



Division of Air Pollution Control Response to Comments

Facility ID:	0204012023
Facility Name:	Petmin U.S.A. Inc.
Facility Description:	Merchant Pig Iron Production
Facility Address:	1003 Bridge Street Ashtabula, OH 44004 Ashtabula County
Permit:	P0127678, Permit-To-Install - Initial Installation
A public notice for the draft permit issuance was published in the Ohio EPA Weekly Review and appeared in The Star Beacon April 6, 2020. The comment period was scheduled to end May 11, 2020 but was extended to May 15, 2020.	
Hearing date (if held)	May 7, 2020
Hearing Public Notice Date (if different from draft public notice)	

The following comments were received during the comment period specified. Ohio EPA reviewed and considered all comments received during the public comment period. By law, Ohio EPA has authority to consider specific issues related to protection of the environment and public health. Often, public concerns fall outside the scope of that authority. For example, concerns about zoning issues are addressed at the local level. Ohio EPA may respond to those concerns in this document by identifying another government agency with more direct authority over the issue.

To help you review this document, the questions are grouped by topic and organized in a consistent format. PDF copies of the original comments in the format submitted are available upon request.

1. Topic: U.S. EPA comments received on May 11, 2020:

Questions:

- a. Table 10 of BACT Analysis Summary in the permit lists Tier II engine as BACT for EU P009 and P010 but the BACT analysis table on page 57 of the application list tier 4 engines as BACT for NO_x. Which engine requirement do emission units P009 and P010 need to meet?

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

Response:

Yes, the Best Available Control Technology (BACT) Analysis Summary was misstated in the permit by incorrectly describing emission units P009 and P010 as using Tier II engines. The BACT limits are taken from Table 4 of 40 CFR 60, Subpart III. For nitrogen oxides (NO_x) and non-methane hydrocarbon (NMHC), the limit is equivalent to Tier III emissions standard for fire pumps.

- b. Condition 2f)(1)a. states that emission limits for PM₁₀ and PM_{2.5} for EU F001 were based on assumptions of vehicle miles traveled. The vehicle miles traveled listed increased from those listed in the previous draft PSD permit, but the emission limit for PM_{2.5} remained the same and the emission limit for PM₁₀ increased by 0.01 tons per year. Were the changes in vehicle miles traveled taken into consideration when establishing the emission limits?

Response:

Yes, there were discrepancies with the vehicle miles traveled (VMT) in the testing section of the previous draft Prevention of Significant Deterioration (PSD) permit by omitting the maintenance truck and its VMT and incorrectly stating the VMT for the CO₂ truck. The following table lists corrected values of VMT that should have been listed in the testing section of the previous draft permit. Please note the emissions limits in the previous draft PSD permit were correct. Also, the VMTs and the emissions limits in Condition 2.f)(1)a. of this draft PSD permit are correct.

Vehicles	VMT (mi/yr)	PM₁₀ (tpy)	PM_{2.5} (tpy)	VMT (mi/yr)	PM₁₀ (tpy)	PM_{2.5} (tpy)
Permits	Previous PTI	Previous PTI	Previous PTI	Current PTI	Current PTI	Current PTI
Slag pot carrier	98	0.01	0.00	108	0.01	0.00
Slag truck	1,347	0.05	0.01	1,485	0.06	0.01
Fines truck	236	0.01	0.00	289	0.01	0.00
Maintenance truck	4,148	0.04	0.00	4,148	0.04	0.00
CO₂ truck	2,420	0.10	0.01	2,420	0.10	0.01
Total		0.21	0.02		0.22	0.02

Comments:

- a. Conditions in C.1.f)(1)a-d include emission calculations for determining compliance and these calculations are based on pre-determined numbers (including heat input rate). The permit must include some method of

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

measuring operating conditions at this unit to verify compliance with the BACT limits.

Response:

The startup boiler's operating load is expected to be minimal. It will provide steam heat to process equipment before startup of operations and to provide steam heat, at times, when operating top-gas treatment (CO₂ removal) equipment. The company is seeking an independent, specialty gas producer to buy and recover its feedstock of CO₂ emissions. This would reduce the demand for steam from this boiler.

Condition C.1.c)(1) includes an operational restriction that prohibits the firing of any fuel, except for natural gas in the boiler. Condition C.1.d)(2) includes the monitoring and recording of the type and amount of fuel fired in the boiler during each calendar month.

Permit terms were added to monitor and record the actual, 12-month, rolling emission rate of each PSD pollutant and to report exceedances of any emissions limitation.

- b. Condition C.2.b)(2)a. includes requirements to treat unpaved roadways and parking areas by commercial dust suppressants and/or watering at sufficient treatment frequencies to ensure compliance. Please specify a minimum frequency or conditions for dust suppression/watering.

Response:

Condition C.2.b)(2)a. includes the following sentence:

“Control measures shall be implemented at the frequency identified by inspections performed in accordance with the Work Practice Plan.”

The Work Practice Plan will be submitted to and approved by Ohio EPA, Northeast District Office (NEDO) to minimize or eliminate fugitive dust emissions. The Work Practice Plan will identify inspection frequencies and the inspections will determine the need for implementing control measures. Records of inspections and roadway/parking lot treatments are required.

- c. Condition C.3.d)(2) specifies that the thermal oxidizer's combustion temperature shall not be more than 50 degrees Fahrenheit below the average temperature measured during the most recent performance test. It is recommended that in order to maintain compliance with the applicable emission limitation, the permit language be revised to state that the acceptable combustion temperature during any period of time when this

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

emissions unit controlled by the thermal oxidizer is in operation, shall not be less than the average temperature measured (in degrees Fahrenheit) during the most recent compliant stack test, based on a 3-hour block average. It is also recommended that the permit include a schedule for initial performance testing.

Response:

SO₂ is generated from the oxidation of H₂S that is removed along with CO₂ during top-gas treatment. A sulfur compound is dosed into the process gas to prevent corrosion in the tubes of the process gas heater. The thermal oxidizer is in series with the SO₂ scrubber. The thermal oxidizer converts H₂S to SO₂ and the scrubber removes SO₂ emissions from the gas stream.

An initial performance test for SO₂ has been added to the permit, and permit terms have been revised to state that the temperature of the thermal oxidizer shall be maintained at a temperature not less than the average temperature measured (in degrees Fahrenheit) during the most recent stack test, based on a 3-hour block average.

Testing will be required within 6-months of startup of operations of the top-gas treatment process.

- d. Condition C.3.d)(4) states that the acceptable pressure drop across the SO₂ scrubber, liquid flow rate, and the liquid pH shall be based upon the manufacturer's specifications until performance testing is conducted, but there is no schedule of performance testing for SO₂ included in the permit. It is recommended that a schedule for performance testing be included in the permit in order to establish an acceptable pressure drop range across the scrubber, liquid flow rate, and liquid pH level.

Response:

Testing will be required within six months of startup of operations of the top-gas treatment process for the removal of CO₂ and H₂S gases from the process reducing gas.

The manufacturer's pressure drop, flowrate, and pH ranges will be verified during initial performance testing by monitoring and recording each parametric monitoring value at intervals of at least every 15 minutes for the duration of each test run. If parametric monitoring values differ from the range recommended by the manufacturer, an adjustment will be made. The manufacturer's parametric monitoring ranges or adjusted ranges will be established in the Title V operating permit. The parametric monitoring ranges will be treated in the same manner for subsequent

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

performance tests and will be established in the Title V operating permit by minor permit modification or at renewal, whichever is appropriate.

