst): SCENC
- Emission Control Device (SoLoNOx): SCENL

Caterpillar G3608 Engines (two units):

- Emission Unit: U-0003
- Emission Points (two 50’ stacks): 0003; 0004
- Process: 103
- Emission Sources: CAT3; CAT4
- Emission Control Devices (oxidation catalysts): CAT3C; CAT4C
- Emission Control Devices (lean burn combustion systems with pre-combustion chamber): CAT3L; CAT4L

Table 1 Brookman Corners Compressor Station New Emission Sources

Source	Manufacturer & Model	Capacity	Exempt?	Emission Controls
Combustion Turbine	Solar Centaur 50L	6,393 hp 59.67 MMBtu/hr	No	Oxidation Catalyst & SoLoNO _x
Reciprocating Engine	Caterpillar G3608	2370 hp 17.86 MMBtu/hr	No	Oxidation Catalyst & Lean Burn Combustion
Reciprocating Engine	Caterpillar G3608	2370 hp 17.86 MMBtu/hr	No	Oxidation Catalyst & Lean Burn Combustion
Replacement Emergency Generator	Caterpillar G3516A	740 kWe 9.0 MMBtu/hr	Yes	NA
Lube Oil Tank	tbd	2000 gal	Yes	NA
Glycol Storage Tank	tbd	1000 gal	Yes	NA

The existing sources at Brookman Corners are as follows:

- Solar Taurus 60 combustion turbine (7410 hp)
- Caterpillar G3412LE 395 kW emergency generator (to be replaced with the 740 kW G3516A)

The Project will include provisions for emergency release venting of natural gas in the event of a malfunction or other problems with facility equipment which requires that the natural gas stored in facility piping be released. The need for any such venting is expected to be infrequent and episodic in nature. There will be no routine or scheduled intermittent process venting.

NYSDEC has issued a *Compressor Station Application Checklist*, which requests identification of the various types of sources that may be present at compressor stations. Several of these source types will not be at the Brookman Corners Compressor Station. The Brookman Corners compressor station will not have any dehydration processes, and will not have any triethylene glycol (TEG) storage or use at the facility. The Project will not include any regenerator units, flash tanks, or flares.

With respect to air quality attainment designations, an air quality control region (AQCR), as defined in Section 107 of the Clean Air Act (CAA), is a federally-designated area in which federal ambient air quality standards must be met. An implementation plan is developed for each AQCR describing how ambient air quality standards will be achieved and maintained. USEPA designates the attainment status of an area for each criteria pollutant based on whether an area meets the NAAQS. Areas that meet the NAAQS are

termed “attainment areas.” Areas that do not meet the NAAQS are termed “nonattainment areas.” Areas for which insufficient data are available to determine attainment status are termed “unclassified areas.” Areas formerly designated as nonattainment areas that have subsequently reached attainment are termed “maintenance areas.”

Montgomery County is located in the Hudson Valley Intrastate (New York) AQCR (40 CFR §81.129). The attainment status designations for areas in New York appear at 40 CFR §81.333. Montgomery County has been designated as “Unclassifiable/Attainment” for all NAAQS except for the 1997 8-hour Ozone NAAQS. However, with respect to the (more stringent) 2008 ozone NAAQS, Montgomery County classified as Unclassifiable/Attainment. On June 6, 2013, USEPA proposed that the 1997 ozone NAAQS be revoked and therefore it is anticipated these counties will cease to be classified as nonattainment areas when that proposed rule is finalized.

However, all of New York State is in the Ozone Transport Region as designated in the Clean Air Act, so all of New York State is regulated as Moderate Non-Attainment for ozone per the requirements for the Ozone Transport Region.

2.0 EMISSION ESTIMATES

Table 2 presents the potential emissions of criteria and HAP emissions for the Brookman Corners Compressor Station. The Brookman Corners Compressor Station will remain below all major source thresholds for Prevention of Significant Deterioration, NYSDEC Part 231, and will not be a major source of HAPs. This applies for the potential emission of new equipment, as well as the overall station emission after the changes. No specific caps to limit the hours of operations or quantity of fuel combusted are being sought in order to control potential emissions.

