


COMMONWEALTH OF PENNSYLVANIA
 Department of Environmental Protection
 Southwest Regional Office

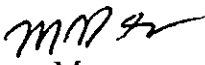
MEMO


RE Comment and Response Document
 Tenaska Pennsylvania Partners, LLC
 Westmoreland Generating Station
 South Huntingdon Township, Westmoreland County
 Permit Decision: Approved
 Public Comment Period Dates: December 20, 2014 – February 23, 2015
 Public Meeting Dates: January 21, 2015 and February 11, 2015
 Public Hearing Date: February 11, 2015
 APS 828023 Auth 1001276 PF 716802

DATE April 1, 2015

TO Air Quality Permit File PA-65-00990C

FROM Alexander Sandy 
 Air Quality Engineering Specialist
 Air Quality Program

THROUGH Mark R. Gorog, P.E. 
 Environmental Engineer Manager
 Air Quality Program

Barbara R. Hatch, P.E. 
 Acting Regional Manager
 Air Quality Program

On November 6, 2013, the Department received a plan approval application from Trinity Consultants on behalf of Tenaska Pennsylvania Partners, LLC (Tenaska) to construct and temporarily operate a natural gas-fired combined cycle power plant in South Huntingdon Township, Westmoreland County. Sources proposed for the facility include:

- Two (2) 3,147 MMBtu/hr Mitsubishi “J” class combined cycle combustion turbines serving one steam turbine generator equipped with heat recovery steam generators (HRSG) with supplemental 400 MMBtu/hr natural gas fired duct burners.
- One (1) 245 MMBtu/hr natural gas-fired auxiliary boiler.
- One (1) 2,500 kW diesel-fired emergency generator engine.
- One (1) 575 bhp diesel-fired emergency fire pump engine.
- Cooling tower controlled by drift eliminators.

Review of this application by the Department has been completed. In accordance with 25 Pa. Code §§ 127.44-45, notice of intent to issue the plan approval was published in the *Pennsylvania Bulletin* on December 20, 2014, beginning the 30-day public comment period. This memo documents activity that has taken place since the review memo was finalized.

On December 15, 2014, in accordance with 25 Pa. Code § 127.44(c), a copy of the PA Bulletin notice of intent to issue the plan approval and notice to hold a public hearing was sent to the applicant. The notice was subsequently sent to the EPA, the surrounding states within 50 miles of the proposed facility (Maryland, West Virginia, and Ohio), the National Park Service, and the United States Forest Service on December 19, 2015. Electronic copies of the draft plan approval and review memo were also sent to the applicant and the EPA on December 19, 2014.

In accordance with 25 Pa. Code § 127.44(c), the applicant published the notice in The Tribune-Review on December 16, 17, and 18, 2014. On January 8, 2015, the applicant re-published notice in The Tribune-Review of the revision to the public meeting date and format and to satisfy the enhanced public participation requirements of the Environmental Justice Policy. Notice of the change was also re-published in the PA Bulletin on January 17, 2015. On January 21, 2015, an open house style meeting was held at the Turkeytown South Huntingdon Township Volunteer Fire Department (Turkeytown) in West Newton, PA. The Department was represented by individuals from the Air Quality Program, Clean Water Programs, and the Environmental Advocate. Tenaska representatives were also present. On February 11, 2015, the Department held a public question and answer session followed by a formal public hearing at Turkeytown. The format of the public hearing was structured to allow testimony from all those that desired to testify. Representatives from the Department's Air Quality and Clean Water programs were present, as well as representatives from Tenaska. In accordance with the procedure identified in Title 25 Pa. Code §127.49(c), the period to provide additional hearing testimony was extended 10 days after the hearing, ending on February 23, 2015.

This document summarizes the comments received by the Department from the 336 commentators pertaining to the proposed plan approval and the Department's responses to those comments. No comments were received from EPA, Maryland, West Virginia, Ohio, the National Park Service, or the United States Forest Service. The Department's responses are limited by the scope of the Plan Approval Application process and the Department's authority under the Pennsylvania Air Pollution Control Act, the regulations promulgated thereunder, the Federal Clean Air Act, and the Federal regulations promulgated thereunder. Because this action pertains to the review of an application for an Air Quality Plan Approval, this document primarily focuses on issues that are germane to the air quality aspects of the project.

After careful consideration of all comments received during the comment period, I recommend issuance of this Air Quality Plan Approval to authorize construction and temporary operation of the Westmoreland Generating Station. In accordance with the procedures identified in the Department's Policy on Public Participation in the Permit Review Process (Document ID 012-0900-003 effective March 1, 2014), notice of the availability of the Comment and Response Document will be sent to each person or entity that provided formal oral testimony and/or written/electronic comments. An electronic copy of the final Plan Approval and Comment and Response Document will be available on the Department's website. A copy of the final Plan Approval and Comment and Response Document will also be available as part of the public file for this plan approval at the Department's Southwest Regional Office.

LIST OF COMMENTATORS

ID	Name	Affiliation
1	Tenaska Pennsylvania Partners, LLC	Applicant
2	Joe Osborne	Group Against Smog & Pollution
3	Joseph Otis Minott	Clean Air Council
4	Marliese Bonk	Citizen
5	Jessica Gaffron	Citizen
6	Julie Edgar	Citizen
7	Jerry Sopko	Citizen
8	Michel Miller, Jr.	Citizen
9	Dylan Weiss	Citizen
10	Michael Mance	Citizen
11	Joyce Clohessy	Citizen
12	J. T. Smith	Citizen
13	Lori Shermer	Citizen
14	Crystal Yost	Citizen
15	Elizabeth Donohoe	Citizen
16	Ron Lane	Citizen
17	Bill Ferullo	Citizen
18	Patrick Vogelsong	Citizen
19	Alyson Holt	Citizen
20	Jenny Graybill	Citizen
21	Karen Poels	Citizen
22	Susan McCune	Citizen
23	Maggie Henry	Citizen
24	Susan Shaak	Citizen
25	Charles Price	Citizen
26	Judith Max	Citizen
27	Marigrace Butella	Citizen
28	Kathleen Borres	Citizen
29	Annette Szafraniec	Citizen
30	Will Fraser	Citizen
31	Anne MacDougall	Citizen
32	Jan Milburn	Citizen
33	Madelyn Ferez	Citizen
34	Rachel Chaput	Citizen
35	Douglas Mason	Citizen
36	Sabrina Wojnaroski	Citizen
37	Renae Daniels-Simmons	Citizen

