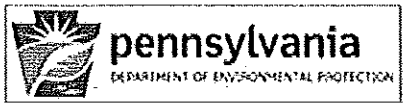

Commonwealth of Pennsylvania
Department of Environmental Protection
Air Quality Program
Northcentral Regional Office

En-Tire Logistics of Milton PA, LLC
White Deer Energy Project
Plan Approval 60-00022A

Comment and Response Document

September 27, 2013

Department of Environmental Protection

www.depweb.state.pa.us

On March 19, 2012, EN-TIRE Logistics of Milton PA, LLC (ETL or EN-TIRE) submitted a plan approval application to the Pennsylvania Department of Environmental Protection (Department or PA DEP) for the proposed construction and operation of a tire-derived fuel/natural gas-fired combustion unit to be located on the property of the NGC Industries, LLC (NGC) facility located in White Deer Township, Union County. Emissions from the proposed project would be controlled by a dry scrubber, fabric filter, oxidation catalyst, selective catalytic reduction, and a wet scrubber. The project also includes a dry sorbent handling and storage system, a cooling tower, and a 10,000 gallon ammonia storage tank. The proposed ETL facility would combust tire-derived fuel (TDF), using natural gas as a backup fuel, to produce up to 125,000 lbs/hr of steam, which it would sell to NGC under contract, in addition to 7 megawatts of electricity.

As the ETL facility would be located on the property of, and supporting, the NGC facility, the proposed project is considered a modification of the NGC facility, and the emissions from both facilities will be aggregated. The potential emissions of Greenhouse Gases (GHGs) from the proposed project exceed the significant emissions rate. Therefore, the proposed facility will be a major modification and subject to the federal Prevention of Significant Deterioration (PSD) requirements, including the requirement to utilize the Best Available Control Technology (BACT). The potential emissions of all other air contaminants, including nitrogen oxides (NO_x), sulfur oxides (SO_x), carbon monoxide (CO), particulate matter (PM), volatile organic compounds (VOCs) are below their respective significant emissions rates. Additionally, ETL submitted, and the Department reviewed, an inhalation pathway risk assessment which demonstrated that the short and long term risks posed by the emissions from the proposed project to not exceed the Department's inhalation risk assessment benchmarks.

On March 30, 2013, the Department published in *The Pennsylvania Bulletin* its intent to issue Plan Approval 60-00022A to EN-TIRE for the proposed project initiating a 30-day public comment period. At the Department's direction, ETL published a similar notice in *The Daily Item*, a newspaper of general circulation in Union County, on April 9, 10, an 11, 2013. As several requests for a hearing had on this project had already been received prior to publication the public notices, based on the demonstrated interest and concern from the local community, the Department decided to conduct a public hearing/meeting. The Department's notification of a public hearing/meeting was published simultaneously with its notice of intent to issue on March 30, 2013. The hearing on the project was held at the Warrior Run Area Fire Department on May 2, 2013. While 25 Pa Code § 127.49(c) provides 10 additional days to submit testimony for persons unable to attend the hearing, at the request of the public and local and county elected officials, the Department extended the duration of this period to July 5, 2013. During the public comment period, and at the public hearing, the Department received more than four hundred comments from the general public, elected officials, and environmental advocacy groups.

This document summarizes both the public testimony given at the public hearing along with written comments received via letter or email during the public comment period. The Department's responses to the comments are mainly focused on concerns directed at the proposed project. The summaries of the comments are not intended to be a complete description of each individual's comment or comments, but rather provide the context for the Department's response. Each comment is available in its entirety at the DEP Northcentral Regional Office, and may be accessed by any person wishing to review those comments by scheduling a file review with the Department.

List of Commentators (Public Hearing)

1. Larry Seibert
2. William Stropnicky
3. Susan Laidacker
4. Charles Sackrey
5. Dave Laidacker
6. Reverend Leah Schade
7. Rich Smith
8. Lana Gulden
9. A.B. Price
10. Sally Mathews
11. Mary Russin
12. Linda Potter
13. Leroy Miller
14. Michael Blumenthal
15. Dave Jacobson
16. Mary Jane Hyde
17. Derek Straub
18. Melinda Bowersox
19. Kevin Stewart
20. Barbara Jarmoska
21. Trey Casimir
22. Mary Sikora

List of Commentators (Letters)

23. Sheila Lunger
24. Tony Donato
25. Mrs. John Hefty
26. Leah Tewksbury
27. John Tewksbury
28. James T. Goodwin
29. Kathleen A. Goodwin
30. Miriam B. Naugle
31. Amy L. Rickert
32. Debra L. Heater
33. Karen Y. Houser
34. Stacy Wolfe
35. Dr. Helen Morris-Keitel
36. Dr. Peter Morris-Keitel
37. Michael Derman
38. Veris Yordy
39. Crystal Yordy
40. Dennie Ladd
41. Daniel D. Aunkst
42. Penn Garvin
43. Ann Leach
44. Edward L. Johnson
45. Sandra F. Johnson
46. Ann Longanbach
47. James D. Edwards
48. James R. White
49. Sara Jane Aucker
50. Albert J. Golfieri
51. Samuel E. Cooper
52. Mary H. Cooper
53. Robert Lucas
54. Thomas R. Groninger
55. Douglas Sturm
56. William Hartline
57. R. Craig Nielsen, M.D.
58. Patricia Parker

59. Bernita Wert
60. Mary Beth James
61. A.B. Price
62. Flora B. Price
63. Joe Detelj
64. James H. Turnure
65. Rev. Daishin McCabe
66. Bill Bachman
67. Loretta Bachman
68. William Simpson
69. Mary Jane Hyde
70. Walter H. Everett
71. Judith C. Marvin
72. Carol Parowski
73. Eleanor Streplin
74. Diane Turner
75. Arden Miller
76. Brice Brown
77. Herb Marsh
78. Viv Marsh
79. Genevieve Jane Scheuck
80. Kathleen Gasaway
81. Trey Casimir
82. Cameron W. Reichen
83. David M. Jacobson
84. Nancy Kimball
85. Jeff Kimball
86. Nelle Fairchild Rote
87. Gwen Hock
88. Tammy Rauch
89. Marjorie B. Kuhns
90. Lois Svard
91. Peter Karl Kresl
92. Theodore R. Menges
93. Ruth E. Geeral
94. Nancy L. Beideman
95. David L. Beideman
96. Stacy Richards
97. Sarah Bell
98. Linda Potter
99. Jaxi Rothman
100. Rachel Schade
101. Nancy Horn
102. Catherine Jacobson
103. Shari Jacobson
104. David Felicio
105. Deborah A. Winder
106. Pete Mackey
107. Tasha Hall
108. Elizabeth O. Greiff
109. Theodore R. Menges
110. Eugenia Gerdes, Ph. D.
111. Shirley I. Menges
112. Margaret Wismer
113. John McCluskey
114. Ruth W. Drozin
115. Leanne S. Belletti
116. Ronald J. Belletti
117. Kay Golfieri
118. Charles Morgan
119. Mary Morgan
120. Devin Beaver
121. Patrick Murphy
122. Rev. Leah Schade
123. Jack Nentwig
124. Matt Brouse
125. Margarita Torres
126. Robert E. Sweigart
127. Mabel Sweigart
128. Gladys M. Metzger
129. Diandra Turner
130. Wesley K. Metzger
131. Tina Owen
132. Carl Albertson
133. Andrea Turner

134. Craig Burger
135. Catharine M. Nentwig
136. Rayna L. Fisher
137. Clarence C. Engle
138. Tyree Hornberger
139. Ron Girton
140. Chas Bailey
141. Sharon Showers
142. Roger Rothman
143. Ethel I. Gutshall
144. Gloria Slonaker
145. Richard E. Smith
146. Judy S. Everitt
147. Emma L. Gearhart
148. Anthony Toluba
149. Betty Jane Maker
150. Mary Hague
151. Alex Wilce
152. Amy Gronlund
153. Renna Mae Young
154. Vickie Eberhart
155. Glenn Eberhart
156. Glenn R. Jacobson
157. Sarajane Snyder
158. Norah Hollenbach
159. Wendy Hollenbach
160. Sarah E. Bell
161. Wayne Burrows
162. Vickie Burrows
163. Julianna Cooper
164. Jeanne Johnson
165. Don Joint
166. Shirley McPherrin
167. Edward McPherrin
168. Jane Mertz
169. Garrett Baker
170. Jennifer Sheaffer
171. Annette K. Baker
172. Michael J. Baker
173. Kathy Guffey
174. Pam Packer
175. Lisane Snyder
176. Elwood E. Brown
177. Sandra L. Brown
178. Melvin G. Baker Jr.
179. Gwendolyn A. Murphy
180. Edward. L Snyder
181. Robert Swartz
182. Mary C. Baker
183. Trudy Swartz
184. Felicia Swartz
185. Carol J. Troxell
186. Wendy Engleman
187. James Schade
188. David R. Eyster
189. Rose E. Eyster
190. Jack Tyson
191. Donna L. Wenrick
192. Alice Marshall
193. John Lyons
194. Linda J. Smith
195. Sandra L. Klingler
196. Michael A. Klingler
197. Kimberly K. Rossi
198. June Saxon
199. Jared Saxon
200. Bryan Nunez
201. Corey J. Wenrick
202. Daniel Bucharski-Eck
203. Mia Hostrander
204. Cathy Durham
205. James Durham
206. Betty Thomas
207. Willie P. Thomas
208. Sharon L. Bond

209. Jarob Bond
210. Traci Pawling
211. Bonita G. Brown
212. Carissa Pawling
213. Scott E. Pawling
214. Major Andrew Onufrak
215. Ginger Lahr
216. Shane R. Bastress
217. Debra Rider
218. Dmitry Nikochev
219. Yevgeniy Ivankin
220. Roger F. Wise Jr.
221. Kelly Gibson
222. Alyssa M. Wise
223. Danielle N. Smith
224. Bryanna Wise
225. Hailee Smith
226. Shelly A. Wise
227. Regis Bingham
228. Henry W. Mitchell
229. Chris Smith
230. Rebekah Mitchell
231. Michelle J. Ward
232. James R. Ward
233. Greg Leitzel
234. Alicia Leitzel
235. Joyce Williams
236. Alice Winders
237. Ciera Williams
238. James Thomas
239. Jennifer Thomas
240. Joyce Newton
241. Rev. Shirley Strickland
242. Sterling Bristol
243. Richard Russell
244. Samantha Russell
245. Ashley Metzger
246. Cassandra Anspach
247. Kyle Anspach
248. Sue Hassenplug
249. Bonnie L. Wells
250. Paul D. Hells
251. Geneive E. Henry
252. Sandra Robinson
253. Ed Williams
254. Robert Rothermel
255. Penny Newcomer
256. Rose M. Aikey
257. Harold J. Aikey
258. Jeremy D. Buck
259. Alisha M. Buck
260. Felix Garcia
261. Azel J. Benfer
262. Ruth Ortiz
263. Patsy Truckenmiller
264. Lester Miller
265. Sherri Mason, Ph. D.
266. Derek J. Straub, Ph. D.
267. Jack D. Miller
Sierra Club
268. Kevin Stewart
American Lung Assn.
269. Kurt J. Weist
PennFuture
270. White Deer Township
Supervisors
271. Kathleen Cox, EPA

