



Comment Response Document

***Commonwealth of Pennsylvania
Department of Environmental Protection***

***Moxie Freedom LLC
Moxie Freedom Generation Plant
Permit Decision (Approved)
Plan Approval 40-00129A
Salem Twp., Luzerne County***

***Public Comment Period Dates
May 30, 2015 – July 14, 2015
Public Hearing on July 7, 2015***

September 1, 2015

Department of Environmental Protection

www.depweb.state.pa.us

PROJECT DESCRIPTION

On May 30, 2015, the Department of Environmental Protection (Department or DEP) published in *The Pennsylvania Bulletin* a Notice of Intent to Issue Plan Approval No. 40-001209A for Moxie Freedom LLC (the Permittee) to construct the proposed Moxie Freedom Generation Plant in Salem Twp., Luzerne County, as described in the Permittee's October 6, 2014 Plan Approval Application and subsequent supplemental submissions. The proposed Plan Approval authorizes the construction of two identical 1 x 1 power blocks, each consisting of a combustion gas turbine (CGT or CT) and a steam turbine (ST) configured in single shaft alignment, where each CT and ST train share one common electric generator. The turbines to be used for this project are two General Electric (GE) 7HA.02 CTs, each in 1 x 1 single shaft combined-cycle power islands.

Duct burners (DBs) will be installed in the heat recovery steam generators (HRSGs) of the proposed new units. Each CT and duct burner will exclusively fire pipeline-quality natural gas. The HRSGs will be equipped with selective catalytic reduction (SCR) to minimize nitrogen oxide (NO_x) emissions and oxidation catalysts to minimize carbon monoxide (CO) and volatile organic compound (VOC) emissions from the CTs and DBs.

The Project will also include several pieces of ancillary equipment. Moxie Freedom has provided typical specifications based on certain vendors and will procure equipment equivalent to the equipment detailed in the application. The list of equipment includes:

- One fuel gas dew-point heater - natural gas fired, common for all CTs
- Two CT inlet evaporative coolers - one for each CT (not emissions sources)
- Two air-cooled condensers (ACCs) - one for each HRSG (not emissions sources)
- One auxiliary boiler, natural gas-fired
- One diesel engine powered emergency generator
- One diesel engine powered fire water pump
- Diesel fuel, lubricating oil, and aqueous ammonia storage tanks

LIST OF COMMENTERS

| List of Individuals providing testimony concerning Plan Approval Application No. 40-00129A |
|---|
| 1. Dennis Shepler |
| 2. Dean Marshall |
| 3. Leonard Rossi |
| 4. Gary Gregory |
| 5. Freddy Fransen |
| 6. Brian Banowski |
| 7. Angela McCabe |
| 8. Chet Banowski |
| 9. John Hower |
| 10. Dierdre Lally |
| 11. Rob Leonard |
| 12. Holly Creasy (Written Comments submitted to DEP) |
| 13. Mark Golden (Written Comments submitted to DEP) |
| 14. Ronald and Barbara Lipsi (Written Comments submitted to DEP) |
| 15. Dennis and Jill Shepler (Written Comments submitted to DEP) |
| 16. Dave Campbell (Written Comments submitted to DEP) (Director EPA) |

Several comments were received during a 30-day written comment period following publication of the Department's Notice of Intent to Issue. During that comment period, requests to conduct a public meeting and public hearing were received. On July 7, 2015, the Department held a public hearing at the Berwick High School concerning the proposed Plan Approval 40-00129A for the Moxie Freedom Generation Plant. The hearing was advertised in a local paper of general circulation.

During the public hearing, a representative from Moxie Freedom LLC presented information about the proposed project, and ten individuals presented testimony. This document briefly summarizes the testimony presented during the public hearing and provides the Department's response to relevant comments received. The comments are not intended to be a complete summary of each individual's testimony, but rather to identify the issue or comment raised and provide the context for the Department's response. The testimony of each individual was transcribed, is available in its entirety at the DEP's Northeast Regional Office, and may be accessed by any person wishing to review it by scheduling a file review with the Department at (570) 826-2511.