38	Nicholas Diamond	Citizen
39	Marian Szmyd	Citizen
40	Mary Houseman	Citizen
41	Gwen Chute	Citizen
42	Barbara Grover	Citizen
43	William Hufford	Citizen
44	Marc Levine	Citizen
45	Edward Chute	Citizen
46	Christy Milburn	Citizen
47	Ron Slabe	Citizen
48	Dale Adams	Citizen
49	Ronald Nordstrom	Citizen
50	Joanne Garing	Citizen
51	Michael Gerhart	Citizen
52	Rosalyn Robitaille	Citizen
53	Sherry McNeil	Citizen
54	Amy Arendas	Citizen
55	Leona Dunnett	Citizen
56	Cindy Arblaster	Citizen
57	Nancy Novak	Citizen
58	Michael Heller	Citizen
59	John Luikart	Citizen
60	Russell Zerbo	Citizen
61	Mary Ann Leitch	Citizen
62	Jackie Bonomo	Citizen
63	Eric Durante	Citizen
64	Jeffrey Shralow	Citizen
65	Jeanette Elbattah	Citizen
66	Ron Cehelsky	Citizen
67	Faith Zerbe	Citizen
68	Peter Zibinski	Citizen
69	Christine Hendryx	Citizen
70	Elizabeth Engleman	Citizen
71	Amanda Buchko	Citizen
72	Allan Post	Citizen
73	Karen Granche	Citizen
74	Noreen McCarthy	Citizen
75	Thomas Nelson	Citizen
76	Paul Roden	Citizen

77	Jill Wiener	Citizen
78	Chara Armon	Citizen
79	Julia Rolf	Citizen
80	Louisa de Simone	Citizen
81	Pamela Fitzpatrick	Citizen
82	John Comella	Citizen
83	Cheryl Dzubak	Citizen
84	David Kagan	Citizen
85	Daniel Piser	Citizen
86	Robert C. Damon	Citizen
87	Vera Scroggins	Citizen
88	Carolin Schellhorn	Citizen
89	Jonathan Zaikowski	Citizen
90	Gregory Pais	Citizen
91	Fran Harkins	Citizen
92	Stephen Draper	Citizen
93	Sam Koplinka-Loehr	Citizen
94	Sarah Caspar	Citizen
95	Catherine Greer	Citizen
96	Deborah Hauck	Citizen
97	George E. Wicker	Citizen
98	Daniel Mamrose	Citizen
99	Edwin Hiley	Citizen
100	Jane Kirk	Citizen
101	Sandi Covell	Citizen
102	Lynn Benson	Citizen
103	Colleen Hamilton	Citizen
104	Bob Vaughan	Citizen
105	Joseph Wenzel	Citizen
106	Doug Rawling	Citizen
107	Richard Jacobel	Citizen
108	Chad Hayes	Citizen
109	Linda Myers	Citizen
110	Elaine Becker	Citizen
111	Robert Manchester	Citizen
112	Samanatha Turetsky	Citizen
113	Ginger Hill	Citizen
114	Richard Kite	Citizen
115	Katherine Comini-Sherrod	Citizen

116	Jamie Dubinsky	Citizen
117	Robert Backstrom	Citizen
118	Sandra Bernstein	Citizen
119	Nina Bernstein	Citizen
120	Albert Bernstein	Citizen
121	Lori Keslar	Citizen
122	Phyllis Blumberg Kosherick	Citizen
123	Maria Kon	Citizen
124	Robin Candelario	Citizen
125	Amanda Cifra	Citizen
126	Jim Uery	Citizen
127	Michelle Keenan	Citizen
128	Michael Bortovaschi	Citizen
129	Daniel J. Begg	Citizen
130	Karen Petros	Citizen
131	Dianne B. Walters	Citizen
132	Denise Stock	Citizen
133	Beverly Wolfe	Citizen
134	Eleanor C. Quigley	Citizen
135	Kathleen Zagorac	Citizen
136	Judith Enons	Citizen
137	Joshua Hyzy	Citizen
138	Rebecca Bouillé	Citizen
139	Diana Lee	Citizen
140	Diana Wydareny	Citizen
141	Lynne Henry	Citizen
142	Denis Robitaille	Citizen
143	Dorothy T. Hufford	Citizen
144	Jean Slusser	Citizen
145	Janice & Mark Shelton	Citizen
146	Pam Sikorsky	Citizen
147	Dr. Ralph Minonde	Citizen
148	Billie Ann Minonde	Citizen
149	Edward T. Makuchan	Citizen
150	Charles E. Henry	Citizen
151	Connie Frank	Citizen
152	Karlice Makuchan	Citizen
153	Joseph T. Strahein	Citizen
154	Kathleen	Citizen

155	Edward B. Bortz	Citizen
156	Esther B. Uery	Citizen
157	Ray Roberts	Citizen
158	Travis Kerr	Citizen
159	Ellen Mavrich	Citizen
160	Keneth Weir	Citizen
161	Lynn A. Maust	Citizen
162	April Jackman	Citizen
163	Wanda Guthrie	Citizen
164	Tom Niggel	Citizen
165	Thomas Sevin	Citizen
166	Daniel J. Martin	Citizen
167	Margaret Wood	Citizen
168	Sara Rucosky	Citizen
169	Harriet Ellenberger	Citizen
170	Patricia Watkins	Citizen
171	Lorraine Petrosky	Citizen
172	Gerald R. Farzati	Citizen
173	Billie Miranda	Citizen
174	Janet B. Erhard	Citizen
175	Phyllis Friend	Citizen
176	Marlene Manning	Citizen
177	Carol Francese	Citizen
178	Mary Beth Kuznik	Citizen
179	John Friend	Citizen
180	Janet Irwin	Citizen
181	Dr. Richard A. Gosser	Citizen
182	Carol Darr	Citizen
183	Timothy Slonecki	Citizen
184	Stephanie Ulmer	Citizen
185	Elizabeth Donohoe	Citizen
186	Kristin Poerschke	Citizen
187	Ed & Vickie Oles	Citizen
188	Rachel Lario	Citizen
189	Bruno Petruccelli	Citizen
190	E. Roy Ward	Citizen
191	Eileen Daverse	Citizen
192	Dominick A. Daverse	Citizen
193	Ray B. Truman	Citizen