List of Petitioners

1. Elizabeth T. Beiler
2. James T. Whyne Jr.
3. Carol Whyne
4. Hope W. Kopf
5. Susan Lloyd
6. Sharon Ellis
7. Michele Wert
8. Aline Mabon
9. James Mabon
10. Barb Sullivan
11. John L. Sullivan Jr.
12. Judith E. Haskell
13. Gordon Haskell
14. Linda Potter
15. JoAnn Cooper
16. Sue Ellen Feuerstein
17. Nikki Young
18. Patricia L. Driver
19. Sabrina Kirby
20. Lynn M. Hoffman
21. Abe Feuerstein
22. Steven Styers
23. Karen J. Russell
24. Nichole C. Bieber
25. Douglas G. Potter
26. Kari S. Keener
27. Judy Yeager
28. Ruth Steck
29. John P. Barrows
30. LuAnn Potter
31. Cristy Harding
32. Kimberly J. King
33. David Young
34. Norma J. Reich
35. Barbara L. Sundin
36. Abby Nickelsen
37. Helen B. Nickelsen
38. Richard P. Nickelsen
39. Lisa Rose Trego
40. Morgan Allyn
41. Kathy Kristjanson-Gural
42. Jordi Comas
43. Shari Jacobson
44. Theodore R. Menges
45. Shirley I. Menges
46. Nani Randall
47. Wayne E. Weaver
48. Robert T. Stondt
49. David M. Hontz
50. Alfred M. Reeves
51. Lyle W. Horn
52. Bill Higgins
53. Mindy Foresman
54. Nancy H. Horn
55. Lynne M. McCaffery
56. Elizabeth S. Miller
57. Steve L. Stowell
58. Arwen Foreman
59. Sheila Stine
60. David Kelly
61. Carol A. Parowski
62. Janis Lundberg
63. Charles B. Fry
64. Darinda Fisher
65. Jessica Charles
66. Betsy Henkelman
67. Nicole Faraguna
68. Mary Ptaszynski
69. Rebecca Boucher

70. Steven W. Shaffer
71. Sandra Minnier
72. Carolyn Rheam
73. Todd Wolever
74. Matthew Lamparter
75. Miranda McGinnis
76. David Hall
77. Heidi Hall
78. Jack D. Miller
79. Richard E. Smith
80. Mary Jane Hyde
81. Rachel McCloskey
82. Lara Wasileski
83. Sue Laidacker
84. Carol Spaid
85. Dave Laidacker
86. Tonya Miller
87. Zora Unangst
88. Roscoe McCloskey
89. Daniel G. Dincher
90. Jody K. Horn
91. Anna Brown
92. James Shields
93. Dolores Knepp
94. Emily Geist
95. Tammy C. Tobin
96. Lana L. Miller
97. Jess Bekampis
98. S. Christy Rupert
99. Jennifer Blanchard
100. Nichole Stickley
101. Hunter Brown
102. Michael Miller
103. Brian E. Brown
104. Shelly Dincher
105. Ruth Erb
106. Patricia D. Kline
107. Jeff Franz
108. Jatoya Troutman
109. David Rovnyak
110. Mary Young
111. Cassie B. Stafford
112. Alicia Knouse
113. Darlene Poust
114. Than Mitchell
115. Margaret Mitchell
116. Verlaine Shaw
117. Roy Fontaine
118. Lana Gulden
119. Melanie Brown
120. Patricia M. Jenkin
121. Casey Coffman
122. Corey Young
123. Frances Davis
124. Anthony Stafford
125. Dave Vernun
126. Karen Reish
127. Thea Markell
128. John Bostwick
129. Patricia T. Fisher
130. Joe Detelj
131. Farida Zaid
132. Nancy Merritt
133. Lori Wolfe
134. Jessica Stine
135. Carol Corey
136. Lauren Schum
137. Nancy Wottrich
138. Courtney Lauver
139. Jeremy Schwartz
140. Judith H. Brandt
141. Mitchell Hart
142. Jesse North
143. Ezra Buonopane
144. Bill Switala

145. George Smith
146. David Keck
147. Ken Landis
148. Paul R. Parowski
149. Ann Longanbach
150. Stacy Hind
151. James D. Seksinsky
152. Katherine Coup
153. T. Keith Williams
154. Patricia Dudek
155. Elizabeth I. Williams
156. Jacqueline Wottrich
157. Rachel Schade
158. Susan Blake
159. Jill Amirpashaie
160. Jacqueline Lauer
161. Siavash Amirpashaie
162. Julee Bertsch
163. Robert Cross
164. Ruth M. Seksinsky
165. Dixie L. Powell
166. Chris Hendrickson
167. Samantha Pearson
168. Bob Rixey
169. Mary Howe
170. John Peeler
171. Ted Stroter
172. Judith H. Peeler
173. Yamil D. Emedan

Comments/Responses:

Comment 1 (US EPA, American Lung Assn)
ETL assumes a higher heating value (HHV) of 15,600 Btu/lb for the TDF, which is higher than generally accepted.

Response 1
The company stated that the data came from the rubber manufacturer's association which justifies the 15,600 Btu/lb HHV for the tire-derived fuel. However, in order to resolve EPA's concerns related to the HHV of the TDF to be combusted at the facility, the Department has included a condition in the plan approval requiring ETL to conduct weekly sampling and monthly analysis on the composite samples to determine a representative HHV for the fuel. This analytical data will be used to calculate emissions on a monthly basis, ensuring that ETL will not emit quantities of air contaminants that exceed the emissions limitations established in the plan approval. Therefore, New Source Review (NSR)/PSD significance thresholds will not be exceeded.

Comment 2 (US EPA)
ETL used 8400 operating hours to calculate annual emission rates... the permit must include a limit of 8400 hours in order for the annual limits to be practically enforceable and to ensure compliance.

Response 2
The Department established annual emissions limitations in the plan approval based on 8400 hours of operation per year. Therefore, a limitation on the hours of operation is not necessary. However, per EPA's recommendation, the Department has included an annual limitation on heat input to the

combustion unit in order to establish a federally enforceable limitation. In addition to the average HHV for pipeline-quality natural gas, the permittee will also use data from the monthly analysis of TDF samples to demonstrate compliance with the annual heat input limitation.

Comment 3 (US EPA)
What happens should there be a boiler malfunction.... If there is a bypass stack on the kiln, there must be restrictions in the permit for use of a bypass stack.

Response 3
The flue gas cannot bypass the main stack because there is no bypass stack on the kiln. In the event of a boiler malfunction, the TDF feed to the process will immediately cease and the kiln will be isolated from the rest of the system. Combustion will continue to occur in the kiln for a short period until the oxygen in the kiln is sufficiently depleted to a quantity that is too low to support further combustion. In essence, the combustion process would starve due to a lack of oxygen. The combustion products created while the residual oxygen in the kiln is depleted will be contained in the kiln until the system is restored to normal operating conditions.

Comment 4 (US EPA, American Lung Assn)
Both the permit application and the draft plan approval incorrectly address the compliance assurance monitoring (CAM) requirements for particulate matter... PM, PM_{10}, and $PM_{2.5}$ are treated as one pollutant... the control for condensable emissions should be discussed under the CAM plan for the wet scrubber.

Response 4
CAM for condensable particulate matter is appropriately addressed via parametric monitoring conditions for the wet scrubber. Per EPA's recommendation the Department has revised the conditions in the plan approval pertaining to particulate matter to address PM, PM_{10}, and $PM_{2.5}$ separately. The Department has also clarified that the CAM plan pertains to both the filterable and condensable portions of PM_{10} and $PM_{2.5}$.

Comment 5 (US EPA, American Lung Assn)
It is unclear if there can be an operating scenario where NGC is physically able to produce its own steam together with the new plant and increase process steam to a level that could debottleneck the NGC process units... and increase emissions.

Response 5
The NGC facility can already sustain its maximum production with its existing boilers alone; therefore, additional steam from the ETL facility does not have the potential to increase production at the NGC facility; therefore, debottlenecking is not feasible.

Comment 6 (US EPA)
ETL is strongly encouraged to consider the LoTOx technology as part of their BACT evaluation for carbon dioxide (CO_2) and for reduction of NO_x as well.

Response 6
The Department directed ETL to investigate the feasibility of using LoTOx technology in order to control CO_2 and NO_x emission. Based on the available information, including the technical data supplied by EPA, the Department found no information indicating that this was an effective control technology for CO_2. ETL reported that CO_2 emissions would in fact increase due to auxiliary power requirements for an ozone generator. LoTOx appears to be intended for control of nitrogen oxides for facilities which already have a wet scrubber; however, while the ETL facility will incorporate a wet scrubber, it already includes Selective Catalytic Reduction (SCR), which is a proven technology for reducing NO_x emissions to the maximum extent feasible.

Comment 7 (US EPA)
PA DEP cannot streamline the requirements of 40 CFR Part 60 Subpart Db with the emission limits established in the draft plan approval since the averaging times for the two sets of limits are significantly different.

Response 7
The Department established limitations that were more stringent than the federal requirements of Part 60 (New Source Performance Standards or NSPS) and both sets of limits are calculated on a 30 day average, therefore, these requirements were streamlined. However, per EPA's recommendation, the two sets of emission limits have been included separately in the plan approval and ETL will demonstrate compliance with each requirement independently.

Comment 8 (US EPA)
PA DEP cannot streamline the requirements of 40 CFR Part 63 Subpart JJJJJJ with the limits in the draft plan approval.

Response 8
The Department established limitations that were more stringent than the federal Part 63 (a.k.a. NESHAPs/MACT) emissions limitations; therefore, the requirements were streamlined with the Department's Best Available Technology (BAT) emissions limitations. However, per EPA's recommendation, the Part 63 emissions limits are included as a separate condition and ETL will demonstrate compliance with each of the emissions limits independently.

Comment 9 (US EPA, American Lung Assn)
ETL's application fails to provide sufficient information regarding PM_{10} and $PM_{2.5}$ emissions and has failed to provide the basis for limits that are exactly the same.... Furthermore, there is a discrepancy between these limits and Table 1-1 of the application. ... The draft plan approval generally does not provide adequate assurances that the facility will be constructed and operated in compliance with these limits.