Public Comments and Department Responses

1. Comment

General concern about the possible effects on water quality and quantity, if inordinate amounts of water are taken from the groundwater near our home (the Shickshinny, Mocanaqua area). The community is concerned about the possibility of losing our wells. Citizens wanted to know how much water is going to be used on a daily basis.(Dennis and Jill Shepler, Ronald and Barbara Lipsi, Freddy Fransen, Brian Banowski, Holly Creasy, Rob Leonard, Dierdre Lally)

DEP Response

The regulation of water usage, including potential impacts to private water supplies, is primarily within the jurisdiction of the Susquehanna River Basin Commission (SRBC) and is not considered in DEP's review of air quality plan approval applications.

However, the Department's understanding is that Moxie Freedom conducted water testing to determine whether the company's proposed withdrawal of water would impact neighboring private water-supply wells and document the yield and water quality of the proposed water supply source, which are on-site wells. The company has indicated that none of the wells would be impaired by the Project's construction and operation. Additionally Moxie Freedom also indicated that the SRBC requires monitoring of water withdrawal to ensure that the private water-supply sources are not impacted.

With regard to the quantity or amount of water to be acquired from the on-site wells, Moxie has stated that it requested approval from SRBC for withdrawal of up to 62,000 gallons per day (GPD) from newly developed wells. Moxie has also requested authorization from SRBC to consumptively use up to 92,000 GPD of groundwater. The difference between the consumptive use amount and the water withdrawal amount results from water storage tanks that will be constructed at the site as part of the project. These numbers are maximum amounts and Moxie has indicated that there will be many days when withdrawal and use amounts will be much lower.

Information about Moxie Freedom applications pending before the SRBC may be obtained from the commission online at www.srbc.net (under public participation) at 4423 North Front Street, Harrisburg, PA 17110 or by contacting them at (717) 238-0423.

2. Comment

General concern about safety especially during construction, testing, and gas leaks related to safety and possible explosions. (Dean Marshall, Mark Golden, Dierdre Lally, Angela McCabe)

DEP Response

Agencies other than DEP, (i.e. the Federal Energy Regulatory Commission (FERC), the federal Occupational Safety and Health Administration (OSHA), the Pennsylvania Emergency Management

Agency (PEMA), and the Pennsylvania Public Utility Commission (PUC)) are responsible for regulating safety. Moxie Freedom will be required to abide by all applicable regulations regarding plant safety.

DEP has presented this concern to Moxie and the company has stated that, with regard to explosions, the project will include detection, alarm and safety shutdown systems designed to monitor, detect and shut down systems, as well as the entire facility, should a situation arise that could potentially lead to a hazardous situation, including a potential explosion. Moxie has also stated that it will be responsible for ensuring sufficient numbers of properly equipped personnel, including plant personnel, are available at all times to respond to emergencies or other incidents at the project.

Moxie Freedom has further stated that it has engaged with local emergency response personnel, including the Salem Township Volunteer Fire Company and the Luzerne County Emergency Management Agency, and provided relevant agencies a copy of its environmental emergency response plan that includes provisions for training coordination, incident notifications, and emergency equipment availability. It has further stated that it has incorporated all comments received from these agencies into its emergency response planning.

3. Comment

General concern about cumulative effects, e.g., pipeline projects export projects compressor stations etc. Commenter believes DEP should consider aggregate impacts. (Dean Marshall)

DEP Response

Moxie's Plan Approval application is subject to the requirements of the Prevention of Significant Deterioration (PSD) Program, which includes the need to perform an air quality modeling analysis. The modeling analysis takes into consideration emissions from the proposed source, as well as sources of other emissions within a certain area. Moxie Freedom performed such modeling, and the results demonstrated that emissions from the proposed facility would not cause or contribute to air pollution in violation of the National Ambient Air Quality Standards (NAAQS), which are designed to protect health, welfare and the environment.