- e. Conditions C.3.f)(1)a.-d include emission calculations for determining compliance and these calculations are based on pre-determined numbers (including gas flow rate). The permit must include some method of measuring operating conditions at this unit to verify compliance with the BACT limits.

Response:

Additional terms have been added to the permit to record the operating hours of the process gas heater, the operating hours of top-gas treatment and to determine emission rates of PSD pollutants.

In addition, additional emissions test runs will be added to the permit for measuring emissions while operating with and without the top-gas treatment. The data from the emissions test runs will be used to verify the emissions calculations.

- f. Condition C.3.f)(2) includes a requirement for emission testing to demonstrate compliance with NO_x and CO emissions. The permit should include language to update the emission factors used to demonstrate compliance when the results of emissions testing indicate that the emission factors need to be revised.

Response:

In C.3.f)(1), additional language was added to include the use of the most recent results from performance testing to calculate NO_x and CO emissions.

- g. Condition C.3.f)(2) also includes a requirement to conduct emission testing with 6-months of startup, but the permit does not include a schedule for subsequent testing. The permit should be revised to include a testing schedule to ensure continued compliance with the emission limits.

Response:

The results of the initial emission test required in this Permit-to-Install (PTI) will determine the future emission test frequency for the process gas heater based on "Ohio EPA Engineering Guide #16." The future emission test frequency for this emissions unit will be established in the Title V operating permit.

- h. Condition C. 5.c)(2) states that the acceptable range or limit for the

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

pressure drop across the NH₃ scrubber, the liquid flow rate, and the liquid pH shall be based upon the manufacturer's specifications until such time as any required performance testing is conducted and the appropriate range for each parameter is established to demonstrate compliance. It is recommended that the permit include a schedule for initial performance testing to verify the ammonia scrubber pressure drop, liquid flow rate, and liquid pH to ensure continued compliance with the NH₃ emissions limit.

Response:

After a thorough review of the process, Ohio EPA will not require emission testing at this time. The review has taken into consideration that this is a very small emitting source (0.00264 lb/hr and 0.012 ton per rolling, 12-month period) and the selection to use a packed bed, wet scrubber has been proven to be a successful control option for ammonia emissions.

Any objectionable odors detected of future operation may result in a request by this agency to conduct performance testing.

Until performance testing is conducted for this emission unit, the permittee shall maintain the pressure drop across the scrubber, liquid flowrate and liquid pH based upon the manufacturer specifications.

- i. Conditions in C.5.f)(1)a-d include emission calculations for determining compliance and these calculations are based on pre-determined numbers (including heat input rate). The permit must include some method of measuring operating conditions at this unit to verify compliance with the BACT limits.

Response:

Additional terms have been added to the permit to record the operating hours of the flare and determine emission rates of PSD pollutants.

- j. Condition C.6.f)(1)c. includes emission calculations for determining compliance with CO_{2e} and this calculation is based on the manufacturer's emission factor. It is recommended that the permit include testing to verify the emission factor and ensure compliance with the BACT limit.

Response:

Initial testing for CO₂ has been included in the permit and will be required within six months of the startup of the Electric Arc Furnace (EAF).

- k. Condition C.6.f)(2)a requires initial performance tests to be conducted within 6 months of startup of the EAF but it does not list a schedule for subsequent testing to ensure continued compliance with emission limits. It

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

is recommended that a schedule for subsequent performance testing be included in the permit.

Response:

The results of the initial emission test required in this PTI will determine the future emission test frequency for the process gas heater based on "Ohio EPA Engineering Guide #16." The future emission test frequency for this emissions unit will be established in the Title V operating permit.

- I. Conditions C.9.f)(1)a-d include emission calculations for determining compliance and these calculations are based on pre-determined numbers (including heat input rate). The permit must include some method of measuring operating conditions at this unit to verify compliance with the BACT limits.

Response:

The emergency electrical generators are certified by the manufacturer to meet Tier IV, BACT limits. Each generator must be equipped with a non-resettable hour meter. The permit restricts the running of each generator to 100 hours per year for non-emergency operations and requires the operator to report any exceedance of this restriction.

2. Topic: Ohio EPA's Network of Air Quality Monitoring Sites for demonstrating compliance with National Ambient Air Quality Standards (NAAQS):

Comments:

- a. I understand that classification of Ashtabula County as an attainment zone for ozone (and other pollutants) is based on standards set in 2015. The 2015 threshold for attainment is 70 ppb whereas the 2008 threshold was 75 ppb, and in general the threshold has consistently decreased over time. Is it expected that a review and update of ozone attainment levels in 2020 would result in another decrease and would this affect Ashtabula County's classification as attainment for ozone?

Response:

The United States Environmental Protection Agency (U.S. EPA) is currently undertaking the lengthy review process of evaluating the national ambient air quality standard (NAAQS) for ozone. At this time, there is no information to report and it is unknown if the standard will be revised.

- b. Based on current ozone levels as measured at the Conneaut monitoring station, is it anticipated that ozone emissions (as byproduct of NO_x and

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

VOCs) from the pig iron plant will increase ozone levels enough to reclassify Ashtabula County as a non-attainment zone? Has any analysis been done so far to answer this? If the pig iron plant emissions push Ashtabula County past the 70-ppb threshold for 8-hour ozone, how will this affect the ability of future industries that emit ozone (or ozone precursors) to construct and operate facilities within the county?

- c. I understand that attainment/nonattainment zones are determined by County geography. Does it concern the Ohio EPA that under similar guidelines, if attainment/nonattainment zones were based on City geography, Ashtabula City would qualify as a nonattainment zone, and therefore this proposed Petmin project would not be granted a permit to pollute based on the additional pollutants that this pig iron plant will emit, further decreasing the air quality in the City of Ashtabula?
- d. Is the Ohio EPA concerned about secondary pollutants that will form from the combination of gas components and particle components? For example, NO_x combined with certain VOC's will create Ozone. Has the Ohio EPA studied any of these secondary pollutants, and if so, what are the results of the study?

Response:

For comments 2.b. through 2.d., Ohio EPA reviewed the analysis presented in the permit application for predicting the formation of secondary ozone and agreed with its conclusion that the amount of secondary ozone will be insignificant. The ozone formation contributed from the release NO_x from this project is expected to be less than 1 part per billion (ppb). The analysis used evaluation methods in U.S. EPA's guidance document, "Memorandum, Guidance on the Development of Modeled Emission Rates for Precursors (MERPs) as a Tier 1 Demonstration Tool for Ozone and PM_{2.5} under the PSD Permitting Program."

The geographic areas of non-attainment areas are chosen after a detailed look at monitoring data, demographics, travel patterns and industry locations. Ohio EPA submits their recommendations to U.S. EPA. U.S. EPA reviews the Ohio EPA recommendation before proposing the selection in the Federal Register. Comments are received concerning the selected area and then U.S. EPA finalizes the result. At this time, we do not have a reason to believe that a small area like the City of Ashtabula would measure non-attainment.

See also response to 2.e-k and l.

- e. I understand that classification of Ashtabula County as an attainment zone for ozone (and other pollutants) is based on data collected from a single

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

monitoring station in Conneaut, Ohio. Is this correct? Can you please explain the process by which data from monitoring stations is collected, analyzed, and used to make attainment/nonattainment classifications? I am concerned that data from a single monitoring station in Conneaut does not accurately represent the entire county, and that it will not be sufficient to monitor potentially hazardous levels of NO_x, ozone, and CO emitted from the Petmin facility in the City of Ashtabula.