Response 9
ETL estimated emissions of particulate matter (PM), particulate matter with a diameter less than 10 microns (PM_{10}), and particulate matter with a diameter less than 2.5 microns ($PM_{2.5}$) based on the calculations for $PM_{2.5}$. ETL assumed all particulate matter emitted by the process will be less than 2.5 microns in diameter; therefore, $PM_{2.5}$ emissions will also be considered the same as PM and PM_{10}. The reason for the difference between Table 1-1 and the emission limits for the combustion unit is that Table

1-1 tabulates facility-wide potential emissions, and includes emissions from the dry sorbent handling and storage operation as well as fugitive emissions for road dust, emissions of which were calculated using AP-42 emission factors for PM, PM_{10}, and $PM_{2.5}$ separately, and were *not* estimated to be entirely below the 2.5 micron threshold.

The Department has included the annual heat input limitation, HHV sampling and analysis, and monthly monitoring via emissions calculations, in order to assure compliance with the emissions limits for PM, PM_{10}, $PM_{2.5}$, and other pollutant emissions for which the facility is not equipped with continuous monitors.

Comment 10 (US EPA)
Condition 007 states that compliance with this streamlined limit (for mercury) assures compliance with "the provision" in Subpart JJJJJJ. This is inadequate.

Response 10
Per EPA's recommendation, the emissions limits of Part 63, including the mercury emission limitation, are no longer streamlined with the Department's BAT emission limitations in the plan approval. ETL will demonstrate compliance with each of the emissions limits independently.

Comment 11 (US EPA, American Lung Assn)
The Greenhouse Gas emission limits should be revised to be in the form of CO_2e in order to capture the non-CO_2 GHGs that are also produced during combustion.

Response 11
Per EPA's recommendation, the Department has included all GHG emission limitations in the plan approval in the form of CO_2e.

Comment 12 (US EPA, American Lung Assn)
EPA has concerns about the enforceability of the proposed limits, as expressed in terms of lbs CO_2e/MMBtu of steam... EPA suggests revising the limit to be expressed in terms of lbs CO_2e/lbs steam.

Response 12
Establishing a limit on the basis of lbs CO_2e/MMBtu of useful thermal steam output takes into account fluctuations in the thermal efficiency of the source due to changes in the weather, which are out of the permittee's control. The Department also specified in the plan approval that the term "Useful Thermal Steam Output" means the energy content of steam produced by the boiler less that contained in boiler feed water and condensate returned. Additionally, the Department has established monitoring requirements in the plan approval specifying which steam parameters are to be measured in order to calculate the MMBtu of useful thermal steam output for demonstrating compliance with the limits, to enhance the practical enforceability of the emission limitations.

Comment 13 (US EPA, American Lung Assn)
Basing the BACT limit on "useful" steam production would seemingly create an exemption for periods during which steam is being produced, but is not being used to generate heat or power... Additionally,

in order to maximize the thermal efficiency of the unit, the permit should include operational requirements designed to minimize any periods during which the facility is combusting fuel but not using the steam.

Response 13
ETL is not permitted to operate the combustion unit without generating steam or power, except during periods of startup or shutdown. Additionally, ETL is required to minimize the periods of startup and shutdown in accordance with the manufacturer's recommended procedures or the recommended procedures for a unit of similar design if the manufacturer's recommended procedures are not available, pursuant to the requirements of 40 CFR Part 63 Subpart JJJJJJ.

Comment 14 (US EPA)
The application indicates that steam will be routed from the boiler to a superheater prior to the turbine. There is no mention of the superheater in the permit or technical review memo. If the superheater is separately fired, those additional emissions must be accounted for in the permit.

Response 14
The superheater is not separately fired; therefore, there are no additional emissions from the superheater.

Comment 15 (US EPA, American Lung Assn)
The draft plan approval does not clearly define how compliance with the GHG emission limits will be demonstrated.

Response 15
In addition to the monitoring and recordkeeping requirements to demonstrate compliance with the GHG emission limitations, per EPA's recommendation, the Department has included additional conditions in the plan approval defining how compliance will be demonstrated. As previously stated, the plan approval now specifies which parameters the permittee is to measure to calculate the useful thermal steam output of the boiler. Additionally, the plan approval also requires monthly sampling to determine the HHV of the tire-derived fuel. Furthermore, the plan approval specifies that the ETL will use this data, along with stack testing data for CO_2 and published emission factors for CH_4 and N_2O, to calculate emissions of CO_2e on a monthly basis in order to demonstrate compliance with the emissions limitations.

Comment 16 (US EPA, American Lung Assn)
ETL has proposed emissions that are just under the significance level for major NSR/PSD applicability thresholds… this plan approval would allow the facility to trigger NSR/PSD post-issuance thereby circumventing NSR and PSD.

Response 16
Because the proposed combination of technologies and fuel type makes this project unique, the emissions data provided in the plan approval applications are estimates. This condition allows the Department to impose more restrictive emissions limitations on the facility post-issuance should actual operational data indicate that lower emission rates are readily achievable. The language in the condition stating "the revised allowable emission limitations shall not exceed levels at which Best Available Control Technology (BACT) and Best Available Technology (BAT) were evaluated…" indicates that

the emission limitations cannot become less stringent, and NSR/PSD will not be circumvented. For emissions limitations for the facility to be revised upward beyond levels at which BACT and BAT were evaluated, the facility would have to submit a new plan approval application. The Department has retained this condition in the plan approval.

Comment 17 (US EPA)
The draft plan approval conditions for stack testing are streamlined with 40 CFR §§ 63.11210 and 63.11220… the specific conditions being streamlined must be identified, down to the subparagraph level.

Response 17
Per EPA's recommendation, the stack testing requirements in the plan approval state that they are being streamlined with 40 CFR §§ 63.11210(a), 63.11210(d), and 63.11220(a).

Comment 18 (US EPA, American Lung Assn)
The proposed CAM plan must be revised to comply with the requirements of 40 CFR Part 64 and explain in the technical review memo how CAM applies and how the specific CAM requirements were developed… keep in mind that CAM does not apply to pollutants monitored with a CEMS…The CAM plan must also indicate how condensable PM emissions are addressed.

Response 18
ETL has revised the CAM plan to include monitoring requirements for the pollutants subject to CAM which are not monitored with a Continuous Emissions Monitoring System (CEMS), in accordance with 40 CFR Part 64. In the addendum memo, the Department described that the CAM requirements are based on the monitoring requirements of 40 CFR Part 63 Subpart JJJJJJ, which contains presumptively acceptable parametric monitoring (hence the exemption in Part 64 for Part 63 emissions limitations) for the control devices which are subject to the CAM requirements. The Department also specified in the addendum memo that emissions of condensable particulate matter will be addressed under CAM via parametric monitoring requirements associated with the wet scrubber.

Comment 19 (US EPA)
The plan approval must include a requirement for the facility to record hours of operation, which must include periods of startup, shutdown, and malfunction.

Response 19
The Department has included this requirement in the plan approval.

Comment 20 (US EPA)
The conditions stating applicability of CAM must be revised as noted in comment 8 [relating to the CAM plan].

Response 20
Per EPA's recommendation, the Department has revised these conditions to include reference to condensable particulate matter and to exclude reference to nitrogen oxides, sulfur oxides, and carbon monoxide.

Comment 21 (General Public, Public Petition, Sierra Club, American Lung Assn, PennFuture)
Several commentators expressed concern regarding the emissions from the combustion of tire-derived fuel on human health; particularly from sulfur oxides, particulate matter, and hazardous air pollutants (HAPs). Commentators claim that it is common knowledge that emissions from burning tires are dangerous to breathe and the proposed facility will lead to greater incidence of asthma, COPC, and cancer in the population living near the facility.

Response 21
The US EPA has developed the National Ambient Air Quality Standards (NAAQS), which set the concentrations of criteria pollutants, which include sulfur oxides and particulate matter, in the ambient air, to protect human health. The Department considers Union County to be in attainment of the NAAQS for these pollutants. The emissions from the proposed project are below the significant emissions thresholds for sulfur oxide, carbon monoxide, nitrogen oxide, volatile organic compounds, and particulate matter, and are not anticipated to threaten the area's attainment status. Additionally, the proposed project includes multiple air pollution control devices reducing emissions to the maximum extent feasible.

In addition to criteria pollutants, the Department reviewed ETL's risk assessment for compounds of potential concern which were the following: Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium (total), Chromium VI, Cobalt, Copper, Lead, Manganese, Mercury, Nickel, Selenium, Zinc, Chlorine, Hydrogen Chloride, Hydrogen Bromide, Hydrogen Fluoride, Benzene, Chloromethane, Toluene, Formaldehyde, Acetaldehyde, Chrysene, Fluorene, Napthalene, Benz[a]anthrancene, Benzo[b]fluoranthene, Benzo[a]pyrene, Indeno[1,2,3-cd]pyrene, Total PCBs, Dioxins and Furans (total and toxic equivalency [TEQ]). Acute risks posed by occasional short term emission spikes, as well as chronic health risks posed by long term exposure to the emissions were considered. The risk assessment also addressed the risks associated with the failure of the fabric filter control system at the facility.

The risk assessment was conducted in accordance with the Department's Risk Assessment Guidelines for Facilities Burning Hazardous Waste, a guidance that the Department has utilized to evaluate other facilities such as commercial hazardous waste incinerators, boilers, industrial furnaces including facilities that combust TDF. Please see the Department's Inhalation Risk Analysis review memo for more details.

Chronic health risks associated with the projected emissions from the facility via the inhalation pathway are well below the screening level benchmarks for cancer risk and below one percent of the respective non-cancer screening level benchmark for each of the compounds of potential concern. In accordance with the Department's Risk Assessment Guidelines, further multi-pathway assessment, including ecological risk assessment, was not required because of the low risk levels from the inhalation pathway assessment.

The Plan Approval sets enforceable emissions limitations as well as enforceable conditions regarding stack testing, monitoring, recordkeeping, reporting, and work practice requirements to ensure that the facility operates in accordance with the Air Pollution Control Act and Clean Air Act.

Comment 22 (Dr. Mason)
Peer-reviewed scientific studies indicate that using TDF as the fuel source leads to lower emission rates for NO_x and SO_x, but greater emissions of metals, and metalloids, hydrogen halides, and halogens, as

well as PAHs... the proposed emission factors do not reflect these scientific studies, instead favoring literature which is based upon facilities using different fuel sources, namely coal or a TDF/coal blend.

Response 22
The Department reviewed many sources of data from testing and operating facilities of varying similarity to the proposed project in estimating potential emissions. As previously noted in this document, there are concerns beyond fuel type in determining emissions. The Department's review of the data referenced by the commenter indicated that the documented increases in emissions were most likely due to combusting TDF in existing sources that were not originally designed for the fuel, and were not equipped with the appropriate control devices to adequately mitigate the aforementioned pollutants.

Comment 23 (Dr. Mason)
Tire-derived fuel will produce more emissions and a greater variety of emitted compounds than both coal or natural gas because of the increased complexity and the composition of the fuel. Numerous scientific studies provide ample evidence that the quantities of HAPs from burning tires is thousands of times greater than that resulting from coal.