For permitting purposes, DEP also make single source determinations, under which emissions from other sources are aggregated with the proposed source where certain criteria are met. That criteria includes: (1) the sources are from the same industrial grouping; (2) the sources are all located on one or more contiguous or adjacent parcels; and (3) the sources are under the control of the same person. In applying this criteria to Moxie's application, aggregation of Moxie's emissions with other sources was not required since the requirements of the three part test were not met.

While Moxie's project does not meet the single source criteria, the cumulative effects of multiple sources are accounted for in air contaminant concentrations in the ambient atmosphere through the Department's monitoring network. The Department aggressively monitors air quality across the Commonwealth in order to comply with Federal and State laws and regulations concerning criteria pollutant monitoring, and to gauge the effectiveness of the air quality program in meeting NAAQS, which are designed to protect health, welfare and the environment, including ozone, particulate

matter, carbon monoxide, lead, nitrogen dioxide, and sulfur dioxide. The monitoring data has not alerted the Department to any changes in the attainment status for the counties located in the Northeast region of the Commonwealth.

4. Comment

General concern about toxic air emissions, impacts to sensitive persons.(Dean Marshall, Dennis and Jill Shepler, Freddy Fransen, Angela McCabe, Holly Creasy, Mark Golden, Ronald and Barbara Lipsi, Dierdre Lally, Robert Leonard)

DEP Response

The Plan Approval cannot be issued unless DEP determines that the Project will satisfy all applicable requirements of the Air Pollution Control Act and its implementing regulations and that the emissions will not cause or contribute to a violation of NAAQS. There are two types of NAAQS for the criteria pollutants (SO₂, PM, NO_x, CO, O₃ (ozone) and lead): (1) Primary Standards, which are designed to protect human health, taking into consideration sensitive populations, including children, the elderly and individuals with respiratory ailments; and (2) Secondary Standards designed to protect public welfare, including effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, property, and climate, as well as effects on economic values and on personal comfort and well-being.

For this type of a project, to which the requirements of the PSD program applies, applicants like Moxie are required to perform an air quality dispersion modeling analysis that takes into consideration emissions from other sources within a certain radius to ensure that the NAAQS will not be exceeded. Moxie Freedom performed such modeling, and the results demonstrated that emissions from the proposed facility would not cause or contribute to air pollution in violation of the NAAQS.

Additionally, the Project must be designed in accordance with all applicable regulations, including Best Available Control Technology (BACT) since it is a PSD source and Best Available Technology (BAT) for emissions control equipment. All emission limitations established in the Plan Approval must be satisfied and there are provisions for continuous emissions monitoring, as well as other types of monitoring to ensure compliance with emission limits.

5. Comment

These individuals' comments in are support of the Project.(Leonard Rossi, Gary Gregory, John Hower)

DEP Response

The Department acknowledges that both commenters support the proposed project. It is important to note that the Department's decision to issue, or deny, a Plan Approval for the construction and operation of a source or facility 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, grant eligibility, or other non-air quality factors, regardless of the impacts of those factors.

6. Comment

General comment about natural gas not being a renewable resource (Freddy Fransen)

DEP Response

As part of its plan approval application, Moxie Freedom conducted a thorough review of alternatives to the Project, including alternative sites, sizes, production processes, and environmental control techniques for the proposed project. The production process alternatives considered included fossil fuels, renewable energy technologies (e.g., wind, solar, biomass, geothermal and hydropower), energy efficiency and conservation, and the no-action alternative. In general, renewable energy processes were removed from consideration because they could not produce adequate amounts of electrical power needed to meet the expected energy demands.

7. Comment

General concern about animal displacement and impacts to animals in general (Dennis and Jill Shepler, Freddy Fransen, Angela McCabe)

DEP Response

The Clean Air Act (CAA) established two thresholds of NAAQS for the six criteria pollutants. The criteria pollutants list consists of ozone, carbon monoxide (CO), nitrogen oxides (NO_x), sulfur oxides (SO_x), particulate matter (PM), and lead. Primary Standards establish limits to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly. Secondary Standards establish limits to protect public welfare, including effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, property, and climate, as well as effects on economic values and on personal comfort and well-being. Therefore, the Secondary Standards are designed to provide protection for animals. As discussed above, Moxie Freedom was required to perform air quality dispersion modeling, which was reviewed by the Department, to demonstrate that the facility would not cause exceedences of the NAAQS. The modeling did not indicate that there would be any exceedences or that protection of animals would be jeopardized.