**Table 2
Brookman Corners Emissions**

	Solar Centaur 50L	Caterpillar G3608	Standby Generator	Existing Solar		
	6,393 hp max rating	2,370 hp max rating	Caterpillar G3516	Taurus 60		
	at 0 deg F	per engine (data is total of two engines)		7410 hp		
Max hourly firing rate (MMBtu/hr HHV)	59.67	35.71	9.0	69.17		
Hours per year for PTE	8760	8760	500	8760		
MMBtu/year	522,741	312,830	4,500	605,898		
kWe			740			
hp		4740	1053			
Nitrogen Oxides (NOx)					Total	Major Source
ppmvd at 15% O2	15			25	tons/year	Threshold
lb/MMBtu	0.055	0.146		0.092		
grams/bhp-hr		0.5	2.0 (NSPS)			
tons/year	14.4	22.9	1.2	27.9	66.3	100 (OTR)
Carbon Monoxide (CO)						
ppmvd at 15% O2 (with 90 % control)	2.5			25		
lb/MMBtu	0.006	0.080		0.056		
grams/bhp-hr (G3608 with 90% control)		0.275	4.0 (NSPS)			
tons/year	1.6	12.6	2.3	17.0	33.4	250 (PSD)
PM-10/PM-2.5						
Solar maximum lb/hr case	0.9			1.04		
lb/MMBtu	0.015	0.03		0.015		
grams/bhp-hr		0.1	0.1			
tons/year	3.9	4.6	0.1	4.6	13.1	250 (PSD)
Volatile Organic Compounds						
Solar maximum lb/hr case	0.18			0.21		
Assume 50% oxidation catalyst control	0.09					
lb/MMBtu	0.0015	0.09		0.003		
grams/bhp-hr (G3608 with 50% control)		0.315	1.0 (NSPS)			
tons/year	0.4	14.4	0.6	0.9	24.3	50 (OTR)
						(VOC includes 8.0 tpy for fugitive emissions; 0.145% of CO2e from methane)
Sulfur Dioxide (SO2)						
lb/MMBtu (0.5 gr S/100 scf)	0.0015	0.0015	0.0015	0.0015		
tons/year	0.4	0.23	0.003	0.5	1.1	250 (PSD)
Formaldehyde (maximum individual HAP)						
Solar maximum lb/hr case	0.17			0.197		
lb/hr with 90 % control)	0.017					
grams/bhp-hr (G3608 Cat data)		0.26				
grams/bhp-hr (G3608 with 90% control)		0.026				
lb/MMBtu (AP-42)			0.0528			
tons/year	0.07	1.2	0.12	0.86	2.2	10 (indiv HAP)
Sum of All Other HAPs						
AP-42 lb/MMBtu	3.17E-04	0.0194	0.0194	3.17E-04		
Assume 75% oxidation catalyst control	7.93E-05	4.85E-03				
tons/year	0.02	0.76	0.04	0.10	0.9	
Total HAPs (tons/year)	0.10	1.9	0.16	0.96	3.7	25 (total HAPs)
						(Total HAPs includes 0.5 tpy for fugitive emissions; 0.0093% of CO2e from methane)
GHG as CO2e						
lb/MMBtu	117.8	156.2	123.0	117.8		
tpy	30,779	24,439	277	35,676	96,683	100,000 (PSD)
						(CO2e includes 5,512 tpy of CO2e for fugitive methane emissions)

The Solar Centaur 50L combustion turbine will be equipped with the SoLoNOx lean-mix dry low NOx combustion system, which will limit NOx emissions to within 15 ppmvd corrected to 15% O₂ and CO emissions to within 25 ppmvd corrected to 15% O₂ at 50% turbine load and above. The Solar turbine will be operated at > 50% (i.e., in lean pre-mix mode) at all times except for startup/shutdown and unavoidable malfunctions. Startup and shutdown periods will normally be approximately 10 minutes in duration.

The Solar Centaur 50L combustion turbine will be equipped with an oxidation catalyst designed for 90% removal of CO and formaldehyde. It is estimated (based on the expected composition of VOC and HAPs) that the catalyst will achieve 50% removal of VOC, and 75% removal of organic HAPs.

Each new Caterpillar G3608 engine will be equipped with a low NOx combustion system which will meet 0.5 grams NOx/bhp-hr. In addition, each Caterpillar G3608 will be equipped with an oxidation catalyst designed for 90% removal of CO and formaldehyde. It is estimated the catalyst will achieve 50% removal of VOC, and 75% removal of organic HAPs.