194	Louis F. Pochet	Citizen
195	Oliver J. Drumheller	Citizen
196	Lois U. Drumheller	Citizen
197	Michelle Bertini	Citizen
198	Carol Cutler	Citizen
199	Marcia L. Lehman	Citizen
200	N.B. Downs	Citizen
201	Anita	Citizen
202	Bernard Survil	Citizen
203	Cheryl Kilroy	Citizen
204	Siobhan Sullivan	Citizen
205	Gillian Graber	Citizen
206	Linda Irwin	Citizen
207	Karen Hoak	Citizen
208	Judy Irwin	Citizen
209	Don Dixon	Citizen
210	Annette Phillips	Citizen
211	Jeff Shaw	Citizen
212	Renny Sharrow	Citizen
213	Arlene Kalinowski	Citizen
214	Rich Rupert	Citizen
215	Linda Irwin	Citizen
216	Hildrid Irwin	Citizen
217	Phillip Irwin	Citizen
218	Lee Kontis	Citizen
219	William Catalina	Citizen
220	Nick Kennedy	Mountain Watershed Association
221	Larry Larese	Citizen
222	D. John Michael Atherton	Citizen
223	Cynthia Walter	Citizen
224	Dr. Gauri Kiefer	Citizen
225	David Poole	Citizen
226	Rich Stanizzo	Citizen
227	Andy Pollak	Citizen
228	Kevin Stewart	American Lung Association
229	Dr. Harvey R. Bendix	Citizen
230	Michael Kucinic	Citizen
231	Joseph Kalinowski	Citizen
232	Marcus Tonini	Citizen

233	James Rosenberg	Citizen
234	Diane K. Bendix	Citizen
235	Ann Irwin	Citizen
236	Stephanie Novak	Citizen
237	Ed Collins	Citizen
238	Matt Walker	Clean Air Council
239	Kurt Limbach	Citizen
240	Jan Kiefer	Citizen
241	Gary Allen	Citizen
242	Cindy Chopick	Citizen
243	Jack Milburn	Westmoreland Marcellus Citizens Group
244	Krissy Kasserman	Citizen
245	Janet Sardon	Citizen
246	Dr. Walt Vinoski	Citizen
247	Brian Griffith	Citizen
248	Gary Wetzler	Citizen
249	Joseph Medved	Citizen
250	Timothy Jones	Citizen
251	Sean Nave	Citizen
252	Rita McConnell	Citizen
253	Danielle Boston	Citizen
254	Denis Mazzoni	Citizen
255	Joy Ruff	Citizen
256	John Peters	Citizen
257	Paul Kanouff	Citizen
258	Connie Barlow	Citizen
259	Gregory Lang	Citizen
260	George Knack	Citizen
261	Alex Cerreti	Citizen
262	Len Negvesky	Citizen
263	Timothy Eriksen	Citizen
264	Dan Tomley	Citizen
265	Arthur Bush	Citizen
266	Del Dosch	Citizen
267	Tammy Koshar	Citizen
268	Stevan Koshar	Citizen
269	Christy Boyd	Citizen
270	Alex Richardville	Citizen
271	Jim Boyd	Citizen

272	Joe Brahosky	Citizen
273	David Kubicek	Citizen
274	Timothy White	Citizen
275	James Day	Citizen
276	Keith Ruff	Citizen
277	Mark Joseph	Citizen
278	Angela Joseph	Citizen
279	Richard Komondor II	Citizen
280	Larry Deal	Citizen
281	John Blackburn	Citizen
282	Darlene Blackburn	Citizen
283	Frank Mazzoni	Citizen
284	Diana Nightman	Citizen
285	Jan Koricich	Citizen
286	Charles Bates	Citizen
287	Tom Tunney	Citizen
288	Tim Custer	Citizen
289	Frank E. Bovalino	Citizen
290	Craig Ainsley	Citizen
291	Dylan Munshower	Citizen
292	Mark Steeves	Citizen
293	Carl Cancro	Citizen
294	John Hennen	Citizen
295	Marc Ferrari	Citizen
296	Rodney Logan	Citizen
297	Chad Morrison	Citizen
298	Robert Lovis, Jr.	Citizen
299	Nathaniel Porterfield	Citizen
300	Terry Porterfield	Citizen
301	Robert Williamson	Citizen
302	Marlene Tessler	Citizen
303	Chelsea Tessler	Citizen
304	Justin Tessler	Citizen
305	Kevin Baligush	Citizen
306	Larry Ruffner	Citizen
307	Shawn Kennedy	Citizen
308	Rodney Logan	Citizen
309	Julie Adams	Citizen
310	Justin McCallen	Citizen

311	Joseph Permuko	Citizen
312	Ray Schindley	Citizen
313	Dana Dolfi	Citizen
314	Nathan Harr	Citizen
315	Mark Campbell	Citizen
316	Morgan Lukacs	Citizen
317	Jason Gamble	Citizen
318	Pete Zoglmann	Citizen
319	Frank Bailey	Citizen
320	Janet Ritenour	Citizen
321	Carolyn Broome	Citizen
322	Matthew Gargan	Citizen
323	Dwight Hoffer	Citizen
324	Robert Carson	Citizen
325	Patricia Carson	Citizen
326	William Silvis	Citizen
327	Jon Koricich	Citizen
328	Terri Koricich	Citizen
329	Josh Berklovich	Citizen
330	Hilary Leachman	Citizen
331	William E. Glenn	Citizen
332	Owen Markle	Citizen
333	Kara Thornton	Citizen
334	Carri Daugherty	Citizen
335	Andrew Ford	Citizen
336	Carley Tobias	Citizen