- f. Is it true that air quality for all of Ashtabula County is monitored via a single monitoring station located in Conneaut, Ohio and that data collected at that site is (or will be) used to determine whether Ashtabula County is classified as an attainment zone for ozone and other pollutants?

How is the data from this station collected and analyzed and what criteria must be met to determine attainment (or non-attainment) classification?

How can one station in Conneaut provide an accurate representation of air quality and potentially hazardous levels of pollution within the immediate area (or even within a five mile radius) of the many family homes, beaches, parks and local businesses that are located in the Ashtabula Harbor area or for that matter, throughout the entire county?

Are the results of the analyzed data (good or bad) going to be made available to the citizens of Ashtabula? if so, how?

- g. The only air quality monitor in Ashtabula County (in Conneaut) only monitors Ozone and SO₂, not NO_x, CO, PM₁₀, PM_{2.5}, or other pollutants that will be emitted by this plant.

How can Ashtabula County be in compliance with national and state standards if we are not monitoring them locally?

And if monitoring of those other pollutants (outside of SO₂ and Ozone) has been done, where can the public go to view that data?

- h. This facility will be a major emitter of nitrogen oxides (NO_x) and minor emitter of volatile organic compounds (VOCs). I am concerned about the local increase in ozone levels as a byproduct of NO_x and VOC emissions. According to the EPA's EJSCREEN mapping tool, areas within a 1-mile radius of the proposed pig iron plant rank within the bottom 18 percent (highest levels of ozone) of all monitored areas in the United States for ozone levels.

I understand that Ashtabula County is not currently listed as a non-attainment zone for ozone based on having less than 70 parts per billion (ppb) in 8-hour ozone emissions from data collected at the Conneaut monitoring station.

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

Is this determination based on an average of 8-hour ozone emissions over some period of time, or on individual episodes exceeding the 70-ppb limit, or some other method?

Where can the public review archived data from the Conneaut monitoring station to confirm that ozone readings meet these standards? I have searched the EPA's "Air Quality Reports for Ohio" and have found data for the Conneaut station is only provided for the current and previous day relative to the search.

- i. How will overall air quality be monitored if this project moves forward in order to make sure that this facility stays in compliance of EPA air quality standards?
- j. Has there been a long-term study of the area so as to create a baseline from which the amount of emissions can be compared against? The nearest air quality monitor is roughly 10 miles from the proposed plant site; this monitoring station only monitors ozone and SO₂, there is no baseline in place for which to compare Particulate Matter.
- k. How will overall air quality be monitored to ensure that this facility stays in compliance with the EPA air quality standards? Will this information be available to the public? If so, how?

Response:

For comments 2.e. through 2.k., Ohio has one of the largest air quality monitoring networks in the United States. The monitoring network is designed to evaluate the air quality against the National Ambient Air Quality Standards (NAAQS) for criteria pollutants (Particulate matter (PM), sulfur dioxide (SO₂), carbon monoxide (CO), nitrogen dioxide (NO₂), ozone, and lead).

The number, type, and location of monitors is all dictated by federal rules and policies that were developed to follow the requirements of the Clean Air Act (CAA). All monitors must meet U.S. EPA criteria. There are significant quality assurance procedures that must be followed in order to ensure the resulting data are accurate and of high quality.

Monitoring is expensive. The monitors themselves are expensive. The work involved in establishing, maintaining, testing, and quality assurance of the monitors is also very labor-intensive and expensive. Because of the significant expense, it is not financially prudent to locate monitors in all locations. Instead, detailed procedures and approvals are in place to locate monitors where they are truly needed to determine the air quality. When air quality is shown to consistently meet the NAAQS, monitors are discontinued to reduce unnecessary costs.

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

Most of these monitors are designed to determine the overall air quality in large areas – typically multi-county areas. They generally describe the air quality in those areas, but they cannot determine individual variation in local neighborhoods and, typically, will not be able to be used to determine localized impacts. For localized impacts due to individual sources, other tools are used. For instance, for the Petmin U.S.A. project, detailed computer modeling was used to determine the expected localized impacts.

Determining an area's attainment status is a complex process that is dictated by U.S. EPA rules and policies. Generally, the data from the applicable monitor are reviewed. If the data show attainment, then Ohio EPA prepares detailed data, holds a hearing to collect public comments on the change, submits that data to U.S. EPA for review. U.S. EPA then proposes to approve or deny in the federal register and collect citizens comments, then U.S. EPA finalizes the attainment status. If the commenter wants to know more about this process, please contact Ohio EPA and we can provide you with more information.

For 2.e through 2.k, yes, it is correct that Ashtabula County attainment status is determined by the ozone monitor located in Conneaut. Ohio EPA maintains the monitor and its data under a quality assurance program that conforms with the requirements of 40 CFR Part 58, Appendix A and B. Ohio has quality assurance auditors who conduct independent quality assurance evaluations for ambient monitoring network activities.

Data is collected during ozone season from March 1 to Oct. 31. These data are used to compute four of the highest, consecutive eight-hour averages for the season. The fourth highest-averages for each of the past three consecutive years are then averaged and compared with the NAAQS to determine whether the county is in attainment for ozone. The procedures for computing the averages are found in Appendix U of 40 CFR Part 50.

The monitoring station in Conneaut also contains an SO₂ monitor that is used to determine whether the county is in attainment.

Other monitors in nearby counties are used to determine the attainment status for Ashtabula County. Ohio EPA's Air Monitoring Network Plan goes out for public comment and is approved by U.S. EPA. Ohio's ambient air quality network must comply with the applicable requirements of 40 CFR Part 58 Appendices A through E.

Each year, Ohio EPA publishes an "Annual Air Quality Report." It provides maximum values of pollutants in units of applicable air quality standards at each monitor in the state, discussion of results, emission trends, special projects, and more.

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

Annual Air Quality Reports for calendar years 2002 through 2018 may be found at the following Ohio EPA website:

<https://www.epa.state.oh.us/dapc/ams/amsmain#127237263-reports>

You may find archived monitoring data at the following website:

U.S. EPA:

<https://www.epa.gov/outdoor-air-quality-data/interactive-map-air-quality-monitors>

Ohio EPA:

Through a public records request made to the Agency's public records manager, Richard Boudier at Richard.boudier@epa.ohio.gov.

Please see also response 2.i.

- I. How does a monitor in Conneaut show what will be in the air in our neighborhoods around this plant, and Lake Shore Park?

Response:

Individual monitors can measure only the pollution they detect at their respective locations and are designed to measure the overall concentrations of the measured pollutants in the broad area.

Over time, the monitor will measure pollutant concentrations from air masses that come from all directions, including air masses that come from the neighborhoods and from Lake Shore Park.

The siting of monitors in Ohio's air quality monitoring network is dictated by federal rules, and U.S. EPA approves all monitor locations. If the commenter is interested in learning more about the monitoring siting requirements, the rule that defines the requirements is Appendix D of 40 CFR 58 (see: <https://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&r=PART&n=40y6.0.1.1.6>).

- m. Given that there is only one air monitoring station in Ashtabula County, in Conneaut which is 15 miles away, and the EPA has current limitations in monitoring due to COVID-19, the community is interested in purchasing their own air monitoring equipment. There are some home monitoring systems that we are considering and it links real-time data nationwide. Does EPA have recommendations for sources of air monitoring equipment?