Response 23
As mentioned in the response to a comment above, emissions to the atmosphere are not solely dependent on fuel type, but also on the design of the combustion unit and associated air cleaning devices. In the case of ETL, the Department established emissions limitations in the plan approval for tire-derived fuel which are consistent with levels produced by conventional fossil fuels. The HAPs emissions limitations established for ETL are significantly lower than those for most comparably sized coal-fired boilers presently operating. Additionally, the Department included monitoring, recordkeeping, and reporting requirements in order to demonstrate that the facility remains in compliance with the emissions limitations.

Comment 24 (Dr. Mason, Dr. Straub, General Public)
Commentators requested information regarding the Department's source of data for emissions rates from TDF combustion and how the list of target compounds was determined. Commentators noted that emissions from co-fired sources should not be expected to be the same as emissions from a dedicated TDF combustor. Additionally, commentators note that the unique design of the facility will have an effect on the emissions.

Response 24
The information reviewed by the Department in determining target compounds and estimated emission rates from the project comes from various sources and published test data, some of which is based solely on tire combustion, and some of which is based on facilities that co-fire TDF with other fuels. The list of compounds is based on the scientific evaluation of emissions from TDF combustion and results in the use of representative compounds that are potential risk drivers. The following sources of data were evaluated in estimating the emissions from the project:

EPA's "Pilot-Scale Evaluation Of The Potential For Emissions Of Hazardous Air Pollutants From Combustion Of Tire-Derived Fuel", April 1994

"Air Quality Permitting Statement of Basis" July 10, 2006
Permit to construct No. P-050112

Idaho Energy Limited Partnership, Energy Products of Idaho (EPI)

Grays Harbor Paper
Tire Derived Fuel (TDF) Trial Burn
Hoquiam, Washington, March 1995

Air Emission Permit No. 04500050-001
Heartland Energy and Recycling, LLC.
Preston, Fillmore County, MN 55965

Wheelabrator Shasta Energy Co., Inc. Stack Test
Anderson, CA

Energy Products of Idaho, Inc.
Fluid Bed Pilot Plant
Baghouse Outlet
Coeur D'Alene, Idaho, Feb 1990

Information from Northampton Generating Station and Hercules Cement Co. (PA DEP)

Air Emissions Data Summary for Portland Cement Pyroprocessing Operations Firing Tire-Derived Fuels http://www.epa.gov/osw/conserve/materials/tires/pubs/tdf-report08.pdf

Air Emissions from Scrap Tire Combustion
http://www.epa.gov/ttn/catc/dir1/tire_eng.pdf

Scrap Tires: Handbook on Recycling Applications and Management for the U.S. and Mexico
http://www.epa.gov/border2012/fora/waste-forum/docs/ScrapTireHandbook_US-Mexico2010-LR.pdf

Air Emissions Associated with the Burning of Tire-Derived Fuel
http://www.tceq.texas.gov/assets/public/compliance/tires/docs/toxi.pdf

Additionally, Texas Natural Resource Conservation Commission (TNRCC) conducted a Toxicological Review of Air Emissions Associated with the Burning of Tire Derived Fuel (TDF). The US EPA and the Ohio Air Quality Development Authority have conducted separate reviews of air emissions data from various industries that were seeking permits to use TDF as a fuel source. The reviews concluded that TDF could be burned in an environmentally sound manner, with overall emissions consistent with the burning of coal. In support of this conclusion, of all the electric utilities surveyed, the Oxford Energy facility in California (which burns 100% TDF) reported the lowest overall air emissions. US EPA carefully analyzed the importance of appropriate emission control devices when burning TDF. The US EPA review found that both electrostatic precipitators (ESPs) and baghouses (fabric filters) were effective in controlling emissions from the combustion of TDF. These types of controls are commonly required by the TNRCC in granting air permits to burn TDF.

The US EPA performed a pilot study in which tires were burned in a test incinerator without the aid of any emission control devices. Flue gases were analyzed for the 189 Hazardous Air Pollutants listed in the 1990 Clean Air Act Amendments (including criteria pollutants, metals, volatile/semi-volatile organic compounds, and dioxins/furans). The study concluded that, with the exception of zinc, there were no significant increases in air emissions when tires were substituted for coal. US EPA stated that the zinc

emissions would have been effectively eliminated if an appropriate control technology had been used. It should be noted that emissions of certain compounds of concern (e.g., mercury) were significantly lower when burning tires relative to coal combustion and a significant body of scientific data, provided by studies conducted by the TNRCC, US EPA, and other states, support the conclusion that TDF can be burned in an environmentally sound manner, provided proper emission control devices are utilized. The ETL project includes the following air pollution control equipment: dry scrubber, fabric collector, oxidation catalyst, selective catalytic reduction, and a wet scrubber, all of which combines to control emissions from the project to the maximum extent feasible.

Comment 25 (Dr. Straub)
Why are additional Polycyclic Aromatic Hydrocarbons (PAHs) and styrene not included in the risk assessment/plan approval?

Response 25
As detailed in the previous response, the Department reviewed a significant amount of data to determine target compounds that may be emitted by the project. The polycyclic aromatic hydrocarbons (PAHs) with the highest cancer potencies are included in the risk assessment as chemicals of potential concern (COPC). Furthermore, the Department reassessed the risk posed by potential styrene emissions based on data from the EPA's 1997 study "Air Emissions from Scrap Tire Combustion Burning" which resulted in a hazard quotient that was insignificant. However, in order to verify the styrene emissions, the Department included a condition in the plan approval requiring ETL to measure styrene emissions as part of the initial stack test.

Comment 26 (Dr. Straub)
Why is stack testing of actual emission rates of the 35 compounds included in the risk assessment only required one time, and not during every annual stack test?

Response 26
The inhalation risk assessment determined that the actual risk posed by the emissions from the facility is of minor significance. Of the 35 compounds evaluated in the risk assessment, each of the compounds contributes a varying amount to the overall risk from the facility. Initial stack testing of all 35 compounds is required to verify the risk assessment's conclusions; however, at this time the Department is requiring annual testing thereafter for a subset of the 35 compounds which are the major contributors to the overall risk. The condition in the plan approval requiring annual testing of compounds included in the risk assessment allows for modification of the list of compounds to be tested for and the frequency of testing. The Department will require annual testing of all 35 compounds should the results of the initial stack test indicate the need to do so.

Comment 27 (Dr. Straub)
There is no scientific evidence that shows that correlations between surrogate compounds and regulated compounds are valid for tire-derived fuel.

Response 27
The EPA's area boiler MACT (40 CFR Part 63 Subpart JJJJJJ) regulates emissions of metallic HAPs and organic HAPs by establishing surrogate emission limitations for filterable particulate matter and carbon monoxide, respectively, and explicitly includes tire-derived fuel as one of the fuels covered by

the standard. However, the Department did not use a surrogate approach for the regulation of HAPs from the project; compounds of concern were identified and established enforceable emissions limitations on a pollutant-by-pollutant basis. The Department established limitations in the plan approval that are more stringent than those included in the federal regulation.

Comment 28 (Dr. Straub)
It is not clear what the emission limit of 0.05 lb/MMBtu of heat input for total hazardous air pollutants really means.

Response 28
The limit established a short-term cap on the total amount of hazardous air pollutants. This limit included all HAPs that were included in the risk assessment. However, this condition has been removed from the plan approval, as short term emission limits on a HAP-specific basis are already included in the plan approval that were established pursuant to the inhalation risk assessment.

Comment 29 (American Lung Assn)
I would point out that the counties in this vicinity, Union or Northumberland Counties, do not have air quality monitors… we can't determine whether the air quality here is good or bad, no matter what kind of facility is placed here.

Response 29
The Commonwealth operates an expansive monitoring network that is consistent with EPA's criteria for demonstrating that areas are attaining and maintaining the NAAQS. The projected emissions from the facility have been evaluated and are controlled to the maximum extent feasible, which satisfies best available technology and therefore the project is not expected to threaten attainment of the NAAQS in the region.

Comment 30 (White Deer Township Supervisors)
Our understanding is that there are very few, if any, such facilities in Pennsylvania that are operational. This gives us concern, as we do not want our Township to be a test case.

Response 30
While the combination of combustion technologies, control devices, and fuel type in the proposed configuration is unique, there is sufficient existing data on each of these categories to make reasonable estimates regarding the emissions from the project. The Department reviewed the estimated level of emissions and determined the risk posed by inhalation of emissions from the facility was below acute and chronic risk assessment benchmarks. The estimated emission rates that were supplied in the plan approval application and reviewed in the inhalation risk assessment have been established as enforceable limitations in the plan approval. The company will also be required to stack test emissions from the facility for all compounds included in the risk assessment in order to verify its conclusions.

Comment 31 (White Deer Township Supervisors)
We urge DEP to be most cautious in reviewing and acting upon this application as well as diligent in inspections, etc. if the facility is approved.

Response 31
The Department thoroughly reviewed the information contained in the plan approval application, and all comments submitted by the public, elected officials, environmental groups, and the US EPA, in order to conduct a comprehensive review of the project. The plan approval codifies the conditions ETL will need to meet in order to comply with the requirements of the Clean Air Act, the Air Pollution Control Act, and the regulations promulgated thereunder. The Department examines operational data from a facility to ensure compliance with the terms and conditions of the plan approval.

Comment 32 (PennFuture)
PADEP's emission limitations for greenhouse gases (GHGs) are based on an analysis that improperly excludes available control options. PADEP determined that natural gas was not available as a control option, but considered it available enough to warrant establishing a second BACT emission limitation.

Response 32
The Department did not determine that combusting natural gas or co-firing mixtures of natural gas were not available as GHG control options. In fact, fuel switching/co-firing is specifically identified in step 1 of the BACT analysis, which is titled "Identify all available control technologies". The Department eliminated fuel switching/co-firing as a control technology in accordance with the PSD guidance on grounds that requiring fuel switching or co-firing would regulate the permittee's purpose for the facility and redefine the source. Determining that BACT requires that the facility combust natural gas, in any amount, as a part of normal operations, would require a reassessment of aspects of the project such as the kiln and pollution control devices whose parameters were designed based on 100% TDF firing of the source.

Comment 33 (PennFuture)
The notion that the routine firing of a fuel mix containing *any amount* of natural gas will subvert the purpose of the facility is merely asserted summarily, and certainly is not *demonstrated* through analysis, in PADEP's review memo.

Response 33
ETL stated in the plan approval application and in subsequent written responses to the Department that the primary purpose of the facility is to combust TDF, with natural gas to be used as a backup fuel. Since TDF combustion is the primary objective of the facility, ETL proposed the expensive additional components of source necessary to combust TDF while achieving acceptable emission levels, and was subject to a much lengthier and complex environmental review. Furthermore, the NGC facility already has the capacity to operate its existing sources on natural gas and fuel oil to create all the steam necessary for their operations. Therefore, it can be concluded that the primary purpose of the project is the capacity to utilize tire-derived fuel. The permittee has stated, and based on the preponderance of the evidence, the Department agrees, that requiring any amount of natural gas to combusted as a condition of regular operation would subvert the primary purpose of the project.