COMMENTS AND RESPONSES

1. **Comment:** HEALTH, ENVIRONMENTAL, AND SECONDARY IMPACTS FROM FACILITY EMISSIONS: Concerns include potential human health effects, environmental effects and other secondary effects of emissions from the proposed Facility, including hazardous air pollutants. (Commentators No. 3 – 194, 199 – 217, 219, 222 – 224, 227 – 246)

Response: The protection of human health and the environment is fundamental to permitting under the Federal Clean Air Act and the Pennsylvania Air Pollution Control Act. The permit programs were designed and are implemented with the protection of public health and the environment as overarching goals. The discussion of the permit requirements that were carried out in this determination illustrates how the review addressed protection of public health and safety and the environment.

The Clean Air Act, which was last amended in 1990, requires EPA to set National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment, 40 CFR Part 50. The Clean Air Act identifies two types of national ambient air quality standards. Primary standards provide public health protection, including protecting the health of "sensitive" populations such as asthmatics, children, and the elderly. Secondary standards provide public welfare protection, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings. EPA has set National Ambient Air Quality Standards for six principal pollutants, which are called "criteria" pollutants: carbon monoxide (CO), lead, nitrogen dioxide (NO₂), ozone, particulate, and sulfur dioxide (SO₂). Regulated ozone precursor pollutants are nitrogen oxides (NO_x) and volatile organic compounds (VOC).

Pursuant to section 107 of the Act, air quality control regions are designated by EPA. The NAAQS designation, or attainment status, of all areas of the country is determined by EPA, and listed in 40 CFR Part 81, after evaluating actual measured data and with input by State regulatory agencies as "necessary to protect the public health and welfare".

Permitting requirements for a major facility depends on the NAAQS designation status of the area where the proposed facility will be located and the potential to emit of the proposed facility.

In accordance with 25 Pa. Code §121.1, Potential to emit (PTE) is defined as, "The maximum capacity of a source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and limitations on hours of operation or on the type or amount of material combusted, stored or processed shall be treated as part of the design if the limitation or the effect it would have on emissions is federally enforceable or legally and practicably enforceable by an operating permit condition. The term does not include secondary emission from an offsite facility."

Areas designated to be in attainment with the NAAQS are subject to Prevention of Significant Deterioration (PSD) regulations under 40 CFR Part §52.21 which requires emission limitations meeting Best Available Control Technology (BACT) requirements. Areas designated to be in non-attainment with the NAAQS are subject to New Source Review under 25 Pa. Code Chapter 127 Subchapter E

which requires the rate of emissions meeting Lowest Achievable Emission Rate (LAER) requirements. Additionally, per 25 Pa. Code Chapter 127 Subchapter E, emissions offsets shall be required for the entire net emissions increase of non-attainment pollutants at a higher ratio than potentially emitted.

In accordance with 40 CFR §52.21(b), “*Best available control technology* means an emissions limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under Act which would be emitted from any proposed major stationary source or major modification which the Administrator, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant. In no event shall application of best available control technology result in emissions of any pollutant which would exceed the emissions allowed by any applicable standard under 40 CFR parts 60 and 61. If the Administrator determines that technological or economic limitations on the application of measurement methodology to a particular emissions unit would make the imposition of an emissions standard infeasible, a design, equipment, work practice, operational standard, or combination thereof, may be prescribed instead to satisfy the requirement for the application of best available control technology. Such standard shall, to the degree possible, set forth the emissions reduction achievable by implementation of such design, equipment, work practice or operation, and shall provide for compliance by means which achieve equivalent results.”

In accordance with 25 Pa. Code § 121.1, Lowest Achievable Emission Rate (LAER) is defined as:

- “(i) The rate of emissions based on the following, whichever is more stringent:
 - (A) The most stringent emission limitation which is contained in the implementation plan of a state for the class or category of source unless the owner or operator of the proposed source demonstrates that the limitations are not achievable.
 - (B) The most stringent emission limitation which is achieved in practice by the class or category of source.
- (ii) The application of the term may not allow a new or proposed modified source to emit a pollutant in excess of the amount allowable under an applicable new source standard of performance.”

All new sources in Pennsylvania are also subject to Best Available Technology (BAT) requirements for all criteria and hazardous air pollutants. In accordance with 25 Pa. Code § 121.1, BAT is defined as “Equipment, devices, methods or techniques as determined by the Department which will prevent, reduce or control emissions of air contaminants to the maximum degree possible and which are available or may be made available.”

Emissions of air toxics or hazardous air pollutants (HAP) are regulated under the Federal National Emission Standards for Hazardous Air Pollutants (NESHAP) per 40 CFR Part 61 and Part 63 as well as Best Available Technology (BAT) requirements.

PTE defines the proposed Tenaska facility as a major facility for criteria pollutants and as a minor facility for hazardous air pollutants. The Department has determined that emission limitations, control technologies and techniques selected for this project represent LAER for NO_x and VOC; BACT for

NO₂, CO, SO₂, PM, PM₁₀, PM_{2.5}, CO_{2e} and sulfuric acid mist; and BAT for all pollutants including ammonia and hazardous air pollutants (HAPs). See pages 17 through 29 of the review memo.

Additionally, because the proposed project is defined as a major facility for criteria pollutants, Tenaska was required to use computer models to demonstrate that the emissions from this facility will not cause or contribute to a violation of any NAAQS. The use of computer models is required to be used to predict ambient air impacts under PSD requirements. These models consider background air quality, emissions from other sources, potential emissions for the proposed source, meteorological data, topography, and other relevant data.

The Department's technical review of the modeling for this project concludes that:

"Tenaska's proposed emissions will not cause or contribute to air pollution in violation of the National Ambient Air Quality Standards (NAAQS) for CO, NO₂, and PM-10, and the PSD increment standards for NO₂ and PM-10."