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

Response:

Ohio EPA, Division of Air Pollution Control (DAPC) does not have any recommendations for purchasing air pollution monitoring equipment to be used by the community. Collecting quality assured monitoring data is expensive and time consuming. The commenter is welcome to contact the Ohio EPA air pollution control Monitoring Section to get a better idea about what all goes into monitoring air pollution.

Real-time monitoring data and forecasts of air quality across the country can be found at U.S. EPA's AirNow website: www.airnow.gov. This is viewed as an air quality index and raw data.

Real-time monitoring data from statewide monitors can be found at Ohio EPA's AirOhio website: <https://epa.ohio.gov/dapc/airohio/index>. This is viewed as an air quality index and raw data.

Real-time hourly monitoring data, yet to be quality controlled or assured, from statewide monitors can be found at the following Ohio EPA website:

<http://wwwapp.epa.ohio.gov/AirOhio/paramnow.htm>

More on quality assurance of data can be found at this Ohio EPA website: https://epa.ohio.gov/dapc/airohio/report_AQ_reports

- n. Where is the Ashtabula County monitor? We have the largest county with the least amount of people...how many monitors do we have in this county?
- o. Where, exactly, are the air monitors in Ashtabula County? We have seen only one, in Conneaut. Please clarify where the monitors are located.

Response:

For comments 2.n and 2.o, there are two monitors for ozone and sulfur dioxide, located at 770 Lake Road, Conneaut.

3. Topic: National ambient air quality standards (NAAQS):

Comments:

- a. Are the standards being met based on the Air dispersion modeling was performed to show allowed emission levels will not cause or contribute to an exceedance of any National Ambient Air Quality Standard (NAAQS)?

Response:

The permit section titled "Staff Determination for the Application to Construct under Prevention of Significant Deterioration Regulations for Petmin U.S.A.," notes the air dispersion modeling was submitted by the

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

facility and was reviewed by Ohio EPA and subsequently U.S. EPA. PM₁₀, PM_{2.5}, and NO₂ emissions were evaluated to determine the downwind concentrations from the proposed project. The modeling results were compared to the NAAQS and are listed below:

Pollutant	Averaging Time	MAX Modeled Concentration (including background) (µg/m ³)	NAAQS (µg/m ³)
PM ₁₀	24-hr	43.58	150
PM _{2.5}	24-hr	24.62	35
PM _{2.5}	Annual	9.28	12
NO ₂	1-hour	102.4	188
NO ₂	Annual	30.87	100

The modeled emissions from the proposed project and nearby offsite sources produced downwind concentrations that were less than the NAAQS.

- b. Has a study been done to show what impact these levels of emissions will have on the most at-risk populations (Elderly, Children, individuals with COPD, Asthma, cardiovascular and/or respiratory issues, etc.)?
- c. Environmental studies have shown that ultra-fine particles have potentially more dangerous health effects on humans than PM₁₀ or PM_{2.5} particles, since the larger particles are trapped in the nasal cavities or bronchial tubes, whereas Ultra-fine particles end up in the Alveoli deep within the lungs with no escape, leading to lung cancer, as well as impacting other body organs. Why do the US EPA and the Ohio EPA air pollution requirements not address these dangerous particles? Are you concerned about this issue?
- d. The American Lung Association currently rates Ashtabula County's Air Quality with an "F" due to our current levels, how then is it appropriate to increase the amount of air pollution in this area?
- e. Ashtabula County has been given an F rating for ozone pollution by the American Lung Association. How can the emissions from Petmin not make this situation even worse?

Response:

For comments 3.b. through 3.e., U.S. EPA is mandated by the Clean Air Act (CAA) to establish and periodically revise the NAAQS. These standards are designed to be protective of human health, especially to the

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

very young, the elderly, and people with asthma, and are set to include a margin of safety. These standards are based on the latest scientific knowledge that accurately reflect the kind and extent of all identifiable effects on public health and the environment and are reviewed every five years.

Studies on ultra-fine particulates were included in U.S. EPA's reviews and updates to the PM standards.

NAAQS are of the utmost importance to U.S. EPA and Ohio EPA in establishing air quality standards that not only protect the health of the general public but protect the most sensitive populations including children, the elderly, and people with respiratory diseases.

It is our understanding the American Lung Association rating was based on older data (2016-2018) when Ashtabula County was in non-attainment with the NAAQS. In 2020, Ashtabula County meets the NAAQS and U.S. EPA has designated the area as attainment – meaning the area now meets all NAAQS.

4. Topic: Attainment and non-attainment:

Comments:

- a. Please define attainment versus non-attainment meaning!
Response:

Attainment is a geographical area where the concentrations of pollutants in the air are at or below the primary NAAQS.

Non-attainment is a geographical area where concentrations of pollutants in the air are above the primary NAAQS.

Below are the NAAQS:

NAAQS:				
Pollutant	Primary/ Secondary	Averaging Time	Level	Form
Carbon Monoxide (CO)	primary	8 hours	9 ppm	Not to be exceeded more than once per year
		1 hour	35 ppm	
Lead (Pb)	primary and secondary	Rolling 3-month average	0.15 µg/m ³	Not to be exceeded
Nitrogen Dioxide (NO _x)	primary	1 hour	100 ppb	98 th percentile of 1-hour daily maximum concentrations, averaged

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

				over 3 years	
Ozone (O ₃)	primary and secondary	8 hours	0.070 ppm	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years	
Particulate Matter	PM _{2.5}	primary	1 year	12.0 µg/m ³	Annual mean, averaged over 3 years
		secondary	1 year	15.0 µg/m ³	Annual mean, averaged over 3 years
		primary and secondary	24 hours	35 µg/m ³	98 th percentile, averaged over 3 years
	PM ₁₀	primary and secondary	24 hours	150 µg/m ³	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide (SO ₂)	primary	1 hour	75 ppb	99 th percentile of 1-hour daily maximum concentrations, averaged over 3 years	
	secondary	3 hours	0.5 ppm	Not to be exceeded more than once per year	

- b. Have we Ashtabula not been a non-attainment zone in the recent past?

Response:

Ashtabula County has been considered non-attainment in the past for multiple pollutants. However, the air quality has improved in Ohio and Ashtabula County over time. Most recently, on Jan. 6, 2017, U.S. EPA re-designated the Cleveland area, which includes Ashtabula County, as attaining the 2008 ozone NAAQS of 0.075 ppm. Once this occurred, Ashtabula County became attainment for all pollutants.

Monitoring data has shown that the area is also meeting the tighter, 2015 0.070 ppm ozone standard. This concurs with U.S. EPA's Regulatory Impact Analysis (RIA) predicting a downward trend in the concentration of ozone for Ashtabula county. In the RIA, the county is expected to reach an ozone concentration level of 0.062 ppm by 2025. You may find the RIA at the following website:

https://www3.epa.gov/ttn/ecas/docs/ria/naaqs-o3_ria_final_2015-09.pdf

- c. On the EJ screen (EPA environmental justice tool - <https://ejscreen.epa.gov/mapper/>) it shows that Ashtabula is over the 50th

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

percentile of PM_{2.5} and over 75th percentile in ozone, lead paint indicator, superfund proximity, hazardous waste proximity and wastewater discharge indicators. Per Center for Environmental Health and Justice Ashtabula would be considered a “Sacrifice Zone” as it bears considerable toxic pollution currently. How will the projected USA air permit numbers affect the above numbers? Can Petmin U.S.A. and EPA demonstrate that the projected pollution in the new air permit will not affect Ashtabula’s attainment zone status (attainment vs. nonattainment)? See screen shot of the EJ mapper tool below:

Response:

In some areas, Ohio EPA does an Environmental Justice (EJ) analysis. An EJ analysis is designed to help ensure one population does not experience a disproportionate share of pollution. EJ Screen is a tool developed by USEPA to assist state and local governments and the public to see if there may be EJ concerns in a specific area that require further analysis. EJ considers a number of environmental and demographic issues. From an air quality standpoint, the Ashtabula area is not experiencing a disproportionate share of the air pollution because the whole area meets the NAAQS.