Additionally, Moxie has indicated that it performed a Pennsylvania Natural Diversity Inventory (PNDI) search of the project area and consulted with other state and federal agencies responsible for wildlife management. While there will be certain impacts associated with construction of the facility, Moxie, Freedom is required to abide by all federal, state and local requirements regarding impacts to plant and animal species.

8. Comment

General concern about sewer discharge (Brian Banowski, Chet Banowski)

DEP Response

Sewage discharge from the Moxie Freedom Generation Plant will be to an on-site sewage disposal system. The company has been in discussion with the DEP Clean Water Program concerning the approval process. The company must first submit their sewage planning models to Salem Township. Final approval must be granted by the DEP prior to initiating operation of the facility.

9. Comment

General concern about noise (Brian Banowski, Holly Creasy, Ronald and Barbara Lipsi)

DEP Response

Noise is often regulated at the local level through noise ordinances; however the Department's understanding is that Salem Township does not have a noise ordinance. In consideration of the comment, the Department has presented this issue to Moxie Freedom and the company has indicated that as part of its Conditional Use Approval issued by Salem Township, Moxie Freedom is required to keep noise levels at or below 53 dBA (a-weighted decibels) standing 400 feet from the closest edge of the air-cooled condenser ("ACC"), which is below the EPA protective noise level for outdoor activity interferences and annoyance. The Conditional Use Approval also requires Moxie Freedom to limit construction work to hours between 7 am and 7 pm, Monday through Saturday with limited exceptions for "(i) activities that by their nature, e.g., large foundation concrete pours, testing (radiographic testing, hydro-testing, work quality testing, etc.), plant start-up and steam blows, large equipment deliveries using multi-axle transport equipment, etc., that should not or cannot be interrupted; and (ii) indoor activities." Finally, the Conditional Use Approval establishes conditions whereby Moxie Freedom must construct an earthen berm on the western side of the Project Site with evergreen trees to help minimize noise impacts and provide advance notice to Salem Township in the event Moxie Freedom anticipates unusual noise or additional hours required for construction.

Moxie Freedom also stated that they performed baseline noise surveys to identify noise sensitive areas (NSAs). The results of those surveys will be used to design the power plant facilities in a manner that is noise sensitive. Moxie Freedom will select equipment with associated sound enclosures, as well as minimize excess noise generation by including sound attenuation designs in the power plant building. Once construction has been completed, Moxie has stated that it will re-perform noise survey and compare them to base-line estimates to confirm conformance with design parameters. Should the surveys indicate levels above those guaranteed by Moxie Freedom's contractors and equipment vendors, correction/redress will be pursued.

10. Comment

Question on permit transferability with reference to other power plants developed by subsidiaries of Moxie Energy, LLC (Robert Leonard)

DEP Response

Should the Moxie Freedom Generation Plant or any interests in Moxie Freedom, LLC be sold to a third party, the air quality plan approval will be subject to applicable regulations relating to amendments or transfers of plan approvals.

11. Comment

General concern about emission monitoring and adherence to permit conditions (Robert Leonard)

DEP Response

The Pennsylvania Air Pollution Control Act and its implementing regulations, as well as the federal Clean Air Act and its implementing regulations, require DEP to include monitoring, recordkeeping, and reporting provisions in the Plan Approval that will measure compliance with the emission limits in the Plan Approval. The Project must be operated and maintained in compliance with the conditions of the Plan Approval, and the failure to do so would subject the holder of the Plan Approval to the various remedies to compel compliance in the Air Pollution Control Act.

The cumulative effects of multiple sources are accounted for in air contaminant concentrations in the ambient atmosphere. The Moxie Freedom facility has performed an air quality analysis that adequately demonstrates that Moxie Freedom's proposed emissions will not cause or significantly contribute to air pollution in violation of the NAAQS. In addition, the analysis adequately demonstrates that Moxie Freedom's proposed emissions, in conjunction with anticipated emissions due to general commercial, residential, industrial, and other growth associated with the facility, will not impair visibility, soils, and vegetation.