Comment 34 (PennFuture)
Even if regularly firing some percentage of natural gas would "redefine the source" the permitting authority has the discretion to do just that. Whether under the rubric of BACT or BAT, PADEP should exercise its discretion in favor of putting all of the possible fuel mixtures on the table.

Response 34
ETL's primary purpose for the project is the combustion of tire-derived fuel. ETL provided all the information including a robust pollution control system to satisfy the state and federal regulatory requirements in order to utilize tire-derived fuel in their operation. The Department evaluated the BACT and BAT requirements for use of TDF and determined that the proposal meets all the applicable regulatory requirements. The Department reviews the plans submitted to it for compliance with the applicable air quality regulatory requirements. It is not within the scope of the Department's mandate to dictate the business plans of applicants.

Comment 35 (PennFuture)
Despite the fact that a BACT emission limitation is supposed to be based on *the most effective* control option, PA DEP assigns the generator not one, but two BACT-based emission limitations, one of which applies when firing 100% natural gas… PA DEP must resolve these apparent contradictions.

Response 35
Through the top-down analysis, as described in the technical review memo, the Department determined that cogeneration of steam and electricity was the most effective control option for GHG emissions. The Department then established a BACT-based emission limit for each fuel type based on this control option. The Department establishes multiple emission limitations for different types of fuels based on a control option, which is consistent with the BACT and BAT regulatory requirements.

Comment 36 (PennFuture)
In establishing a BACT-based emission limit for GHGs, PA DEP treated the choice as a toggle switch rather than a rheostat, making no effort to establish a limitation for any mixture of natural gas and TDF.

Response 36
The Department has included a requirement in the plan approval that mixtures of the two fuels shall comply with the sum of the GHG emission limitations for the individual fuels multiplied by the percentage heat input of that fuel.

Comment 37 (PennFuture)
PADEP must apply the "clean fuels" component of the Clean Air Act's definition of BACT.

Response 37
The Department is required to evaluate the process and apply the best available control technology to minimize the emissions to the maximum extent feasible. It is our understanding that "clean fuels" refers to an inherently lower emitting form of a specified fuel. By assessing BAT and BACT for the proposed fuels, the Department concluded that there is no variant of tire-derived fuel or natural gas which would result in lower GHG emissions.

Comment 38 (PennFuture)
Under the Clean Air Act, PADEP must consider the need for the proposed facility, its location, and all air contaminant emission reductions available from fuel switching or co-firing.

Response 38
The Department's consideration of fuel switching and co-firing is detailed in the previous responses on the subject. As the commenter noted, the Department reviewed and accepted an inhalation risk assessment which included modeling that incorporated and accounted for the location of the facility. Reviewing plan approval applications based on need would allow the Department to dictate the economy, which is beyond both its area of expertise and its role as environmental regulator.

Comment 39 (Public Petition, General Public)
Commentators and Petitioners expressed concern regarding the proximity of the project to the residential areas and the White Deer Elementary School, which is located only 1.3 miles away from the site of the proposed project.

Response 39
It is the Department's understanding that the proposed location for the facility is appropriately zoned for such an activity. The Department conducted modeling as part of the inhalation risk assessment, which accounted for the location of the facility, and determined that the emissions posed short and long-term risks below inhalation risk assessment benchmarks. The levels of emissions evaluated in the inhalation risk assessment have been established as enforceable limitations in the plan approval.

Comment 40 (Public Petition)
Place a hold on the approval of this project for at least 18 months so that an accurate and complete determination can be made of the immediate and long range impacts of the proposal.

Response 40
The Department conducted a lengthy and comprehensive review and applied best available control technology in order to minimize emissions to the maximum extent possible. The Department also requested the company to conduct a risk assessment in accordance with the Department's Risk Assessment Guidelines for Facilities Burning Hazardous Waste. As part of the review process, the Department examined the emissions data from several other facilities that utilize TDF as a fuel, either entirely, or in combination with other fuels and some of the data was obtained from technical papers concerning the topic of tire combustion. Technical information on TDF combustion emissions relating to the proposed project are kept in the file which is available for public review. The applicant demonstrated to the Department's satisfaction that its proposal will not result in emissions in excess of the limits established by all applicable state and federal air quality regulations. The Department may not withhold issuance of a permit for a project which demonstrates an ability to comply with all applicable air quality regulatory requirements.

Comment 41 (General Public)
This facility will emit dioxin, which is regarded as one of the most toxic chemicals known to science, in high concentrations.

Response 41
The Department has limited the dioxin emissions from the facility to an insignificant level of 0.55 grams per year. Dioxin was included in the inhalation risk assessment, the results of which indicate that the emissions from the project pose minimal acute and chronic risk to the surrounding community.

Comment 42 (General Public)
The plant has the potential to emit 240,000 pounds per year of gases and particulate matter which are hazardous air pollutants.

Response 42
The data supplied in the plan approval application indicated that the facility would emit approximately 7,600 pounds per year of hazardous air pollutants, the overwhelming majority of which is hydrogen chloride. This quantity of hazardous air pollutant emissions is not unusual for a facility this size that combusts solid fuels. The applicant conducted, and the Department reviewed, the inhalation risk assessment, and emissions limitations, as well as monitoring and recordkeeping conditions, have been included in the plan approval restricting ETL from exceeding the emission rates that were used in the risk assessment.

Comment 43 (General Public)
Commentators inquired how the emissions from combustion of TDF can be determined, when the composition of tires varies by manufacturer and vehicle type, and new types of tires are continuously being developed.

Response 43
While the composition of individual tires may vary, the chipping and mixing process used to create TDF results in relatively consistent average fuel properties. Testing on TDF combustion emissions has demonstrated that the emissions do not fluctuate significantly despite the heterogeneous nature of the fuel. Additionally, variance in fuel composition is not unique to TDF and is also experienced by other solid fuels such as coal or biomass. Moreover, the facility will operate continuous emissions monitoring systems as well as perform stack testing, which will detect any significant changes to the facility's emissions profile caused by new types of tires being incorporated into the TDF mixture.

Comment 44 (General Public)
Commenters requested a comparison of the emissions from a facility combusting tire-derived fuel to those from a facility combusting fossil fuels.

Response 44
Emissions to the atmosphere from a source are not solely determined by the fuel type, but are also strongly influenced by the design of the combustion unit and associated air cleaning devices. In addition to the steel wires, the bulk of the tire is composed of petroleum products and natural rubber, which is vulcanized using a zinc catalyst. Because of the complex chemical nature of the vulcanized tires, there are additional concerns that need to be addressed in the design of the combustion unit to ensure the fuel is completely combusted. In a properly designed combustion unit, TDF emissions have been demonstrated to be comparable to emissions from coal, with the exception of elevated levels of iron and zinc, from the steel belts and vulcanization catalyst, respectively. In the case of the ETL facility, the air cleaning devices have been designed to minimize the emissions of zinc and iron, as well as other compounds.

Comment 45 (General Public)
Has DEP had a chance to examine the emissions from other TDF-fired facilities, and if so is that data available?

Response 45
As part of the review process, the Department examined the emissions data from several other facilities that utilize TDF as a fuel, either entirely, or in combination with other fuels and some of the data was obtained from technical papers concerning the topic of tire combustion. Technical information on TDF combustion emissions relating to the proposed project are kept in the file which is available for public review. To schedule a file review, please contact the Department's Northcentral regional office.

Comment 46 (General Public)
Commentators stated that emissions from this facility, including mercury and lead, will have a disproportionately significant health impact on children, the elderly, and people with respiratory illnesses.

Response 46
The Department included both lead and mercury in its review of the emissions from the proposed facility. Additionally, these elements and their compounds were also included in the inhalation risk assessment, which determined the risk from the projected level of emissions was minimal. The increased impact of certain pollutants on children was accounted for in the risk assessment. Please see the Inhalation Risk Assessment review memo for further details.

Comment 47 (General Public)
Commentators requested information regarding what air pollution control devices, such as scrubbers, would be included in the project, and how that will effect emissions.

Response 47
The proposed project complies with the Department's Best Available Technology requirements and has been designed to reduce emissions to the maximum extent feasible. The two stage kiln/boiler design will promote the complete combustion of the tire-derived fuel, minimizing emissions of particulate matter, carbon monoxide and volatile organic compounds. Additionally, flue gas recirculation is incorporated in the combustion process to reduce formation of nitrogen oxides. Furthermore, the project will be equipped with a series of air cleaning devices: a dry scrubber, and fabric collector, an oxidation catalyst, selective catalytic reduction, and a wet scrubber. This control system is capable of further reducing emissions of nitrogen oxides, sulfur oxides, particulate matter, carbon monoxide, volatile organic compounds, acid gases, mercury and other heavy metals. Regarding greenhouse gases, for which post-combustion control devices have not yet been made commercially available, the Department has established requirements pursuant to the federal GHG Tailoring Rule to ensure the facility operates efficiently, minimizing the amount of emissions produced while meeting the facility's production goals.

Comment 48 (General Public)
Commentators stated that the proposed project would have additional impacts beyond emissions of air contaminants, including impacts to soil and waterways, contamination of agricultural products, and an overall negative influence on the local economy.

Response 48
These issues are not within the scope of the air quality permitting process and information pertaining to such matters was not included in the plan approval application. However, nothing in an air quality plan approval relieves a facility owner or operator from the obligation to comply with all applicable federal,

state and local laws and regulations, including any requirement to submit plans regarding these or other issues to the appropriate regulatory agency for review and approval.

The decision of the Department to issue, or deny, a Plan Approval for the construction and operation of air-contamination sources, such as the proposed project, is based on all applicable state and federal air quality regulatory requirements. The Department's decision is not predicated on non-air quality issues such as land values, job creation, economic benefit, energy independence, visual impact, the ability to secure other necessary approvals, grant eligibility, etc., regardless of the impacts of those factors.

Comment 49 (General Public)
DEP's [plan] approval of this project is misguided on two grounds. It ignores crucial scientific evidence... and it ignores the democratic rights of citizens.

Response 49
The Department thoroughly examined the scientific data in its review of the plan approval application and determined that the projected levels of emissions resulting from the application of the best available control technologies were adequate and reasonable and satisfied the state and federal air quality regulatory requirements. Additionally, the Department reviewed additional scientific literature on the subject of TDF emissions that was submitted to it from the general public. Moreover, the Department conducted a public hearing and meeting as well as extended the comment period at the public's request in order to encourage more public participation on this plan approval.

Comment 50 (General Public)
We were invited here to the public hearing only after DEP's decision had been made.

Response 50
In accordance with the air quality regulatory requirements, the Department must conduct a review of an application prior to seeking public comments. The Department must review all the comments received during the public comment period and may conduct a public hearing at the Department's discretion.