For PM_{2.5}, the project’s emissions, background concentrations, and emissions from nearby sources were evaluated through air dispersion modeling to determine downwind concentrations surrounding the plant. The results are in the table below:

Pollutant	Averaging Time	MAX Modeled Concentration (including background) (µg/m³)	NAAQS (µg/m³)
PM _{2.5}	24-hr	24.62	35
PM _{2.5}	Annual	9.28	12

The facility is subject to Prevention of Significant Deterioration (PSD) regulations, which prohibit a new source to cause, or contribute to, air pollution in excess of any National Ambient Air Quality Standard (NAAQS) or PSD (any clean air) increment.

For ozone, a study was provided in the application for predicting the generation of secondary ozone from NO₂ emissions emitted from this project. This study was based on U.S. EPA’s April 30, 2019, “Guidance on the Development of Modeled Emission Rates for Precursors (MERPS) as a Tier 1 Demonstration Tool for Ozone and PM_{2.5} under the PSD Permitting Program.” Ohio EPA reviewed the study and agreed with its

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

findings that the project's emissions are expected to contribute less than 1 ppb of ozone.

The facility is aware of its environmental responsibilities to apply for and obtain water pollution control permits prior to start of construction or startup of the facility. There are no plans to discharge wastewater directly to Lake Erie. The facility will discharge all wastewater to the Ashtabula Wastewater Plant after it has gone through pretreatment.

This facility is aware of its environmental responsibilities to properly manage any hazardous waste generated by the facility.

The permit application listed the amounts of toxic gases released to the atmosphere from the proposed project. Toxic gases, for the purpose of this response, mean toxic air contaminants listed in [Ohio Administrative Code \(OAC\) 3745-114](#). The amounts were minimal. Most were from the products of combustion of natural gas. Because of the type fuel consumed (natural gas) or amount of toxic air contaminant emitted, air dispersion modeling of toxic air contaminants was not performed nor required for this proposed project. No modeling was conducted because the emissions were too small to be of concern.

5. Topic: Air Quality Analysis:

[The main purpose of air quality analysis is to determine that the new emissions from the proposed project will not cause or contribute to a violation to any applicable national ambient air quality standard (NAAQS), prevention of significant deterioration (PSD) increment or generally acceptable incremental impact (GAI)]:

Comments:

- a. Based on the response to comment "f." under topic 5. (Public Health) in the first air permit-to-install (2/6/2019), hourly and annual emissions of nitrogen oxide gases exceed Significant Impact Levels, and hourly nitrogen oxide emissions exceed the typical EPA rule of being less than 50% of the PSD increment (in this case the PSD increment was NA so the GAI was used). However, the EPA sometimes allows emissions up to 83% of PSD increments. The hourly nitrogen oxide emissions from the plant were modeled at 70% of the GAI increment. In this new draft permit, nitrogen oxide emissions have increased by 56.7 tons per year. Can you please explain how this will affect NO_x emissions as a percentage of the PSD increment?

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

Response:

The NO_x emission rate for the project increased, but the concentration of NO_x measured against the increment decreased, because of process input changes. A significant change that contributed in lowering the ground-level concentration was the increase in the stack flowrate of the EAF baghouse. It changed from 356,104 standard cubic foot per minute (scfm) to 505,229 scfm. This increased flowrate, used as an input to the model, provides better mixing and dispersing of NO_x in the upper atmosphere, thereby lowering the concentration at ground level. Further, the modeling conducted for the most recent application utilized more representative surface meteorological data from the Ashtabula County Airport (KHZY) as opposed to the previous application, which utilized surface meteorological data from the Erie International Airport (KERI). The percent of the increment consumed was calculated at 8.84 percent.

The results are listed in Table 1, under Modeling Review in the section of the permit titled, “Staff Determination for the Application to Construct under Prevention of Significant Deterioration Regulations for Petmin U.S.A.” Table 1 is reproduced below:

Pollutant	Averaging Time	MAX Modeled Concentration (µg/m ³)	PSD Class II Increment (µg/m ³)
PM ₁₀	24-hr	3.53	30
PM ₁₀	Annual	0.41	17
PM _{2.5}	24-hr	3.06	9
PM _{2.5}	Annual	0.41	4
NO ₂	Annual	2.21	25

- b. In the response to comment “c.” under topic 5. (Public Health) in the first air permit-to-install (2/6/2019), there was a table showing that the modeled hourly NO₂ emissions were 162.32 mg/cubic meter, and that the NAAQS standard is 188 mg/cubic meter. Now that NO_x emissions are being increased by 56.7 tons per year in the new permit application, will hourly NO₂ emissions exceed the NAAQS standard of 188 mg/cubic meter?
- c. In the response to comment “c.” under topic 5. (Public Health) in the first air permit-to-install (2/6/2019), there was a table showing that the modeled hourly NO₂ emissions were 162.32 milligrams/cubic meter, and that the NAAQS standard is 188 milligrams/cubic meter. The new permit shows that modeled NO₂ emissions are 102.4 micrograms/cubic meter and that the NAAQS standard is 188 micrograms/cubic meter, which is a 10-fold decrease from what was stated in the first permit. Should it be milligrams

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

per cubic meter or micrograms per cubic meter? Second, if annual emissions of NO_x are proposed to increase by 56.7 tons in this new permit, why is the hourly NO₂ emission rate shown to be lower relative to the GAI standard than in the original permit? Shouldn't it increase because overall NO_x emissions are increased? I do not feel comfortable with a final permit being issued until these discrepancies are resolved.

Response:

For comments 5.b. and 5.c., likewise, as stated in the response for 5.a., there were some process input changes in this permit application. A significant change was the stack flowrate of the EAF baghouse. The flowrate changed from 356,104 scfm to 505,229 scfm. This provides better mixing and dispersing of NO_x in the upper atmosphere, thereby lowering the concentration at ground level. More representative surface meteorological data from KHZY was also used for this application. For clarity, Ohio EPA notes here that the NAAQS for NO₂ is measured in micrograms per cubic meter and not milligrams per cubic meter. The results are in the tables below:

Pollutant	Averaging Time	MAX Modeled Concentration (including background) (µg/m ³)	NAAQS (µg/m ³)
NO ₂	1-hour	102.4	188
NO ₂	Annual	30.87	100

Pollutant	Averaging Time	MAX Modeled Concentration (µg/m ³)	PSD Class II Increment (µg/m ³)
NO ₂	Annual	2.21	25

- d. "AYER applied the above Draft MERPs methodology to ozone and determined that secondarily formed ozone from this project will be insignificant." What does insignificant mean? Can you be more specific?

Response:

Within the application, Petmin U.S.A. provided study for predicting the generation of secondary ozone from NO₂ emissions emitted from this project. This study was based on U.S. EPA's April 30, 2019, "Guidance on the Development of Modeled Emission Rates for Precursors" (MERPS) as a Tier 1 Demonstration Tool for Ozone and PM_{2.5} under the PSD Permitting Program. In this case, "insignificant" is a technical term

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

indicating the project's impacts are less than U.S. EPA's Significant Impact Levels (SILs). Projects that are below a SIL for any particular pollutant are considered highly unlikely to cause or contribute to an exceedance of the standard. For ozone, the SIL established by U.S. EPA is 1 ppb.