Table 3 provides emission estimates for emissions (from new equipment only) of Persistent, Bioaccumulative or Toxic (PBT) compounds regulated under Table 1 of 6 NYCRR 201.9. The new source emissions are less than the PBT significance thresholds, except for formaldehyde, acrolein, and polycyclic organic matter. Formaldehyde and acrolein are addressed in the dispersion modeling analysis. Polycyclic organic matter is not a specific compound with Short-term (one-hour) and Annual Guideline Concentrations (SGC/AGC) criteria, but rather is a class of compounds. The Caterpillar engines are the principal source of this compound based on USEPA emission factors, and the emission controls (oxidation catalysts) are being applied for organic HAP emissions.

The attachments to Appendix B (NYSDEC Application Forms) provide explanations of the bases for the emission calculations in Tables 2 and 3.

Table 3 Brookman Corners Compressor Station New Sources - PBT Emissions

Contaminant	Facility Emissions (lb/year)	6 NYCRR Part 201.9 Significant Emission Rate (lb/year)
Formaldehyde	2,767	100
Benzene	38	100
Acetaldehyde	697	1000
1,3 Butadiene	22	25
Acrolein	426	5
Polycyclic Organic Matter	2.5	1
1,1,2,2- Tetrachloroethane	3.3	1000
1,1,2- Trichloroethane	2.6	100
1,2-Dichloroethane	2.0	100
1,3- Dichloropropene	2.2	500
Carbon Tetrachloride	3.0	100
Chloroform	2.4	100
Vinyl Chloride	1.2	100

3.0 AIR QUALITY DISPERSION MODELING ANALYSIS

An air quality impact analysis using dispersion modeling has been done for the Brookman Corners facility, including the existing combustion turbine with the new combustion turbine and the two new reciprocating engines. The air quality impact analysis has been done using USEPA and NYSDEC air quality modeling procedures and guidance. NYSDEC's *Compressor Station Application Checklist* indicates that dispersion modeling is required for formaldehyde for comparison to the NYSDEC Short-term (1-hr) and Annual Guideline Concentrations (SGC/AGC), per the Division of Air Resources Guideline 1 (DAR-1). In addition, dispersion modeling is required for 1-hr NO₂ for comparison to the NAAQS. In accordance with this guidance, an air quality dispersion modeling analysis has been conducted in accordance with an air quality model Protocol has been submitted to NYSDEC, which is attached as Appendix A. Acrolein has been included in this analysis as well since potential emissions from new equipment exceed the Significant Emission Rate for acrolein in 6 NYCRR 201.9, as documented in Table 3 above.

The USEPA AERMOD dispersion model was used with a five (5) years meteorological data base (2008-2012) with surface data from the Rome (NY) Airport and upper air data from Albany, New York.

The dispersion model results are presented in Table 4. For formaldehyde (HCOH) and acrolein, the modeled impacts are compared directly with the NYSDEC SGC/AGC criteria. The maximum modeled values for acrolein well within the allowable SGC/AGC values.

For formaldehyde, the 1-hr impacts are within the SGC criterion. The maximum annual impact for formaldehyde is compared to an alternate AGC criterion, in accordance with DAR-1. The "base-case" AGC for formaldehyde found in DAR-1 ($= 0.06 \text{ ug/m}^3$) is based on an inhalation cancer risk value of "one-in a million" (10^{-6}). DAR-1 allows use of an alternate AGC criterion of 10 times the "base-case" AGC (i.e., 10^{-5} risk) if the impacts exceed the "base-case" AGC, and the source has installed "Best Available Control Technology" (BACT) as defined in DAR-1.

"BACT" in DAR-1 is defined *an emission limitation or equipment standard based upon the maximum degree of reduction of each contaminant emitted from a stationary air contamination source which the DEC determines is achievable for such a source on a case-by-case basis considering: 1) process, fuels and raw materials available to be used; 2) engineering aspects of the application of various types of control technology which has been adequately demonstrated; 3) process and fuel changes; 4) respective cost of the application of all such control technologies, process changes, alternative fuels etc; 5) applicable State and Federal emission standards.*

Brookman Corners will have oxidation catalysts rated at 90% removal for formaldehyde installed on all new equipment, which is considered to represent "BACT" as defined in DAR-1. While the existing Solar Centaur turbine does not have an oxidation catalyst, the dispersion modeling for this unit alone only shows formaldehyde annual impacts of 0.046 ug/m^3 , which is less than the AGC criterion. Therefore, application of the DAR-1 policy allowing use of an alternate AGC for formaldehyde of 0.6 ug/m^3 is considered acceptable for this case.