In the case of ETL, the Department completed the review but did not make a final decision prior to the review of all testimonies and relevant comments. The Department reevaluates the preliminary review based on the information provided in the comments or testimonies. The Department makes a final decision based on the review of all the comments received and in accordance with state and federal air quality regulatory requirements applicable to the proposed project.

Comment 51 (General Public)
DEP is saddled with enforcing air pollution limits that are determined by the EPA... there are over 900 registered lobbyists doing business at the EPA. Why should we trust any air quality limits that come from that process?

Response 51
At the time the regulations are established, the Department and EPA provide the general public opportunities for public participation that is allowed by statue and regulations. The Department strongly encourages the commenter and the regulated community's participation in such opportunities to contribute to the development of regulatory requirements.

Comment 52 (General Public)
Commentators raised concerns regarding the risk posed by malfunctions of the equipment at the facility.

Response 52
The Department acknowledges that problems can and do occur with industrial operations, and the plan approval includes requirements pertaining to potential malfunctions and accidental releases. The inhalation risk assessment reviewed by the Department, which demonstrated the risk posed by the project was below screening level benchmarks, also accounted for risk due to increased short-term exposure to emissions based on a failure of the control equipment. Additionally, the company has indicated that the system is designed to stop the feed of TDF and isolate any partially combusted gases in the kiln in the event of a malfunction until the system can be brought back to normal conditions and all control devices are operating.

Comment 53 (General Public)
This application's been out there for darn near three years and people don't even know what's happening.

Response 53
The township, county, and the local community were made aware of the application in the early stages of the project. ETL notified the township and created a website regarding the project to provide information to local community. Upon completion of its preliminary review of the application, the Department published a notification of its intent to issue a plan approval for the project in *The Pennsylvania Bulletin*, and directed ETL to publish a similar notice in a newspaper of general circulation in the area, in this case, *The Daily Item*. The Department also held a public hearing/meeting for the project, and also granted an extension to the 30-day public comment period, meeting the public participation requirements established by statue and regulation.

Comment 54 (General Public)
Commentators indicated that they think ETL needs to give give undisputable evidence that their proposal will not pollute the area prior to construction of the facility.

Response 54
The Department's air quality regulations were promulgated in order to address emissions from potential sources of air contamination such as the proposed project. The applicant demonstrated to the Department's satisfaction that its proposal will not result in emissions in excess of the limits established by these regulations. The Department may not withhold issuance of a permit for a project which demonstrates an ability to comply with all applicable air quality regulatory requirements.

Comment 55 (General Public)
Commentators encouraged National Gypsum to powering their plant by wind, solar, or biomass, and drop their plans for a tire-derived fuel plant.

Response 55
The Department reviews submitted applications in order to determine if the proposal will be compliant with all applicable air quality regulatory requirements. It is not within the Department's authority to define or modify an applicant's business plans. The Department encourages alternate means of energy

production and has established several programs that provide grants regarding alternate methods of energy production.

Comment 56 (General Public)
The estimates of cancer potency in humans contain many sources of uncertainty. Differences in these factors cannot be easily quantified and incorporated into a risk assessment. Other uncertainties arise in the assumptions underlying the dose response model used.

Response 56
The Department agrees that there are many sources of uncertainty in any health-related evaluation. However, the Department used the best available scientific data in order to determine the overall risk posed by the project, and where assumptions needed to be made, did so in a way that calculated the maximum potential risk, so that any error would be on the side of caution.
The risk assessment was conducted in accordance with the Department's Risk Assessment Guidelines for Facilities Burning Hazardous Waste, a guidance that the Department has utilized to evaluate other facilities such as commercial hazardous waste incinerators, boilers, industrial furnaces including facilities that combust TDF. Chronic health risks associated with the projected emissions from the facility via the inhalation pathway are well below the screening level benchmarks for cancer risk and below one percent of the respective non-cancer screening level benchmark for each of the compounds of potential concern. Please see the Department's Inhalation Risk Analysis review memo for more details.

Comment 57 (General Public)
Chemical pollutants have greater access to us through respiration than by any other means… chronic diseases of all kinds have a lot in common with DEP permits of all kinds. They are sharply on the rise.

Response 57
The Department conducts a lengthy and comprehensive review and applies best available control technology in order to minimize emissions to the maximum extent possible. The air quality regulations were promulgated in order to address emissions from potential sources of air contamination such as the proposed project. In this case, the Department also requested the company to conduct a risk assessment in accordance with the Department's Risk Assessment Guidelines for Facilities Burning Hazardous Waste. The applicant demonstrated to the Department's satisfaction that its proposal will not result in emissions in excess of the limits established by all applicable state and federal air quality regulations. The Department may not withhold issuance of a permit for a project which demonstrates an ability to comply with all applicable air quality regulatory requirements.

Comment 58 (General Public)
Best Available Technology and EPA standards are not good enough to protect our health and environment.

Response 58
Please refer to the responses for previous comments.

Comment 59 (General Public)
Tires do not contain lead. They do not contain mercury. You can't necessarily assume they will produce dioxins when burned.

Response 59
While the Department understands that lead and mercury compounds are not specifically used in the manufacture of tires, measureable quantities of certain HAPs emissions have been detected in combustion gases from tires and tire-derived fuel. The Department has established stringent emissions limitations and stack testing requirements for several such compounds to ensure that the short and long term risks posed by the emissions from the proposed project to not exceed the Department's inhalation risk assessment benchmarks.

Comment 60 (General Public)
No amount of filtering can possibly ever filter out all the tiny, tiny debris from burning tires. And this is what is very harmful about them.

Response 60
The Department acknowledges that emissions of particulate matter cannot feasibly be reduced to zero. However, the proposed project will be equipped with a robust particulate matter control system which will reduce such emissions to levels consistent with the best available technology. The Department also evaluated and established limits for ultrafine particulate matter, which includes particles with a diameter of 2.5 microns and less.

Comment 61 (General Public)
Multiple commentators requested information pertaining to any other fuels that the company planning to burn in the proposed project.

Response 61
The facility proposed in the plan approval application to utilize natural gas as a backup fuel. The plan approval allows for the facility to combust natural gas either alone, or in conjunction with the tire derived fuel. The Department is requiring that only natural gas be fired in the unit during periods of startup, shutdown, and malfunction. Additionally, the Department established more stringent short-term emission limits for the facility for periods where it is being fired solely on natural gas.

Comment 62 (General Public)
Commentators raised concerns regarding a large tire at the facility. Information was requested pertaining to what safeguards were in place to prevent/mitigate fires from occurring.

Response 62
The facility will be designed and operated in accordance with applicable fire control codes and regulations for similar facilities. The facility will not use whole tires and whole tires will not be stored on-site; therefore, there is minimal risk of a tire fire at the facility. Tire derived fuel (TDF) is produced by the mechanical shredding of whole tires into chips that are easily transported, stored and handled. The TDF will be produced off-site at existing tire recycling facilities and will be transported to the facility in bulk trailers. The TDF will be stored inside of the bulk trailers until it is charged into the

rotary kiln. The rotary kiln will convert the TDF into fuel gas, which is then combusted in the boiler. The storage of TDF in segregated trailers will essentially eliminate the risk of accidental TDF fires.

However, En-Tire proposed to develop and implement a fire prevention plan that will include contingency plans in the unlikely event of a fire involving TDF at the facility. En-Tire will also provide a draft of the fire prevention plan with state and local emergency response personnel for review and comment. The company indicated that any comments received on the fire prevention plan will be considered and incorporated into the final document. Additionally, ETL is required by the plan approval to notify the County Emergency Management Agency in a situation that poses an imminent and substantial danger to the public health and safety or potential harm to the environment.

Comment 63 (General Public)
I've been at meetings like this where people want to recycle the tires in a non-burning way, and the same challenges are there.

Response 63
The Department acknowledges the comment and agrees that there are many environmental challenges associated with the reuse or disposal of tires.

Comment 64 (General Public)
Please do not issue a permit for the proposed tire burning plant.

Response 64
The decision of the Department to issue, or deny, a Plan Approval for the construction and operation of air-contamination sources, such as the proposed project, is solely based on all applicable state and federal air quality regulatory requirements. The Department may not deny a Plan Approval for a source for which the application has demonstrated an intent and ability to comply with all applicable regulatory requirements.

Comment 65 (General Public)
Production of seven megawatts of electricity does not warrant the environmental risks involved.

Response 65
The primary purpose of the proposed project is to produce steam for NGC Industries, LLC's wallboard manufacturing process, which is currently accomplished by NGC's existing natural gas/fuel oil-fired boilers which are several decades old. The proposed project is a more modern cogeneration system, which is equipped with several add-on pollution control devices which the existing boilers do not have and also allows for the production of electricity in addition to providing the necessary steam. Due to the sophisticated control technologies and contemporary design on the proposed project, the emissions of some pollutants will be substantially reduced; however, tire-derived fuel also has the potential for certain emissions that would not be released during natural gas or fuel oil combustion. The Department evaluated these emissions as part of the review process and determined that the environmental risks associated with the ETL project are minimal.

Comment 66 (General Public)
There are better ways to create jobs than burning tires.

Response 66
The decision of the Department to issue, or deny, a Plan Approval for the construction and operation of the proposed project, is based on all applicable state and federal air quality regulatory requirements. The Department's decision is not predicated on non-air quality issues such as land values, job creation, economic benefit, energy independence, visual impact, the ability to secure other necessary approvals, grant eligibility, etc., regardless of the impacts of those factors.

Comment 67 (General Public)
Cleaner and safer alternatives to burning tires as fuel are available.

Response 67
It is not within the scope of the Department's mandate to dictate the business plans of applicants. ETL's primary purpose for the project is the combustion of tire-derived fuel. ETL provided all the information including a robust pollution control system to satisfy the state and federal regulatory requirements in order to utilize tire-derived fuel in their operation. The Department evaluated the BACT and BAT requirements for use of TDF and determined that the proposal meets all the applicable regulatory requirements. The Department reviews the plans submitted to it for compliance with the applicable air quality regulatory requirements.

Comment 68 (General Public)
Commentators indicated that the technologies proposed for this project are not new or groundbreaking.

Response 68
The combination all of the aspects of the project with the proposed configuration and fuel type are unique, and the level of emissions controls included exceeds that of similarly sized contemporaneous sources. The Department's review of the project concluded that the proposed facility will be capable of combusting tire-derived fuel without releasing emissions to the atmosphere at levels that will pose excessive risks to the surrounding community.

Comment 69 (General Public)
It doesn't make sense for National Gypsum to start burning tires when they are currently burning natural gas, which is readily available at low cost and relatively clean.

Response 69
Choosing which fuel types a facility will utilize is a business decision and is generally outside of the scope of the Department's regulatory authority. The Air Quality program's role is to ascertain that the emissions to the ambient atmosphere from such fuel use will not exceed any limits established by state and federal regulation, are mitigated to the maximum extent feasible through the use of best available technology, and will not pose excessive health risks to the surrounding community. The Department performed an extensive review of the project and determined it met these criteria. Additionally, though NGC is currently combusting natural gas in their boilers, they are also capable of and permitted to combust fuel oil. The potential emissions from fuel oil combustion in the existing boilers greatly exceed those from the proposed project for several significant pollutants.