- e. "Table 2: NAAQS Modeling Results" shows a daily amount of PM₁₀, but no yearly amount. Why is that, and what is the yearly amount? In addition, several of the tables combine PM₁₀ and PM_{2.5} amounts. Why is that, and does it mean that the amounts you are showing are accurate?

Response:

For PM₁₀, the annual (yearly) standard was revoked in 2006. Therefore, no modeling was required. See the table below for the PM₁₀ standards.

For fuel-burning sources combusting natural gas, a combined PM₁₀ and PM_{2.5} limit was given because most of the emissions are expected to be less than 1 micron in size. PM₁₀ particulate includes any particle less than or equal to 10 microns in size. PM_{2.5} particulate includes any particle less than or equal to 1 micron in size. One-micron particles fit into both of these classifications, so the emissions are considered both PM₁₀ particulates and PM_{2.5} particulates.

NAAQS:					
Pollutant		Primary/ Secondary	Averaging Time	Level	Form
Particulate Matter	PM _{2.5}	primary	1 year	12.0 µg/m ³	Annual mean, averaged over 3 years
		secondary	1 year	15.0 µg/m ³	Annual mean, averaged over 3 years
		primary and secondary	24 hours	35 µg/m ³	98 th percentile, averaged over 3 years
	PM ₁₀	primary and secondary	24 hours	150 µg/m ³	Not to be exceeded more than once per year on average over 3 years

- f. "CO: 546.22 TPY NO_x: 484.57 TPY PM₁₀: 63.97 TPY PM_{2.5}: 52.40 TPY SO₂: 3.63 TPY". These amounts are shown again after the tables, and it says that they come from Table 4, but that does not appear to be the case. Why this discrepancy? And why are VOC's and GHGs/CO_{2e}'s not included on this page? Also, are these amounts before or after the recommended pollution controls are put in place and fully operational?
- g. Why is no modeling required for Greenhouse gases?

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

Response:

For comments 5.f. and 5.g., the “Table 4” reference was from the permit application and its annual emission rates were copied to the draft permit.

VOC (ozone) was not included because the annual emission rate was less than 40 tons per year, which is the significant emission rate for triggering PSD review.

GHG/CO₂e is not a pollutant that is listed under the National Ambient Air Quality Standards. U.S. EPA has not promulgated any standard to be measured against. Therefore, air dispersion modeling is not required for GHG/CO₂.

The amounts shown above are after controls.

- h. Has there been an air pollutant modeling specifically relating to pollutants created and/or discharged in any manner from the project?

Response:

Pollutants modeled for the project were PM₁₀, PM_{2.5}, NO₂, and CO. Other pollutants were below U.S. EPA’s Significant Emission Rates and thus do not require modeling.

- i. We’ve estimated that NO_x emissions from this facility are comparable to adding 2.5 million cars to Ashtabula City roads every day. This seems like it would be really detrimental for public health. I realize that Petmin’s emissions will be through a smokestack rather than at ground level, like car exhaust. Still, smog layers are known to hang in a low-lying inversion layer several hundred feet above cities with heavy air pollution. Is air dispersion from Petmin’s smokestack enough to prevent 2.5 million cars worth of exhaust from hanging in an inversion layer above Ashtabula?
- j. We calculated, conservatively, that the NO_x alone is like adding 2.5 million cars to the streets of Ashtabula - daily. How can this not have an effect on health, land, air or soil?
- k. Has there been a study on the dispersion of the particulate matter and other emissions as they dissipate in the atmosphere over the local community and/or Lake?
- l. NO_x (nitrogen oxide) is a known air pollutant that is regulated because it has severe health implications as it travels deep into the lungs. Per the Petmin USA new air permit, it states that NO_x will be, at max, 484.57 tons per year. We have . calculated this on an hourly basis (0.056 tons/hr) and

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

converted this to micrograms/hr (904,184,740,000). If calculating a 0.25 mile radius around the plant, this equates to 46,822 micrograms/hour. EPA standards state that the acceptable limit is 12 micrograms/hr and World Health Organization recommends less than 10 micrograms/hr. Forty-six thousand, eight hundred and twenty-two micrograms/hour far exceeds EPA and WHO recommendations. Please help the community understand your modeling and processes to state that Petmin will not exceed the 12 micrograms/hr guidelines.

- m. The numbers seem spun to fit under the standards with the Air dispersion modeling. It is mind boggling that tons per year of emissions translate into 9 ppb a yearly average.
- n. A commenter listed detailed health and environmental effects for NO_x, PM₁₀, PM_{2.5}, CO, CO₂, SO₂ and VOC and expressed concern about these effects as they relate to emissions emitted from this facility.
- o. You've done the models what is the cost to the citizens of Ashtabula? What are we risking?

Response:

For comments 5.i. through 5.o., U.S. EPA is mandated by the Clean Air Act (CAA) to establish and revise the NAAQS. The primary standards are health-based standards, designed to be protective of human health, especially to the very young, the elderly, and individuals with respiratory diseases, and are set to provide an adequate margin of safety. The secondary standards are set to be protective of the environment. These standards, both primary and secondary, are based on the latest scientific knowledge that accurately reflects the kind and extent of all identifiable effects on public health and the environment.

This project is subject to PSD review, which requires the applicant to demonstrate the proposed source will not cause, or contribute to, excess emissions that will cause a violation of any NAAQS or any clean air increment within the impact area of the project.

The calculation provided in comment 5.l neglects to account for the dispersion of pollutants released into the atmosphere, a process that is driven by meteorology and the release characteristics of each emissions unit. Via dispersion, the concentration of a pollutant is significantly reduced prior to reaching ground level. It is for this reason that U.S. EPA requires the use of the "American Meteorological Society/Environmental Protection Agency Regulatory Model" (AERMOD) dispersion model to determine ground-level concentrations.

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

Petmin U.S.A. provided full-impact air dispersion modeling in the permit application. The submittal followed the recommendations of U.S. EPA's "Guidance on Air Quality Models" (Appendix W to 40 CFR Part 51), including the use of U.S. EPA "preferred" model: (AERMOD). This model was developed by scientists from American Meteorological Society and U.S. EPA. In general, outputs (results) from modeling depend on a wide range of input variables, including annual weather data (upper and lower atmospheric conditions, temperatures, wind speeds, wind directions, cloud cover, and more (five years of weather data were evaluated)), industrial source inputs (emission rates, exhaust gas temperatures and flowrates, release heights, and more), terrain and surface characteristics surrounding the proposed site, building profiles of the project and nearby structures, and more.

Ohio EPA concluded after a thorough review of the applicant's air dispersion modeling and verifying their results by running the data on its own computer systems using AERMOD, that downwind impacts from this proposed source will not exceed the primary and secondary national ambient air quality standards nor will they consume the clean air increments within the impact area of the project for PM₁₀, PM_{2.5}, and NO₂ emissions. The impacts and corresponding emission standards, are listed below:

NAAQS analysis:

Pollutant	Averaging Time	MAX Modeled Concentration (including background) (µg/m³)	NAAQS (µg/m³)
PM ₁₀	24-hr	43.58	150
PM _{2.5}	24-hr	24.62	35
PM _{2.5}	Annual	9.28	12
NO ₂	1-hour	102.4	188
NO ₂	Annual	30.87	100

PSD impact analysis:

Pollutant	Averaging Time	MAX Modeled Concentration (µg/m³)	PSD Class II Increment (µg/m³)
PM ₁₀	24-hr	3.53	30
PM ₁₀	Annual	0.41	17
PM _{2.5}	24-hr	3.06	9
PM _{2.5}	Annual	0.41	4
NO ₂	Annual	2.21	25

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

- p. Who evaluated their computer modeling program?