"Tenaska's proposed emissions, in conjunction with anticipated emissions due to general commercial, residential, industrial, and other growth associated with Tenaska's proposed facility, will not impair visibility, soils, and vegetation"

"Tenaska's proposed emissions will not adversely affect air quality related values (AQRV), including visibility, in federal Class I areas."

The proposed facility is a minor facility with respect to potential emissions of hazardous air pollutants. Regional staff evaluated the need to perform a site specific analysis in consultation with the Department's air toxics and risk assessment specialists. The Department determined that the facility's potential to emit air toxics is below levels that would pose a threat to the public.

2. **Comment:** FORMALDEHYDE EMISSIONS: Concerns include that the formaldehyde emissions from the combined cycle combustion turbines (CCCTs) were underestimated and EPA emission factors should have been used. (Commentators No. 2, 3, 199 – 213, 223, 238)

Response: The Department has determined that the emission factor used is representative for the proposed units. The formaldehyde emission factor used by Tenaska was based on actual stack test data from sites using units that are similar in size and configuration to those proposed by the applicant. EPA emission factors (found in EPA's AP-42 publication) are generic values based upon a wide range of sources within a source category. Site specific emission data for similar units are more representative of expected emission rates and are preferred over generic emission factors like those in AP-42. The emission factor for formaldehyde emissions for gas turbines in AP-42 (Table 3.1-3) reflects emissions from uncontrolled gas turbines and is not representative of Tenaska's CCCTs which will control formaldehyde emissions via the use of catalytic oxidation.

The plan approval includes a short term formaldehyde limit from the CCCTs, stack testing requirements, and emission reporting to ensure compliance with the emission limitations. The Department will add a facility-wide tpy formaldehyde limitation as a condition of this Plan Approval to verify that the facility is a minor source with respect to HAP emissions.

3. **Comment:** MODELING: Concerns regarding the validity of Tenaska's air modeling. (Commentators No. 3, 199 – 213, 219, 223, 228, 229, 234)

Response: The Department's Air Quality Modeling Section reviewed the modeling portion of the plan approval application and concluded that Tenaska's air quality analysis satisfies the requirements of the PSD rules and is consistent with the U.S. Environmental Protection Agency's (EPA) *Guideline on Air Quality Models* (40 CFR Part 51, Appendix W) and the EPA's air quality modeling policy and guidance. See pages 29-30 of the review memo. See also the response to Comment No. 1. The EPA had no comments on the applicant's modeling or the Department's evaluation.

4. **Comment:** GREENHOUSE GASES: Concerns include properly accounting for greenhouse gas emissions; the life-cycle impacts of the use of natural gas; and natural gas, which is mostly methane, having significant impact on accelerating climate change. (Commentators No. 3 – 155, 227)

Response: Under the Clean Air Act's regulatory program, which the Department implements, Greenhouse Gases (GHGs) are evaluated under PSD. See response to Comment 1, above. The provisions regulating GHGs were properly considered through this permit review. Potential GHG emissions were determined by the applicant based upon the current methodologies (i.e. appropriate up to date calculation factors for GHGs, including methane). See 40 CFR Part 98. The Department has reviewed the analysis and has determined it to be appropriate under the PSD requirements. See pages 31 and 32 of the review memo. Methane will primarily be combusted and therefore not emitted; methane emissions have been estimated to contribute approximately 0.14 % to facility-wide CO₂e emissions.

5. **Comment:** PUBLIC PARTICIPATION PROCESS: Concerns include dissatisfaction with the Department's public participation process for this project and extension of the public comment period. (Commentators No. 3, 215, 219, 220, 222, 223, 229 – 231, 234, 236, 238)

Response: In accordance with 25 Pa. Code § 127.44(f)(2), notice of intent to issue the plan approval was published in the *Pennsylvania Bulletin* on December 20, 2014, beginning the 30-day public comment period.

In accordance with the Department's Environmental Justice Participation policy, document ID 012-0501-002, the Department expanded its public participation activities which included enhanced community outreach by producing and distributing information sheets regarding the proposed project and holding a public meeting on January 21, 2015. The plan approval application was also made available for review at the South Huntingdon Township Municipal Building, in addition to being available at the Department's Southwest Regional Office.

Following the January 21, 2015, public meeting, the Department elected to hold the second public meeting and hearing on February 11, 2015. This meeting was held in response to comments received from the public expressing dissatisfaction with the opportunities for the Department to provide information to the public, and to accept and consider information from the public regarding the proposed facility at the first meeting. Accordingly, an expanded format that allowed for more information exchange was used on February 11, 2015. In accordance with 25 Pa. Code § 127.49(c), the period in which written comments were accepted was extended until February 23, 2015.

6. **Comment:** EMISSION REDUCTION CREDITS (ERC): There is not a sufficient amount of emission reduction credits available in the nonattainment area. (Commentators No. 3, 199 – 213)

Response: The planning required for non-attainment areas is part of the Air Quality Management (AQM) process. This process relates air quality to emissions data in order to determine the reductions and control measures needed to meet the NAAQS. The AQM approach translates measured air quality problems into a regulatory clean air plan, or State Implementation Plan (SIP). The SIPs include control measures that "clean the air" and meet the NAAQS level by the area's attainment date.

The Clean Air Act (CAA) sets out specific requirements for a group of northeast states that make up the Ozone Transport Region (OTR). States in this region are required to submit a SIP and install a certain level of controls for the pollutants that form ozone, even if the states, or portions of the states meet the ozone standards. The OTR ozone precursor emissions in any of the OTR states are related to ozone throughout the region.

The CAA contains specific requirements governing requirements for nonattainment areas and for all areas included in the OTR. For certain requirements, EPA issues regulatory interpretations of required SIP elements in the Code of Federal Regulations (CFR) part 51. EPA has also issued guidance in the form of "General Preambles" and through policy documents that can be found on the EPA website.