For 1-hr NO_2 , the maximum modeled impacts are combined with the 1-hour design value measured by NYSDEC at Amherst NY for 2010-2012. Amherst NY is the closest upstate NY location to Brookman Corners with recent background NO_2 data, and is considered conservatively representative of the Brookman corners site. Sites in the New York City metropolitan area are not considered representative of background air quality at the Brookman Corners site. The NYSDEC did previously collect background NO_2 data at an upstate location in Loudonville NY (closer to Brookman Corners than Amherst), with the most recent measured 3-year design value for Loudonville being 97.2 ug/m^3 for 1997-1999. Ambient NO_2 monitoring at Loudonville was discontinued after 1999. In order to support use of the Amherst monitor for current background at Brookman Corners, the 3-year design value for 1-hr NO_2 for Amherst for 1997-1999

(=107.2 ug/m3) is compared to the Loudonville's 1997-1999 design value of 97.2 ug/m3. The Amherst 1997-1999 value is higher than that at Loudonville. This supports the use of the current Amherst design value (2010-2012) of 79 ug/m3 data as background for the Brookman corners site, as NO₂ levels having been dropping over time and Amherst was a more conservative site for the last 3 year period when both stations ran.

Using the recent Amherst 3-year design background 1-hr NO₂ value, the total predicted 1-hr NO₂ value is within the allowable NAAQS limit.

Table 4 Dispersion Modeling Results for Brookman Corners Compressor Station (all results in micrograms per cubic meter)

Pollutant/Averaging Period	Maximum Impact of Brookman Corners Facility	Background	Total	Criteria
HCOH (1-hr maximum)	3.6	--	--	30
HCOH (annual maximum in any year)	0.57	--	--	0.6 (see text)
Acrolein (1-hr maximum)	0.55	--	--	2.5
Acrolein (annual maximum in any year)	0.09	--	--	0.35
NO ₂ */1-hr	87.1*	79.0 (Amherst)	166.1	188

* Maximum five year average 98th percentile value of daily maxima; includes EPA Tier 2 NO_x to NO₂ conversion of 80%

4.0 REGULATORY DISCUSSION

4.1 New Source Review

Separate preconstruction review procedures have been established for projects proposed in designated attainment areas (areas in which air quality is better than NAAQS) and nonattainment areas (areas in which air quality is worse than NAAQS) under the Clean Air Act's New Source Review (NSR) program. The preconstruction review process for new or modified major sources located in attainment and unclassifiable areas is performed under the Prevention of Significant Deterioration (PSD) requirements. This process is intended to keep new air emission sources from causing existing air quality in attainment areas to deteriorate beyond acceptable levels. The preconstruction review for new or modified major sources located in nonattainment areas is performed under the Nonattainment New Source Review (NNSR) program. NNSR only applies to the pollutants that are classified as nonattainment. Therefore, a new facility can undergo

both types of review, depending on the total emissions of each pollutant and the regional air quality attainment status. The requirements for the PSD and NNSR programs are discussed below.

PSD is a federally-mandated review program that applies to new major stationary sources, and major modifications of existing sources, in areas designated as attainment or unclassifiable with NAAQS. NYSDEC has been delegated authority by USEPA to administer the PSD program in New York.

PSD review for major stationary sources includes: an assessment of the existing air quality; the use of analytic dispersion models to demonstrate compliance with the NAAQS and applicable PSD increments; a demonstration that control of emissions through use of best available control technology (BACT) has been applied to the subject emission sources; and an assessment of the impact of new emissions on the environmental resources such as soils and vegetation.

The emission threshold for major stationary sources varies under PSD according to the type of facility. A facility is considered major under PSD if it emits or has the potential to emit 250 tons per year (tpy) or more of any criteria pollutant, or 100 tpy if it belongs to one of 28 categories of stationary sources listed under 40 CFR 52.21 (b)(1)(i). The Brookman Corners Compressor Station is not in one of these 28 source categories, so the 250 tpy PSD threshold applies. Additionally, under USEPA's Greenhouse Gas (GHG) Tailoring Rule, the associated major source threshold for GHG is 100,000 tpy of CO₂ equivalents (CO₂e).