Response:

Both Ohio EPA and U.S. EPA have staff who are responsible for reviewing air pollution modeling for new facilities, such as Petmin U.S.A.'s, and other projects where air quality impacts need to be evaluated. These staff members are extensively trained in running and evaluating the models. Petmin U.S.A.'s environmental consultant did the required modeling for this project and Ohio EPA evaluated and verified the results. U.S. EPA also reviewed the modeling.

- q. Has the legacy pollution in this area been taken into account when modeling the additional pollution being added to the area?

Response:

Background emissions and emissions from existing sources in the impact area of the project were included in the modeling for PM₁₀, PM_{2.5}, and NO₂.

- r. Regarding air dispersion modeling, a commenter asked the following questions:

1. What model did they use?
2. What did it show?
3. The commenter prefaced the following two questions by listing the allowed rates for PM₁₀, PM_{2.5} and NO₂, in tons/year, listing the modeled results for these pollutants and their applicable NAAQS: for PM pollutants, asked how does this add up? And for NO₂, asked how does this translate?
4. These emission levels definitely appeared to be in violation of emission standards: primary and secondary NAAQS?

Response:

Each pollutant was evaluated through air dispersion modeling, using AERMOD. AERMOD showed that all downwind concentrations for these pollutants were below the NAAQS. Please see response above to comments 5.i. through 5.o. When evaluating data, please use the same units of measures, ug/m³, when comparing the AERMOD concentration levels to the NAAQS. From how the comment was presented, ug/m³ may have been compared to ppm. This may have appeared to the commenter as a violation.

- s. Under similar environmental laws, such as the Clean Water Act, individuals and companies that propose environmental degradation as a part of completing a project are sometimes required to mitigate for that

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

damage, either by replacing in-kind the type of habitat lost, or paying into a fund or mitigation bank that conducts environmental conservation. Is there any similar “no net loss” policy under the Clean Air Act? Many Ashtabula residents that I’ve spoken to would have much less fear and anxiety about this project if Petmin was somehow required to improve air quality within the area in order to offset the over 390,000 tons of pollution they will be emitting every year.

Response:

The CAA has something similar for sources that want to locate in a non-attainment area. In that case, emissions reductions must be obtained from existing sources to “offset” the emissions from the new sources. However, the offset program does not apply to new sources that are looking to install in attainment areas like Ashtabula County.

6. Topic: PSD additional impact analysis:

[The main purpose is to assess impacts to soils, vegetation and visibility from increases of regulated emissions]:

Comments:

- a. “No adverse impact upon soils or vegetation is expected.” Is this a statement that the Ohio EPA researched? If AYER, the engineering company that Petmin paid to produce these studies, supplied this statement, then what proof do the citizens of Ashtabula County have to back this statement up?
- b. The permit stated that “no adverse impact upon soils or vegetation is expected.” Was deposition modeling done to show that the more than 390,000 tons of pollution that will be emitted by this plant every year will not cause damage to soils, vegetation, or bodies of water (Lake Erie) in the vicinity? If no deposition modeling was done, how can the permit state that “no adverse impact upon soils or vegetation is expected?”
- c. Is there any research or data on how the emissions will effect the vegetation and respiratory health of the residence within close proximity of the plant.

Response:

For comments 6.a. through 6.c., with respect to the impact on soil and vegetation, the predicted emissions concentrations evaluated through dispersion modeling (computer modeling) from increased emissions from

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

this project were below the secondary national ambient air quality standards. These standards are designed to be protective of public welfare, which includes, in part, the protection of soil and vegetation. The permit application compared the predicted emissions concentration of NOx to a level considered harmful to growth and yield of vegetation, based on a study from U.S. EPA Region 7. The predicted concentration was approximately two orders of magnitude below the level in the study, which is indicative of no harmful or adverse effect of plant growth in the area.

For the effects regarding to respiratory health, please see the response for Comments 3.b. through 3.e.

- d. The pig iron plant proposes to use 15,000 million BTUs of natural gas daily (Petminusa.com). This is more than double the consumption of every household in Ashtabula County combined. Much of this natural gas will likely be sourced from horizontal hydraulic fracturing, a process which is known to be highly damaging to the environment and public health. Not only will the gas be sourced from toxic hydrofracking, but fracking waste is returning to Ashtabula County and being pumped into any of 15 active injection wells where it threatens to contaminate water and soil in our rich farmlands. This raises the question of whether the economic gains anticipated from the pig iron plant outweigh the environmental and public health costs, including cumulative impacts from hydrofracking and future development associated with the Risberg gas pipeline, which seems to have been tailored to this project and can pave the way for more local industries that consume fracked gas. What analysis has been done to take into account these cumulative impacts?

Response:

With respect to climate changing greenhouse gases (GHGs) and most other criteria pollutants in varying degrees, natural gas is cleaner than other fuels, such as fuel oil and coal. Climate changing GHGs are increased approximately 1.8 to 1 when burning coal and 1.3 to 1 when burning fuel oil as compared to when burning natural gas.

Ohio EPA, the Ohio Department of Natural Resources (ODNR) and U.S. EPA have shared regulatory authority over the natural gas and coal and oil industries in Ohio. Regulations are in place to protect air, land, and water resources.

In terms of the source of the natural gas, the installation of pipelines, or the use of injection wells, none of those topics can be considered as part

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

of the analysis for the air permit because there are no rules that require that kind of analysis.

7. Topic: Additional monitoring:

Comments:

- a. Has there been a sensitive receptor impact analysis done as it relates to cancer and non-cancerous impacts from chemicals that will be discharged at the project site?

Response:

No, a sensitive receptor impact analysis was not done because the amount of air toxics is too small. The permit application listed the amounts of toxic gases released to the atmosphere from the proposed project. Toxic gases, for the purpose of this response, mean toxic air contaminants listed in Ohio Administrative Code (OAC) 3745-114. The amounts were minimal. Most were from the products of combustion of natural gas. Because of the type of fuel consumed (natural gas) or amount of toxic air contaminant emitted, air dispersion modeling of toxic air contaminants was not performed nor required for this proposed project.

- b. We have recently become aware of a national network of air monitoring stations called Purple Air. Purple Air runs off sensors that upload data wirelessly to a database and mapping tool which shows air quality readings of each sensor in real-time. I understand that the sensors can detect particulate matter among other parameters. Would Petmin or the EPA be amenable to purchasing and installing several of these sensors in appropriate areas around Ashtabula to provide residents with information that can help them reduce their risk of exposure to damaging air pollution?
- c. I would like an additional EPA monitoring station put in Ashtabula near the Petmin operation.
- d. Will Petmin or the EPA install an SPod to detect perimeter monitoring?
- e. How would the community go about installing an EPA SPod or other fence line monitoring system at/around this facility?

Response:

For comments 7.b through 7.e., in lieu of placing air monitors around the proposed facility, Ohio EPA is relying on results from air dispersion modeling, coupled with emission testing and Ohio EPA's network of air

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

monitoring stations, to ensure compliance with the NAAQS and clean air increment standards.