In accordance with 25 Pa. Code §127.205(4) and §127.210, Tenaska is required to purchase ERC, which meet 25 Pa. Code §127.207 requirements to offset the NO_x and VOC emission increases associated with this project at a ratio of 1.15:1. ERC are not required for any other non-attainment pollutants because the PTE is below the major source thresholds. The plan approval includes emission limitations, testing, and reporting to ensure the thresholds are not exceeded.

In accordance with 25 Pa. Code §127.208(10), "An owner or operator of a facility shall acquire ERCs for use as offsets from an ERC generating facility located within the same nonattainment area." The entire Commonwealth is considered a moderate ozone nonattainment area for NO_x and VOCs because Pennsylvania is a jurisdiction in the OTR established by operation of law under Section 184 of the Clean Air Act. As such Tenaska may obtain NO_x and VOC ERC from anywhere in Pennsylvania, as well as states within the OTR that have reciprocity agreements with the Commonwealth in accordance with 25 Pa. Code §127.208(5).

In accordance with 25 Pa. Code §127.208(8), "If the facility proposing new or increased emissions demonstrates that ERCs are not available in the nonattainment area where the facility is located, ERCs may be obtained from another nonattainment area if the other nonattainment area has an equal or higher classification and if the emissions from the other nonattainment area contribute to an NAAQS violation in the nonattainment area of the proposed facility. In addition, the requirements of paragraph (3) shall be satisfied."

In any event, the applicant is required by plan approval condition to obtain a sufficient quantity of ERC, and incorporate them into the Plan Approval, prior to commencing operation of the facility. Per 25 Pa. Code §127.206(d)(2), the facility is prohibited from commencing operation of the facility "until the

required emissions reductions are certified and registered by the Department.” Incorporation of the stated ERC will require a modification of this Plan Approval at the appropriate time.

7. **Comment:** ALTERNATIVE ANALYSIS: Alternatives to natural gas/fossil fuel electricity generation should be considered including electricity generation utilizing renewable energy. More detail should be provided regarding the alternative analysis. (Commentators No. 3, 216, 227, 229, 234, 243)

Response: In accordance with 25 Pa. Code §127.205(5), Tenaska was required to conduct an analysis of alternative sites, sizes, production processes (which included other fossil fuels as well as renewable energy sources), and environmental control techniques for the proposed facility, which demonstrates that the benefits of the proposed facility significantly outweigh the environmental and social costs imposed within this Commonwealth as a result of its location, construction or modification. A summary of the Department’s evaluation is included on pages 15 through 17 of the review memo. Renewable energy processes were removed from consideration because they could not produce adequate amounts of electrical power needed to meet the expected energy demands and Pennsylvania lacks the appropriate geographic and climatological conditions necessary to provide reliable electrical power when needed at this capacity. Other fossil fuels were removed from consideration based upon cost and the level of environmental impact compared to natural gas.

The Department has determined the requirements of 25 Pa. Code § 127.205(5) have been satisfied. The Department’s technical review and development of plan approval conditions are specific to the category of source proposed by the applicant.

8. **Comment:** INCOMPLETE APPLICATION: Concerns include that the application does not contain sufficient emission details for independent experts and the DEP to check Tenaska’s application and that the public has the right to review all aspects of the application. (Commentators No. 199 – 213)

Response: The final application submitted by Tenaska satisfied the specific requirements identified in the Department’s regulations and was of sufficient amount and quality for the Department to evaluate the air pollution effects and compliance with regulatory requirements. Required content for a plan approval application is set forth in 25 Pa. Code §127.12. Additional application requirements are included in 40 CFR 52.21 because this project is subject to PSD.

On December 6, 2013, the Department determined the application was administratively complete and sent the applicant an administrative completeness determination letter. The Department also determined the application contained the appropriate technical information to ensure the proposed project meets the requirements of 40 CFR Part 52.21 (related to Prevention of Significant Deterioration), 25 Pa. Code Subchapter E (related to New Source Review), and Best Available Technology. An electronic copy of the final Plan Approval and Comment and Response Document will be available on the Department’s website. A copy of the final Plan Approval, Comment and Response Document, and complete plan approval application will be available as part of the public file for this plan approval at the Department’s Southwest Regional Office.

9. **Comment:** BENZENE: The DEP did not evaluate acute exposure to extremely hazardous substances, e.g. benzene and formaldehyde. Table 6 of the DEP Review Memo lists benzene at 2.4 ppm for a 3 hour average. (Commentators No. 199 – 213, 233)

Response: The commentators have misinterpreted Table 6 of the review memo which lists the CCCT VOC limit of 2.4 ppm. This is not a benzene limitation. Potential benzene emissions from the facility are conservatively estimated to be less than 1 tpy. In addition, actual benzene emissions are expected to be less since this calculation does not account for control by the required oxidation catalyst. Based upon the level of potential emissions, the Department determined that further evaluation is not required for benzene. See also the responses to Comments No. 1 and 2.

10. **Comment:** COMBINED EMISSION LIMITS: The DEP did not evaluate harm from VOCs attached to particulates (PM-10 and PM-2.5). DEP plans to allow Tenaska to annually release VOC, PM-10, and PM-2.5 as if they are separate health risks. DEP must revise limits because these pollutants combine such that particulates carry toxins in VOCs into the lungs and bloodstream. (Commentators No. 199 – 213)

Response: The plan approval appropriately includes separate limits for the listed pollutants. Compliance with these limits will be verified by stack testing using appropriate test methods for each pollutant, as approved by the Department's source testing section. The CCCTs will only combust pipeline quality natural gas limiting potential facility-wide PM emissions to below the major source thresholds. Furthermore the applicant has conservatively estimated that all PM is PM₁₀ and PM_{2.5}. The applicant has demonstrated with modeling that potential PM₁₀ emissions will not cause or contribute to air pollution in violation of the NAAQS and the PSD increment standards for PM₁₀. The Department determined that the facility's potential to emit air toxics is below levels that would pose a threat to the public. See the response to Comment No. 1.