Non-attainment New Source Review (NNSR) is also a federally-mandated review program that applies to new major stationary sources, and major modifications of existing sources, in areas designated as non-attainment NAAQS. NNSR applies in New York State for precursors of ozone (NO_x and volatile organic compounds [VOC]) since all of New York State (which includes Brookman Corners Compressor Station) is in the Ozone Transport Region (OTR) as designated by the Clean Air Act. NYSDEC has been delegated authority by USEPA to administer the PSD program in New York

As noted in Table 2 in Section 2.0, the Brookman Corners Compressor Station is not and will not become a major PSD source, nor is it or will it become a major source under NNSR.

The six locations associated with the New Market Project (which will involve installation of new or modified equipment) are all considered as separate facilities under PSD/NNSR. The primary reason is none of the locations are adjacent to any other facility, or located on any contiguous property. In addition, these facilities all can/will operate independently, in that any one facility does not require any of the others to be operating as a prerequisite to its operation. The pipeline system can still operate (albeit at a reduced capacity) if one or more individual compressor stations are out of service.

Therefore, aggregation of these individual sites for air regulatory purposes does not apply.

4.2 New Source Performance Standards

USEPA has established New Source Performance Standards (NSPS) at 40 CFR Part 60 that regulate air pollutant emissions from certain categories of stationary sources. For combustion sources, emission standards typically are expressed in terms of mass emissions per unit of fuel combusted, fuel quality, or exhaust gas concentration. Sources subject to a specific NSPS category are also subject to the general rules in 40 CFR 60, Subpart A. The following NSPS categories under 40 CFR 60 are potentially applicable to emission units included in the Project:

- 40 CFR 60, Subpart KKKK applies to the new Solar Centaur 50L combustion turbine. Subpart KKKK applicable requirements are included in Appendix B of this application (Application Forms). Subpart KKKK requires that NO_x concentrations in the turbine exhaust for the class of turbines being installed for the Project meet 25 parts per million volume dry (ppmvd), corrected to 15% O₂. The new turbine will meet an exhaust limit of 15 ppmvd, corrected to 15% O₂ via use of the Solar Turbines "SoLoNOx" lean pre-mix combustors. Subpart KKKK also requires that the SO₂ emissions not exceed 0.06 lb/MMBtu. By exclusive use of pipeline natural gas, the new turbine will have SO₂ emissions no greater than 0.0015 lb/MMBtu. Each new turbine will also be equipped with an oxidation catalyst.
- 40 CFR 60, Subpart JJJJ applies to the new gas-fired reciprocating engines. Subpart JJJJ requires new engines of the type being installed at Brookman Corners meet exhaust concentrations of 1.0 gram/brake horsepower-hour (gm/bhp-hr) of NO_x, 2.0 gm/bhp-hr of CO, and 0.7 gm/bhp-hr of VOC. The Caterpillar G3608 engines being installed will meet 0.5 gm/bhp-hr of NO_x, and will be equipped with oxidation catalysts to meet 0.275 gm/bhp-hr of CO and < 0.4 gm/bhp-hr of VOC. A new gas-fired emergency generator (740 kW) is also being installed at Brookman Corners, replacing an existing emergency generator. This new emergency generator under Subpart JJJJ needs to meet exhaust concentrations of 2.0 gram/brake horsepower-hour (gm/bhp-hr) of NO_x, 4.0 gm/bhp-hr of CO, and 1.0 gm/bhp-hr of VOC. The new Caterpillar G3516A emergency generator will be a rich-burn engine with a 3-way catalyst to meet the requirements of Subpart JJJJ for emergency generators.
- 40 CFR 60, Subpart OOOO applies to various types of natural gas and crude oil processing equipment, generally associated with processing of natural gas prior to transfer of custody to a gas transmission system. Gas compressors that are part of gas pipeline transmission systems are not affected facilities under Subpart OOOO. However, storage tanks that are associated with gas transmission system are affected facilities if the potential VOC emission exceed 6 tpy. None of the new storage tanks will have potential VOC emissions which exceed 6 tpy. Therefore, Subpart OOOO does not apply to these tanks.

4.3 National Emission Standards for Hazardous Air Pollutants

The National Emissions Standards for Hazardous Air Pollutants (NESHAP), codified in 40 CFR Parts 61 and 63, regulate hazardous air pollutant (HAP) emissions. Part 61 was promulgated prior to the 1990 Clean Air Act Amendments (CAAA) and regulates only eight types of hazardous substances (asbestos, benzene, beryllium, coke oven emissions, inorganic arsenic, mercury, radionuclides, and vinyl chloride). The proposed Project is not in one of the source categories regulated by Part 61; therefore, the requirements of Part 61 are not applicable.