The air contaminant emissions from the Moxie Freedom Generation Plant will be monitored by a combination of continuous emission monitoring systems (CEMS), EPA reference method stack testing, parametric monitoring as well as recordkeeping and reporting. Upon certification that the CEMS will operate in accordance with the methods and procedures acceptable to the Department and EPA, the emissions measured by the continuous emissions monitoring systems will be submitted electronically to the Department's Division of Source Testing and Monitoring in Harrisburg. The data received by the Division of Source Testing and Monitoring is used to generate quarterly reports that are reviewed by the Department to verify compliance with the emissions limitations. In addition, Moxie will conduct periodic stack tests and the Department also typically observes testing of major sources to verify only test methods and procedures acceptable to the Department are utilized.

12. Comment

General concern about added air emissions to the area. (Robert Leonard)

DEP Response

The Plan Approval cannot be issued unless DEP determines that the project will satisfy all applicable requirements of the Air Pollution Control Act and its implementing regulations and that the emissions will not cause or contribute to a violation of NAAQS. Moxie Freedom performed air quality modeling, and the results demonstrated that emissions from the proposed facility would not cause or contribute to air pollution in violation of the NAAQS. Those standards are based on the protection of human health, welfare and the environment.

13. Comment

What is the source of the gas supply which will operate this plant?(John Hower)

DEP Response

DEP's consideration of the source of the natural gas supply for the Moxie Freedom Project is limited in the plan approval process to whether the quality of the natural gas is such that the proposed Project can meet its emission levels. In this case, Moxie Freedom will obtain pipeline quality natural gas from the Transcontinental Gas Pipe Line Company; LLC (part of Williams Company, Inc. and unaffiliated with Moxie Freedom) pipeline running west/east that approximately bisects the Project Site. The emission limits specified by DEP in the Draft Plan Approval take into consideration the constituents of the pipeline quality natural gas proposed to be used by Moxie Freedom.

14. Comment

The plant is designed to create air pollution above allowable limits, and there is no assurance that it will be able to buy or trade to obtain emission reduction credits. (Mark Golden)

DEP Response

The Plan Approval cannot be issued unless DEP determines that the facility will satisfy all applicable requirements of the Air Pollution Control Act and its implementing regulations and that the emissions will not cause or contribute to a violation of the NAAQS. The Project must be designed in accordance with all applicable regulations, including Best Available Control Technology ("BACT"), since it is a PSD source, and Best Available Technology ("BAT"). Moxie must meet all emission limitations established in the Plan Approval, including provisions for continuous emission monitoring.

The Plan Approval contains a condition requiring the permittee to "secure 247 tons per year of NOx emission reduction credits ("ERCs") and 90 tons per year of VOC ERCs. The ERCs shall

be properly generated, certified by the Department, and processed through the registry no later than the date approved by the Department for commencement of operation of the proposed facility.” The ERCs are required to be obtained in accordance with the provisions of 25 Pa. Code § 127.201 through 217. Credits may be obtained in Pennsylvania, as well as New York and Maryland, states with which Pennsylvania has reciprocal agreements. Regarding availability of ERCs, the applicant’s consultant (Evolution Markets) provided a letter indicating that there are sufficient quantities of ERCs in the market that are or will be available for purchase prior to the commercial operation date of the Project. The letter from Evolution Markets is included in the Plan Approval Application.