Comment 70 (General Public)
Who is funding this project besides the tire company?

Response 70
Data on the source of funding for a project is outside the scope of the air quality regulatory review and was not submitted with the plan approval application. In this case, ETL is responsible for the proposed project. The Department required a compliance review form to be submitted with the plan approval application detailing management information regarding ETL and related companies.

Comment 71 (General Public)
Commentators inquired how approving this facility is fulfilling the Department's mission to protect Pennsylvania's air, land, and water from pollution and to provide for the health and safety of its citizens through a cleaner environment.

Response 71
The Department protects the air resources of the Commonwealth by ensuring that emissions from new and modified sources are controlled to the maximum extent feasible through the application of best available technology. While construction of a new emissions source will almost always result in an emissions increase in the short term, over the long term, as sources are retired and replaced, emissions to the atmosphere are reduced. The Department aggressively monitors air quality across the Commonwealth in order to comply with Federal and State laws and regulations concerning criteria pollutant monitoring, to gauge the effectiveness of the air quality program in meeting health-based National Ambient Air Quality Standards, including ozone, particulate matter, carbon monoxide, lead, nitrogen dioxide, and sulfur dioxide. The Commonwealth's expansive monitoring network is consistent with EPA's criteria for demonstrating that areas are attaining and maintaining the standards. The Department has been administering its new source permitting program for several decades under the authority of the Clean Air Act and the Air Pollution Control Act, and has sufficient data to conclude that it has been an effective long term strategy for abating air pollution.

Comment 72 (General Public)
It is implausible that this plant will make our community's air or environment better and not worse. If that conviction is mistaken, I respectfully request your written explanation of how it is not true.

Response 72
Please see the response to the previous comment. Additionally, the proposed project reduces potential emissions of nitrogen oxides, one of the primary components of smog formation, by almost 200 tons per year as compared to the existing NGC boilers firing natural gas. Additionally, should NGC fire its boilers on #6 fuel oil, potential annual emissions of particulate matter would be 65 tons higher and potential annual emissions of sulfur oxides would be nearly 3000 tons greater than those projected from the ETL project. The estimated HAPs emissions from the ETL project are 2 tons per year greater than those from the existing NGC boilers fired on natural gas, and 3.5 tons less than those from #6 fuel oil.

Comment 73 (General Public)
I am writing to voice my support for the project. It is encouraging that a very plentiful waste product can be disposed of in an environmentally safe manner while producing steam and electricity.

Response 73
The Department acknowledges the commenter's support. However, the decision of the Department to issue, or deny, a Plan Approval for the construction and operation of the proposed project, is based on all applicable state and federal air quality regulatory requirements.

Comment 74 (General Public)
Commentators inquired as to the status of other dedicated tire incineration facilities, their compliance histories, and the significance of violations that have occurred there. Commentators requested that any such violations at these facilities be incorporated into the review of the ETL project.

Response 74
The Department does not consider these environmental violations committed by unrelated parties to be indicative of potential violations at the ETL facility. The Department thoroughly reviewed ETL's plan and concluded that ETL will comply all applicable regulatory requirements. If the plant is constructed and operated, the Department will also be conducting inspections periodically in order to ensure that ETL complies with all applicable regulatory requirements. Additionally, the Department required a compliance review form to be submitted with the plan approval application detailing any violations committed by ETL or related companies over the last 5 years. The Department reviewed this form and no previous violations were noted.

Comment 75 (General Public)
ETL has been continuously changing its plans, and submitted four different applications over the last year.

Response 75
En-Tire had submitted two different plan approval applications since the project was initially proposed. The first plan approval, submitted on October 11, 2011, was withdrawn by the company for major changes to the design of the project. A second plan approval application was submitted to the Department on March 19, 2012, incorporating these changes. Subsequent submittals by the company were responses to the Department's requests for more detail on specific aspects of the project, and not revisions to the plan approval application.

Comment 76 (General Public)
How do the EPA rules and regulations fit into the tire burning project?

Response 76
The applicability of various EPA regulations was assessed in the plan approval application review. The federal air quality regulations of primary significance to which the project is subject are the New Source Performance Standards (NSPS), National Emissions Standards for Hazardous Air Pollutants (NESHAPs), Compliance Assurance Monitoring (CAM), and Prevention of Significant Deterioration (PSD). The NSPS establishes emissions limits for nitrogen oxides and sulfur oxides, and requires continuous emissions monitors for these pollutants. The NESHAPs, also often referred to as MACT, establishes emission limits, monitoring, and work practice standards for hazardous air pollutants (HAPs). CAM establishes additional monitoring requirements to ensure proper operation of any control devices used to achieve compliance for emissions of pollutants which are not measured by continuous monitors. PSD requires the applicant to demonstrate that subject emissions from the project will not

threaten attainment of the National Ambient Air Quality Standards (NAAQS) and to apply the EPA's "Best Available Control Technology" standard. This project is only subject to PSD for emissions of greenhouse gases, for which there are no NAAQS; however, the Best Available Control Technology standard has been applied.

Comment 77 (General Public)
Commentators requested an explanation as to how the estimates for truck traffic were arrived at. Commentators noted that it says in the plan approval application that each year on the roadways, ETL's trucks will have fugitive emissions of approximately 14.4 tons of TDF, dry sorbent, or fly ash.

Response 77
The estimates of truck traffic were derived from the facility's total daily consumption of fuel and dry sorbent, daily production of ash, and the average carrying capacity of each type of truck. EPA emissions data on the average amount of road dust produced by a truck on paved roads based on truck weight was used with the number and weight of trucks to calculate 1.1 tons per year of fugitive road dust created by the traffic associated with the proposed project. No appreciable amount of fugitive TDF, dry sorbent, or ash is expected to be emitted from the trucks. Additionally, the truck traffic is not allowed to create fugitive emissions beyond the limits specified in 25 Pa. Code Section 123.1.

Comment 78 (General Public)
Commentators stated that the additional truck traffic necessary for the project will exacerbate the existing congestion issues caused by all the trucks on the roadways in the area. Commentator requested what considerations the Department gives to truck traffic when issuing a plan approval.

Response 78
Traffic concerns, other than on-site fugitive road dust production, are outside the scope of the air quality plan approval application, and were not considered as part of the review process. Truck traffic can also be regulated at the local level. Commercial truck traffic in the Commonwealth is regulated by the Pennsylvania Department of Transportation.

Comment 79 (General Public)
Continuous emission monitors should be required for more/all pollutants to be emitted by the project.

Response 79
ETL will be operating Continuous Emission Monitoring Systems (CEMS) to measure emissions of NO_x, SO_x, and CO. However, continuous emission monitors are not available for all pollutants to be emitted by the project and, in many cases, what is available is costly and/or unreliable, and there is no regulatory basis for requiring the applicant to install them. Compliance with emissions limits for pollutants not measured by continuous monitors will be achieved through a combination of periodic stack testing, periodic fuel sampling, fuel consumption monitoring, and continuous monitoring of control device operating parameters (e.g. pressure drop, flow rate, temperature, pH). In addition to continuously monitoring SO_x, NO_x, and CO emissions, ETL will also be required to use the above information to calculate the pollutant emission rates on a monthly basis.

Comment 80 (General Public)
Commentators stated that the air in the area is already heavily polluted, prone to temperature inversions, and this project will add to the pollution.

Response 80
Due to the projected emissions of criteria pollutants from the proposed project being below the major emissions threshold, the facility is not required to conduct modeling to assess the impacts of air inversions on the ambient air quality. However, the Department aggressively monitors air quality across the Commonwealth in order to comply with Federal and State laws and regulations concerning criteria pollutant monitoring, to gauge the effectiveness of the air quality program in meeting health-based National Ambient Air Quality Standards (NAAQS), including ozone, particulate matter, carbon monoxide, lead, nitrogen dioxide, and sulfur dioxide. Available monitoring and modeling data has not alerted the Department to any changes in the attainment status for the counties located in the Northcentral region of the Commonwealth, including Union County.

Comment 81 (General Public)
Tire combustion will create malodorous emissions.

Response 81
The prohibition on malodorous emissions is an air quality regulatory requirement and has been included in the plan approval. ETL is required to comply with the prohibition on malodors.

Comment 82 (General Public)
We need air quality monitors in White Deer because of the malodors given off by the pig farms.

Response 82
The Department aggressively monitors air quality across the Commonwealth in order to comply with Federal and State laws and regulations concerning criteria pollutant monitoring, to gauge the effectiveness of the air quality program in meeting health-based National Ambient Air Quality Standards, including ozone, particulate matter, carbon monoxide, lead, nitrogen dioxide, and sulfur dioxide. The Commonwealth's expansive monitoring network is consistent with EPA's criteria for demonstrating that areas are attaining and maintaining the standards. However, air quality monitors are not designed to detect malodorous emissions. Additionally, the air quality program does not regulate pig farms.

Comment 83 (General Public)
The burning of tires will result in soot covering homes in the area.

Response 83
The emissions from the project were evaluated by the Department, and enforceable limitations representing the best available technology were established as requirements. The particulate matter emission limitation established for the project is very stringent, and two control devices, a fabric collector and a wet scrubber, will be utilized to achieve compliance with this limitation. The Department also established a visible emissions standard and limitations. Consequently, the Department does not expect this project to result in soot covering homes or other objects in the vicinity.

Comment 84 (General Public)
It is a tragic farce for the PA DEP to hide behind permittable regional air quality standards to allow this facility to be constructed and operated.

Response 84
It is the responsibility of the Department to issue, or deny, a Plan Approval for the construction and operation of air-contamination sources, such as the proposed project, is based on the review of all applicable state and federal air quality regulatory requirements.

Comment 85 (General Public)
This region is under mandate to participate in the Chesapeake Bay Watershed clean-up. In my view, the En-Tire plant emissions will be extremely harmful to the Susquehanna River Basin and will be counterproductive to the current cleanup mission.

Response 85
The details Chesapeake Bay Watershed clean-up are beyond the scope of the air quality plan approval application review; however, nothing in this plan approval relieves the applicant from any responsibility to comply with any other applicable requirements to which the facility is subject. This includes any regulatory requirements pertaining to water quality or the Chesapeake Bay Watershed clean-up program.

Comment 86 (General Public)
Has DEP investigated the wetlands portion of this property?

Response 86
Review of requirements pertaining to wetlands are outside the scope of the air quality plan approval review process. However, the Department and the applicant are both aware of the wetlands on this property. The Department's Waterways and Wetlands program conducted an investigation on this issue.

Comment 87 (General Public)
What will be done with the toxic ash created by the combustion of tire-derived fuel?