The 1990 CAAA established a list of 189 HAPs, resulting in the promulgation of Part 63. Part 63, also known as the Maximum Achievable Control Technology (MACT) standards, regulates HAP emissions from both major sources of HAP emissions and non-major (area) sources of HAP emissions within specific source categories. Part 63 defines a major source of HAP as any "stationary source or group of stationary sources located within a contiguous area and under common control" that has the potential to emit 10 tpy of any single HAP or 25 tpy of HAPs in aggregate. HAP emissions calculations are provided in Table 2 above. The proposed Brookman corners Station will be a minor source of HAPs. MACT standards potentially applicable to the type of equipment being installed at Brookman corners are as follows:

- 40 CFR 63, Subpart YYYY applies to certain types of combustion turbines at major sources of HAP. The Brookman corners facility will not be a major HAP source. In addition, USEPA has indefinitely stayed Subpart YYYY for lean pre-mix gas-fired turbines pending a determination on a petition to delist these sources from NESHAPS. Therefore, there are no NESHAPS requirements that apply to the new turbine.
- 40 CFR 63, Subpart ZZZZ applies to various types of reciprocating internal combustion engines. However, new engines at minor HAP sources automatically meet Subpart ZZZZ if they meet the NSPS, Subpart JJJJ. Therefore, there are no specific requirements of Subpart ZZZZ that apply to the new reciprocating engines that will be installed at Brookman Corners.

4.4 Title V Major Source Operating Permit Program

The Title V permit program in 40 CFR Part 70 (State Operating Permit Programs) requires major sources of air pollutants to obtain federal operating permits. The major source thresholds under the Title V program, as defined in 40 CFR §70.2, are 100 tpy of any air pollutant; 100 tpy for NO_x and 50 tpy for VOC in an ozone transport region; 10 tpy of any single HAP; or 25 tpy of total HAP or 100,000 tons of CO₂e. The authority to issue Title V operating permits has been delegated by USEPA to each state environmental agency with jurisdiction over the Project areas.

The Brookman corners facility will not be nor will it become a major Title V source. Therefore, the Title V permit program does not apply to the Project.

4.5 Accidental Release Prevention and Risk Management

USEPA has established accidental release prevention and risk management plan requirements as part of 40 CFR Part 68 (Chemical Accident Prevention Provisions). Part 68 lists regulated substances along with thresholds for determining the applicability of the associated requirements. If a regulated substance is handled, stored, or processed in greater than threshold quantities at a stationary source, then a risk management plan must be prepared.

Even if a facility is not required to prepare a risk management plan, requirements of the General Duty Clause in the CAA still apply if the facility produces, processes, handles, or stores regulated substances or other extremely hazardous substances on site. Compliance with the General Duty Clause requires that owners of facilities be continuously vigilant about potential hazards and methods of minimizing the consequences of accidental releases.

Except for constituents of natural gas such as ethane and methane, the Project is not expected to produce, process, handle, or store any substance regulated under Part 68 in quantities exceeding applicability thresholds. Natural gas pipelines are not subject to Part 68 if they are subject to U.S. Department of Transportation (USDOT) requirements or to a state natural gas program certified by USDOT (as is the case for the Project). In addition, the storage of natural gas incidental to transportation is not subject to Part 68. Consequently, the Project will not be subject to Part 68 requirements.

4.6 Acid Rain Program

New utility units are subject to the federal Acid Rain Program under 40 CFR 72. A new utility unit, as defined under 40 CFR Part 72.6, is a fossil-fuel fired combustion device that commences operation after November 15, 1990 and that serves a generator producing electricity for sale. The Project will not sell electricity to the grid and therefore will not be subject to the federal Acid Rain Program under 40 CFR 72.

4.7 New York State Requirements

As documented in Table 2 above, the Brookman Corners facility will be a minor source of emissions under the federal New Source Review Programs as well as under 6 NYCRR Part 231. In accordance with 6 NYCRR 201, DTI is applying for an Air State Facility Permit.

New emission sources at the facility that are designated as emission units are the Solar Centaur 50L combustion turbine and the two new Caterpillar G3608 reciprocating engines. Other new equipment is designated as "exempt" per 6 NYCRR 201-3.2.

The hydrocarbon storage tanks are less than the applicable size thresholds of 6 NYCRR 229, based the facility potential emissions of VOC

APPENDIX A

AIR QUALITY MODEL PROTOCOL