11. **Comment:** WATER: Comments regarding water quality and the NPDES permit. (Commentators No. 4 – 213, 220, 229, 231, 234 – 237, 239 – 246)

Response: Discharges and the use of water are not part of the review of the air quality plan approval application. Please refer to NPDES file number PA0254771.

12. **Comment:** PROPERTY VALUES: Comments regarding the negative effect of the proposed project on nearby property values. (Commentators No. 214 – 217, 219, 222, 223, 227, 229 – 235, 237, 240)

Response: Concerns about the effect of the proposed project on property values is beyond the scope of the Department's authority and its review of the plan approval application. See also response to Comment No. 15.

13. **Comment:** SHALE GAS/PIPELINES: Comments regarding Marcellus shale and pipeline safety. (Commentators No. 215, 223, 227, 229, 231, 234)

Response: The natural gas combusted at the facility will be supplied by interstate pipelines and is not necessarily from shale gas wells in the immediate area. The Natural Gas Pipeline Safety Act of 1968 authorizes the U.S. Department of Transportation to regulate pipeline transportation of flammable, toxic, or corrosive natural gas and other gases. Pipeline and Hazardous Materials Safety Administration (PHMSA) develops and enforces regulations for the safe, reliable, and environmentally sound operation

of the nation's 2.6 million mile pipeline transportation system.¹ The concerns about hydraulic fracturing, shale gas development, and pipeline safety are beyond the scope of the Department's review of the plan approval application for this facility, as defined in 25 Pa. Code §121.1.

To ensure the facility is operated as proposed in the application, the plan approval includes conditions requiring daily inspection for any visible stack emissions, fugitive emissions, and any potentially objectionable odors at the property line, records of those inspections, and records of any corrective actions taken as a result of the inspections. The plan approval also requires malfunction reporting as detailed in Section C Condition #015.

14. **Comment: SUPPORT FOR THE PROJECT:** Comments include support of the use of natural gas, successful development of 16 power plants by Tenaska, providing safe, reliable and environmentally responsible electricity to many communities, and bringing jobs, tax revenue and a boost to local economy. (Commentators No. 218, 221, 225, 226, 228, 247 – 336)

Response: The Department acknowledges all those who have submitted comments in favor of the project.

15. **Comment:** Article 1, Section 27 of the Pennsylvania Constitution – The plant would violate the commenter's constitutional right to clean air, pure water, and to the preservation of the natural, scenic, historic and esthetic values of the environment. (Commentator No. 215)

Response: The DEP's issuance of PA-65-00990C is consistent with applicable statutory and regulatory requirements. These requirements, as well as other considerations undertaken by DEP including public comments as described elsewhere in this document (including but not limited to, response to Comment 1, 13), and the terms and conditions of the permit, satisfy Article I Sec 27 of the Pennsylvania Constitution.

16. **Comment:** What is the capacity and function of the storage tanks? Will there be a fuel oil tank for use when natural gas for power generation is unavailable? (Commentator No. 231)

Response: Two diesel storage tanks (5,000 and 1,000 gallon capacities) have been proposed for the emergency diesel engines. The proposed facility also includes three (3) 1,000 gallon lube oil storage tanks (one for each combustion turbine and one for the steam turbine), and one (1) 30,000 gallon anhydrous ammonia storage tank for the SCR. The CCCTs proposed for commercial power generation will combust natural gas only. The diesel-fired generator will be used only as backup and be limited to 500 hours on a 12-month rolling basis.

17. **Comment:** Comments regarding concerns over acid rain. (Commentator No. 216)

Response: The proposed facility will be subject to the Acid Rain Program (ARP) (see page 8 of the review memo). Per 40 CFR Section 72.6(a)(3)(i), the ARP is designed to reduce emissions of sulfur dioxide (SO₂) and nitrogen oxides (NO_x), the primary precursors of acid rain. Compliance with all applicable requirements of 40 CFR Parts 72-78 related to the ARP is required by Section C Condition

¹ <http://www.phmsa.dot.gov/pipeline/naturalgas>

#023 of the draft plan approval. The CCCTs proposed for power generation will combust only natural gas which is typically low in sulfur and the plan approval limits sulfur content of the gas. Further, NOx emissions will be required to meet LAER requirements and be offset. See also Response to Comments No. 1 and 6.

18. **Comment:** The emergency diesel generator should be listed in the plan approval based on the engine capacity/rating rather than the generator rating. (Commentator No. 3)

Response: References to the capacity of the emergency diesel engine to power the emergency generator will be changed from 2,000 ekW to the engine's rating of 2,500 kW. This does not affect the emission limits or estimations for the proposed unit

19. **Comment:** The yearly hour limitation for the duct burners should be listed on a 12-month rolling basis. (Commentator No. 3)

Response: The condition in the final plan approval limiting the hours of operation of the duct burners will be clarified to be on a 12-month rolling basis.

20. **Comment:** It is unclear if the records of actual heat input for the CCCTs are fuel based or based on a continuous emission monitoring system since there is no specific requirement on fuel monitoring. (Commentator No. 3)

Response: Fuel monitoring and recordkeeping is required by Section C Condition #012(b) of the draft plan approval. This information will be used to calculate the actual heat input.

21. **Comment:** The applicant must provide the specific make/model information for all of the proposed equipment. (Commentator No. 2)

Response: The application contains certain design and capacity criteria that the applicant must meet to enable the facility to meet the proposed emission limitations. This information is sufficient to determine the operating characteristics, emission characteristics, and expected control performance of each of the emission units proposed for the facility.

Condition #018 of Section E Group G001 requires the applicant to submit the specific manufacturer's information for the CCCT's control devices (SCR and oxidation catalyst) within 30 days of final selection. This condition has been revised to include all proposed sources and control devices. This information will be reviewed for consistency with Plan Approval requirements.