Response 87
Because the tire-derived fuel will be combusted with the metal wire still included, the applicant expects the ash to contain relatively high levels of valuable metals for which a commercial market exists. Ash resulting from the combustion process will be sold to a third party for re-use or appropriately disposed of in a landfill permitted to accept such materials.

Comment 88 (General Public)
It is our understanding that the Township Zoning Ordinance prohibits the construction of this project.

Response 88
The applicant submitted as part of the plan approval application, a letter of zoning approval from the East Buffalo, Kelly, and White Deer Township's Department of Planning & Zoning Administration. Therefore, the Department (PA DEP) concluded that the project will comply with any local zoning ordinances. However, nothing in the air quality plan approval relieves the facility owner or operator

from the obligation to comply with all applicable federal, state and local laws and regulations; therefore, if the commenter is correct, and the Township Zoning Ordinance does prohibit the construction of this project, then it cannot move forward, despite having been issued an air quality plan approval from the Department.

Comment 89 (General Public)
The ammonia tank will leak or explode someday.

Response 89
The 10,000 gallon ammonia tank proposed as part of the project is associated with the "Selective Catalytic Reduction" (SCR) control device. In this process, the ammonia is injected into the flue gas stream, and, in the presence of a catalyst, reacts with nitrogen oxides, a criteria pollutant, to form water and nitrogen gas, neither of which poses an environmental risk when emitted into the atmosphere. SCR is a fairly common control device for mitigating emissions of smog-forming nitrogen oxides and many combustion units throughout the country are equipped with this type of system. Additionally, the Department not received any reports from the companies operating these systems indicating ammonia storage tanks associated with SCR systems commonly leak, explode or otherwise pose an excessive risk. Additionally, the Department notes that ammonia storage tanks of sufficient capacity are subject to the accidental release provisions of the Clean Air Act.

Comment 90 (General Public)
The proposed project is actually an incinerator.

Response 90
The project does not meet the regulatory definition of an incinerator. For the purposes of the Air Quality regulatory review, the Department considers this source to be a two-stage combustion process composed of a kiln and a boiler. Additionally, the project qualifies as an industrial boiler. All applicable requirements including applicable Federal and State regulations pertaining to the process and class of boiler proposed have been included in the plan approval. In addition, appropriate monitoring, recordkeeping and reporting conditions regarding compliance with the applicable regulatory requirements have been included in the plan approval.

Comment 91 (General Public)
Several commentators requested the Department hold a public hearing for this project.

Response 91
On May 2, 2013, the Department held a public hearing/meeting on this project at the Warrior Run Area Fire Department in Allenwood, PA. The Department also accepted comments on the project from March 30, 2013 through July 5, 2013.

Comment 92 (General Public)
Where does En-Tire propose to get all the tires they need?

Response 92
ETL intends to receive its tire-derived fuel from Emanuel Tire Company. However, the permittee is not restricted to receive its fuel from only this vendor, and may receive fuel shipments from other TDF suppliers if necessary. A condition has been included in the plan approval requiring monthly sampling of the TDF to determine the energy content of the fuel necessary for demonstrating compliance with the emissions limitations.

Comment 93 (General Public)
The plant owners need to provide complete and accurate data regarding plant equipment and procedures as well as the chemical composition of everything that will be burned.

Response 93
The permittee supplied adequate information for the Department to complete its review of the air contamination aspects of the source. Technical information regarding fuel characteristics and facility procedures that relate to air quality that were reviewed by the Department are maintained in the facility's permit file, which is available for public review at the Northcentral regional office.

Comment 94 (General Public)
Construction of the project will negatively affect property values.

Response 94
The decision of the Department to issue, or deny, a Plan Approval for the construction and operation of air-contamination sources, such as the proposed project, is based on all applicable state and federal air quality regulatory requirements. The Department's decision is not predicated on non-air quality issues such as land values, job creation, economic benefit, energy independence, visual impact, the ability to secure other necessary approvals, grant eligibility, etc., regardless of the impacts of those factors.

Comment 95 (General Public)
If the project is built, nobody will want to attend Bucknell University anymore.

Response 95
Please see the responses to the previous comments.

Comment 96 (ETL)
Please specify in the plan approval that the two-stage combustion process includes a rotary kiln stage and a boiler stage.

Response 96
The name of the subject source in the plan approval is now "Two Stage Combustion Process (Rotary Kiln/Boiler)".

Comment 97 (ETL)
The reporting frequency in the plan approval should be revised to require semiannual submittals. This would reduce the administrative burden associated with the purpose, and would be consistent with

NESHAP requirements, and does not eliminate the need to maintain monthly emission reports that are available at request.

Response 97
The Department has revised the reporting frequency to semiannual.

Comment 98 (ETL)
Short term emission limitations for pollutants that are not measured by Continuous Emissions Monitoring Systems should be qualified with "as determined by the appropriate US EPA reference emission test methods". Annual emission limitations for such pollutants should specify that they are calculated.

Response 98
The pollutant emissions that are not measured by Continuous Emissions Monitoring Systems are calculated based on recent stack testing data and the latest emission factors data. Therefore, it is not necessary to revise the plan approval conditions.

Comment 99 (ETL)
The emissions limitations should include a requirement to calculate and tabulate emissions on a calendar monthly basis in accordance with a recordkeeping protocol that is reviewed and approved by PA DEP.

Response 99
The following monitoring condition has been included in the plan approval which fulfills this purpose: "The permittee shall monitor emissions of VOCs, PM, PM10, PM2.5, GHGs, Sulfuric Acid Mist, and HAPs, including Mercury, Hydrogen Chloride, and Dioxins/Furans, by using fuel consumption data and the most recent stack testing results to perform emissions calculations, on a calendar monthly basis, to verify compliance with the emissions limitations."

Comment 100 (ETL)
The short term dioxin/furan emission limitation should be removed as this is already addressed in condition 019 in the draft plan approval (relating to initial stack testing to verify the risk assessment).

Response 100
The Department disagrees that these conditions are redundant, and the short term dioxin/furan emission limitation will be maintained in the plan approval.

Comment 101 (ETL)
The short term emission limitation for total hazardous air pollutants should be removed as individual hazardous air pollutants of concern have already been assigned short term emission rates.

Response 101
The Department has removed the short term emission limitation for total HAPs.

Comment 102 (ETL)
Stack testing of emissions from the facility should only be required initially at startup and once per term of the permit (every five years) thereafter.

Response 102
Due to the unique nature of the project, the Department considers annual stack testing of TDF emissions to be necessary. The Department may consider revising the testing frequency in the future should several consecutive tests demonstrate consistent results. Emissions testing while firing 100% natural gas has been revised to the requested frequency.

Comment 103 (ETL)
The greenhouse gas emission limitation of 117 lb CO_2e/MMBtu of heat input during periods of startup and shutdown should be eliminated because steam production will be greatly reduced during these periods.

Response 103
The Department understands that during periods of startup and shutdown, production of useful steam is not the primary operating concern. Consequently, the Department established an emission limitation based on heat *input* to the facility during these periods, rather than a limit based on steam production, as per normal operation of the facility. This condition will be retained in the plan approval.

Comment 104 (ETL)
The condition allowing the Department to revise allowable emission limitations within two years of startup should be restricted to only apply to the emissions of pollutants included in the risk assessment.

Response 104
Due to the relative lack of actual operating data for a facility of this type while combusting TDF, the Department considers this condition necessary for all pollutants. The condition will be retained in the plan approval as proposed.

Comment 105 (ETL)
The ASTM Active Standard D6700-01 is not applicable to facility operations, because the combustion unit was not originally designed to combust fuels other than TDF, and processing of whole tires into TDF will not be performed on-site. Therefore, the plan approval should not require compliance with this standard.

Response 105
The ASTM Standard D6700-01 requirement is removed from the condition of the plan approval.

Comment 106 (ETL)
The fabric filter will not be used to control emissions during 100% natural gas firing scenarios. The condition requiring a specific inlet temperature to the fabric filter should specify that it is only applicable when tire-derived fuel is being combusted.

Response 106
The condition has been revised to state that the flue gas temperature at the inlet to the fabric collector shall not exceed 200°F while firing TDF.

Comment 107 (ETL)
The language in the condition requiring verification of the estimated emission rates used in the risk assessment should be revised to clarify that the estimated emission rates are not emission limitations.

Response 107
The Department does not consider it necessary to revise the language used in this condition. Additionally, Condition 011 of the plan approval which establishes short term emission limitations for specific compounds analyzed in the risk assessment allows for modification of the list. Emissions limitations for other compounds included in the risk assessment may be established should initial stack testing indicate the need to do so.

Comment 108 (ETL)
PADEP's requirement for the facility to adhere to the provisions of the policy document "*Risk Assessment Guidelines for Facilities Burning Hazardous Waste*" for the combustion of TDF is excessive because the facility will not be combusting hazardous waste.

Response 108
Due to the unique nature of the project, the Department considers this condition is necessary to provide adequate assurance that the emissions from the facility will not pose unnecessary levels of risk to the surrounding community.

Comment 109 (ETL)
The stack testing requirements should specify that initial testing for NO_x, SO_x, and CO may be required pending the certification status of the Continuous Emissions Monitoring Systems for these pollutants.

Response 109
The requested language has been added to the stack testing requirements.

Comment 110 (ETL)
Phase 1 CEMS information should be required 60 days prior to the planned startup date, rather than 180 days.

Response 110
The Department requires Phase 1 CEMS information 180 days in advance in order to ensure the data can be reviewed and approved prior to operation of the facility. This is to ensure the anticipated startup date will not need to be postponed on account of delays in the review of this information.

Comment 111 (ETL)
The CAM plan should clearly define the period over which an excursion can occur. Additionally, CAM is not required for NO_x, SO_x, and CO emission limitations, as these pollutants will be measured by CEMS.

Response 111
The Department agrees with this comment, and has excluded NO_x, SO_x, and CO from the CAM plan. Additionally, averaging periods for required parametric monitoring have been included in the plan.

Comment 112 (ETL)
The limitation on total dissolved solids for the cooling tower water should be removed. ETL proposes to establish a recordkeeping protocol to calculate and track emissions on a monthly basis to demonstrate compliance with the particulate matter emissions limitations for the cooling tower.

Response 112
The Department has revised the conditions related to the cooling tower as requested.

FINAL DETERMINATION

Pursuant to 25 Pa Code Chapter 127, all comments submitted during the public comment period and at the public hearing have been reviewed and are appropriately addressed in this document. It is the Department's determination that, after consideration of all comments received and revisions to the proposed Plan Approval, the available information indicates EN-TIRE Logistics of Milton PA, LLC's proposed construction of a tire-derived fuel/natural gas-fired two-stage combustion unit, associated control devices, and ancillary sources at the site of the NGC Industries, LLC facility, located in White Deer Township, Union County will meet the emission limitations and the conditions set forth in the Plan Approval, and will comply with all applicable State and Federal air quality regulatory requirements.

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