15. Comment

To my knowledge, there has not been a study of a potential explosion radius and its potential impact on surrounding housing, schools, businesses, and especially the Susquehanna Nuclear Plants. The NRC should be involved in the decision making process to ensure that the proposed Moxie Plant does not pose a nuclear safety issue, and that procedures are in place to provide appropriate casualty reactions by both the state and local authorities, including evacuation plans and fire suppression plans. I am concerned that Salem Township has only a volunteer fire department and that it is neither trained, equipped nor prepared for the level of casualty that could occur at the proposed Moxie Plant. (Mark Golden)

DEP Response

Agencies other than DEP, (For example the Federal Energy Regulatory Commission (FERC), the federal Occupational Safety and Health Administration (OSHA), the Pennsylvania Emergency Management Agency (PEMA), and the Pennsylvania Public Utility Commission (PUC)) are responsible for regulating safety and those issues do not fall with the plan approval review process. The NRC is also not involved in the Department’s plan approval process. Nevertheless, Moxie Freedom will be required to abide by all applicable regulations regarding plant safety and has indicated to the Department that, with regard to explosions, the Project will include detection, alarm and safety shutdown systems designed to monitor, detect and shutdown systems, as well as the entire facility, should a situation arise that could potentially lead to a hazardous situation, including a potential explosion. Moxie has also stated that it will be responsible for ensuring sufficient numbers of properly equipped personnel, including plant personnel, are available at all times to respond to emergencies or other incidents at the Project.

Moxie Freedom has also indicated that they have engaged with local emergency response personnel, including the Salem Township Volunteer Fire Company and the Luzerne County Emergency Management Agency, and provided relevant agencies a copy of its environmental emergency response plan that includes provisions for training coordination, incident notifications, and emergency equipment availability. Moxie Freedom has further indicated that they incorporated all comments received from these agencies into its emergency response planning.

16. Comment

I am concerned that Salem Township has only a volunteer fire department and that it is neither trained, equipped nor prepared for the level of casualty that could occur at the proposed Moxie Plant. (Mark Golden)

DEP Response

The training and equipping of local fire departments is not part of the DEP's review of air quality plan approval applications.

Moxie Freedom indicated that they have engaged with local emergency response personnel, including the Salem Township Volunteer Fire Company and the Luzerne County Emergency Management Agency, and provided relevant agencies a copy of its environmental emergency response plan that includes provisions for training coordination, incident notifications, and emergency equipment availability. Moxie Freedom has indicated that they incorporated all comments received from these agencies into its emergency response planning.

17. Comment

Concern of road usage (especially during a construction phase).(Ronald and Barbara Lipsi)

DEP Response

DEP does not consider off-site road usage in its review of air quality plan approval applications. However, the Department does have regulations pertaining to fugitive emissions which have been put into the Plan Approval.

According to Moxie Freedom, they have prepared a traffic study to assess the amount and types of traffic that will be generated during and after construction of the Project as part of its Conditional Use Approval from Salem Township. Salem Township's Conditional Use Approval included a condition that all non-local traffic use Mingle Inn Road and State Route 11 for access to the Project Site.

The results of the initial traffic study submitted to Salem Township were used to develop a Traffic Plan that was submitted to PennDOT. In addition to the Traffic Plan, Moxie Freedom also submitted a Highway Occupancy Permit application to PennDOT.

18. Comment

Why Moxie Energy is pursuing a water-cooled system rather than an air-cooled system (the possibility exists for mine water to be pumped into the plant, and subsequently released into the river)?(Dennis and Jill Shepler)

DEP Response

Moxie Freedom has proposed to use air-cooled condensers rather than a water cooled system.

19. Comment

Dave Campbell, Director EPA (Written Comments submitted to DEP)

EPA has provided a detailed review of the draft plan approval to be issued to Moxie Freedom LLC for the construction and operation of the said Project. EPA's comments pertain directly to the draft plan approval and requested several changes in language and conditions within the draft plan approval.

The Department has reviewed the recommended changes to the draft plan approval by EPA and has made all the recommended changes. The EPA comments and the Department's response are attached to this response.

FINAL DETERMINATION

Pursuant to 25 Pa. Code Chapter 127, all comments submitted during the public hearing have been reviewed and are appropriately addressed in this document. It is the view of the Department that, after consideration of all comments received and revisions to the Plan Approval, the available information indicates that Moxie Freedom LLC construction of the Moxie Freedom Generation Plant and associated control devices located in Salem Twp., Luzerne County will meet the emission limitations and the conditions set forth in their application and the Plan Approval, and will comply with all applicable State and Federal air quality regulatory requirements.

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