22. **Comment:** EPA's RACT/BACT/LAER Clearinghouse (RBLC) database lists several combined cycle gas turbines subject to more stringent BACT emission limits and averaging times than the current proposed BACT and LAER limits for the Westmoreland Generating Station. Unless the applicant can demonstrate that these lower RBLC emission limits do not constitute BACT or LAER, the final plan approval must incorporate more stringent limits and averaging times comparable to those of the RBLC. (Commentator No. 2)

Response: The RBLC is a compilation of emission limits placed into Air Quality authorizations across the United States and is used as a resource to assist regulators in determining the appropriate emission limits for a particular source category. Listing in the database does not however establish a particular limit as BACT or LAER. After delving into the facts behind several entries in the RBLC database, the Department determined that the listed emission limits did not establish BACT for the proposed CCCT. According to the Comprehensive Report on the RBLC for the Calpine Turner Energy Center (OR-0046), the “Facility will never be built. Did not receive a site certification from the Oregon energy facility siting council.”² Accordingly, there is no evidence that these limits could be achieved.

The limits for IDC Bellingham (CA-1050) are for a 170 MW turbine, which is substantially smaller than the proposed units and have not been verified by performance data.

Similarly, the Avenal Energy Project (CA-1192) also has not been constructed.

23. Comment: Section D / Source ID: 031 (Aux Boiler) / Conditions #004, 005, & 006

The applicable NSPS for the aux boiler is Db, not Dc, as the boiler will be greater than 100 MMBtu/hr. Applicability of Subparts Db and Dc is correctly identified on pages 3 and 4 of the Review Memo. (Commentator No. 1)

Response: The Department agrees and will incorporate the appropriate conditions of 40 CFR Part 60 Subpart Db in the final plan approval.

24. Comment: Section E / Group Name: G001 (CCTs) / Condition #002(J)(1)

Tenaska wishes to confirm the 876 lbs CO₂/MWh limit applies only at baseload, un-fired (i.e., no duct burners) operating condition. Compliance will be verified via the average of three 1-hr stack tests every 25,000 operating hours at a baseload, un-fired condition. (Commentators No. 1, 3)

Response: Tenaska proposed a limit of 876 lbs CO₂/MWh (based on gross electrical generation) that would apply only at baseload, un-fired (i.e. no duct burners) operating conditions. Consistent with other recent plan approvals for similar sources, the final plan approval will instead include a limit of 1,000 lbs CO₂/MWh (gross) on a 12-operating month annual average basis. This limit incorporates all operating modes including startup, shutdown, normal operation, and duct burner operation. This is also consistent with the proposed NSPS from 40 CFR Part 60 Subpart TTTT – Standards of Performance for Greenhouse Gas Emissions for Electric Utility Generating Units. The CO₂e tpy limits will remain unchanged from the draft plan approval.

25. Comment: Section E / Group Name: G001 (CCCTs) / Condition #009

Tenaska requests stack testing only be required for PM (filterable and condensable) and assume all of it is both PM₁₀ and PM_{2.5}. (Commentator No. 1)

²<http://cfpub.epa.gov/rblc/index.cfm?action=Reports.ReportComprehensiveReport&ReportFormat=txt&CFID=27924629&CFTOKEN=51287937&jsessionid=cc3031a334eb9fa045edc596652633a7d1c7>

Response: Since the emission calculations and limits in the plan approval assume all PM (filterable and condensable) is PM_{2.5}, the Department will only require testing for total PM (filterable and condensable). As PM_{2.5} is a subset of the total PM, this will represent a conservative over estimate and result in a more restrictive determination of actual PM_{2.5} emissions. Test results will be used to demonstrate compliance with the plan approval limits and to ensure the facility remains below the major source threshold for PM_{2.5}, and corresponding Plan Approval emission limitation, for the purposes of NNSR.

26. **Comment:** Tenaska requests to reduce the frequency of testing for VOC, formaldehyde, and PM from every two years to once per Title V operating permit term. (Commentator No. 1)

Response: The Department has determined that to demonstrate compliance with the emission limits for these pollutants, testing every two years is appropriate. This is consistent with other recent plan approvals for the same source category.

27. **Comment:** Tenaska requests the use of continuous fuel flow measurement and an F-factor as allowed by 40 CFR Part 75 Appendix D to determine exhaust flow rate instead of CEMS for volumetric flow rate. (Commentator No. 1)

Response: The condition will be revised to ensure consistency with applicable regulatory requirements.

28. **Comment:** Tenaska requests to remove the pressure differential and temperature monitoring requirements for the turbine control devices. (Commentator No. 1)

Response: The requirement to monitor these parameters will be removed from the final plan approval. In instances where control devices (i.e. catalysts) are required but CEMS is not, monitoring physical parameters across the catalyst is used as a method to determine the operational effectiveness of the device. For the proposed project, the applicant is required to install CEMS for NO_x and CO (as well as ammonia). Operation of the CEMS for these pollutants indicates the SCR and oxidation catalyst effectiveness. CEMS monitoring for CO is representative of overall oxidation catalyst effectiveness and is therefore also a good indicator of VOC control.

Furthermore, since VOC emissions exceed the major source threshold, the permittee will be required to submit a complete Compliance Assurance Monitoring (CAM) plan for the oxidation catalysts pursuant to 40 CFR Sections 64.1 through 64.10 with the Part 70 (Title V) operating permit application.

If, at any time, the Department has cause to believe that air contaminant emissions from the sources listed in this plan approval may be in excess of the limitations specified in, or established pursuant to this plan approval, the permittee may be required to conduct test methods and procedures deemed necessary by the Department to determine the actual emissions rate. Such testing shall be conducted in accordance with 25 Pa. Code Chapter 139, where applicable, and in accordance with any restrictions or limitations established by the Department at such time as it notifies the company that testing is required.

29. Department initiated revision – Section C Condition #024 of the draft plan approval will be revised as follows:

~~The permittee shall comply with all applicable requirements under 40 CFR Part 96 related to the Clean Air Interstate Rule (CAIR) and 40 CFR Part 97 related to the Cross State Air Pollution Rule (CSAPR).~~

The permittee shall comply with the cross-state air pollution rule (CSAPR) requirements (40 CFR Part 97, Subparts AAAAA-DDDDD) by the compliance date specified in 40 CFR 97, Subparts AAAAA-DDDDD, as amended.