Air dispersion modeling was used to determine downwind concentrations from the proposed facility, while operating at maximum capacity, that is, under worst-case conditions to generate air pollution emissions. AERMOD was the air dispersion model used for this evaluation and is U.S. EPA's preferred "near field" dispersion modeling system. AERMOD is a sophisticated computer model that has been field tested, peer reviewed and is based on the latest scientific knowledge involving atmospheric dispersion modeling.

Emission testing will verify whether actual emission rates from the largest of sources will exceed their allowed emission limits. These limits were input values used in AERMOD to determine downwind concentrations and compliance with NAAQS and clean air increment standards. Therefore, if actual emissions were less than limits, downwind concentrations determined by air dispersion modeling are confirmed through emission testing.

Ohio maintains one of the largest networks of air monitors of any state. Air monitors in and around Ashtabula County will be used to measure the air quality of criteria pollutants with respect to complying with the NAAQS. According to Ohio's 2020-2021 Ohio EPA Annual Network Plan, on March 1, 2020, the ozone monitor was replaced at the Conneaut monitoring station. Additional monitors are not planned for Ashtabula County. The current network report can be found here:

<https://epa.ohio.gov/dapc/ams/amsmain/AMNP-2019-2020-2>

Solar-powered sensor system (SPod) is not a type of air monitor used by Ohio EPA and the Agency cannot offer advice with respect to installing and operating this type of unit.

Purple Air or other citizen-science-type monitors may give citizens a ballpark estimate of pollutant concentrations, but they do not follow U.S. EPA's rigorous quality assurance/quality control (QA/QC) standards for monitors. For that reason, Ohio EPA does not use them.

Ohio EPA cannot require Petmin U.S.A. to install either the SPod or the Purple Air type systems because there are no rules that require them. Ohio EPA cannot purchase monitors for citizen use because we have limited funds that must go toward funding our required programs.

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

Real-time monitoring data and forecasts of air quality across the country may be found at U.S. EPA's AirNow website: www.airnow.gov. This is viewed as an air quality index and raw data.

Real-time monitoring data from statewide monitors may be obtained from Ohio EPA's AirOhio website: <https://epa.ohio.gov/dapc/airohio/index>. This is viewed as an air quality index and raw data.

Real-time hourly monitoring data, yet to be quality controlled or assured, from state-wide monitors may be found at the following Ohio EPA website: <http://wwwapp.epa.ohio.gov/AirOhio/paramnow.htm>.

8. Topic: Best available control technology (BACT) analysis:

[The purpose of this analysis is to evaluate the most effective control option, including but not limited to, reduction, environmental, energy and economic impacts, for each regulated pollutant]:

Comments:

- a. In the BACT analyses the following language frequently appears: "Good combustion practices" and "limited operation". Who will monitor these practices and operations?

Response:

The permit terms and conditions will contain monitoring, recordkeeping, reporting, and testing requirements for each of these BACT requirements. These requirements enable the facility to verify and document that practices are being followed. The requirements also allow for Ohio EPA and the field office to verify that best practices are being followed through inspection, reporting, records, etc. We expect ongoing compliance with emissions limitations using results from initial performance testing for CO and NO_x as performance indicators for good combustion and optimal burner efficiency.

- b. Many of the Best Available Control Technologies (BACTs) are listed as using natural gas for fuel. What would be the alternative? Coal, propane, or oil? What are some other options for BACTs in terms of combustion and scrubbing that would reduce emissions of the most damaging pollutants such as particulate matter, NO_x, SO₂, VOCs, and CO?

Response:

Petmin U.S.A.'s system is designed to burn natural gas. In order to burn any other fuels, the system would need to be redesigned and, typically, a revised permit would be needed. Natural gas is one of the cleanest burning fuels available and, so, typically add-on controls are not needed.

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

- c. What is the most advanced technology available right now in terms of conducting the kind of combustion necessary for this facility while emitting the lowest levels of air pollution? Is Petmin proposing to use the most advanced, low-pollution technology available?

Response:

Ohio EPA's evaluation found Petmin U.S.A. choose the technologies that meet the BACT standard, which must be met for any PSD air permit. In general, the BACT standard means the current state-of-the-art technology is being installed.

- d. Is there better BACT technology available to Petmin in order to reduce the amount of air pollutants that will be emitted from this proposed project?

Response:

The BACT analysis completed for this proposed project shows the best available control technology available to Petmin U.S.A. to reduce the amount of air pollutants that will be emitted has been selected and included in the permit.

- e. Could rocket heaters and/or combustion of wood gas be used for any of the required manufacturing processes, and would this be better for the environment while still being practical? For reference, Petmin proposes to use 15,000 mmBTU natural gas daily, which would be equivalent to burning about 820 cords of wood per day at high efficiency. 820 cords of wood is equivalent to about 820 trees with 22-inch diameter at breast height. So if each tree took up 400 square feet (20ftx20ft), this would require cutting down about 8 acres of medium-age forest everyday to feed Petmin. There are about 450,000 acres of land in Ashtabula County, so if three quarters of the county was forested with medium-age trees, the whole county would be deforested in about 42,200 days to feed Petmin. That's about 115 years, and that's very conservative, it would probably take less time. So, no, wood heating is not sustainable unless you're ok with never having a stand of forest older than about 100 years in the county. But is this more sustainable than natural gas? I don't know, both are incredibly destructive but it seems like the wood could last longer. This is the kind of analysis I would like to see being done by the EPA and shared with the public.

Response:

The emission units have not been designed to combust wood or utilize the "rocket stove" principle. Ohio EPA is not directly involved with studies that

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

determine which fuel is more sustainable. There are emission factors for burning different types of fuel that show which fuels emit more of a certain pollutant. Using wood as fuel would result in much higher air emissions and would not be selected for BACT. Natural gas is one of the cleanest burning fuels available. The BACT analysis looks into which fuels and technologies provide the lowest pollutant emissions balanced with the technical and cost feasibility of each.

- f. Is the pollution reducing baghouse long existing proven technology?

Response:

Yes, a baghouse is a long-existing, proven technology for reducing particulate emissions.

- g. What is the BAT/BACT being applied here?

BACT/BAT is listed in Table 1 under the section of the permit titled, "Staff Determination for the Application to Construct under Prevention of Significant Deterioration Regulations for Petmin U.S.A."

9. Topic: Studies:

Comments:

- a. The amount of natural gas this plant will burn while it is in operation will emit tons of greenhouse gasses, this has been included in the air permit. My question is, has there been a cumulative environmental impact study done that will take into account the total impact of fracking this gas in PA, the environmental impact of the wastewater resulting from said fracking, the transportation of said wastewater, the emissions coming from the compressor stations, all the way to when that gas is burned and finally emitted into Ashtabula County's air?

Response:

This permit requires Petmin U.S.A to employ BACT to limit GHG emissions. The air pollution rules and requirements associated with this facility do not require any kind of analysis of cumulative environmental impact of oil and gas drilling. Instead, any processes associated with oil and gas drilling would be evaluated separately as they are built. For instance, Ohio EPA issues air permits for well sites, compressor stations, and other facilities associated with the oil and gas industry. Ohio EPA also regulates surface water issues associated with well sites. The Ohio

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

Department of Natural Resources (ODNR) regulates the drilling operations of these wells.

Ohio EPA has a robust air monitoring network throughout the state that measures emissions from all kinds of sources, including well sites and compressor stations. Ohio EPA provides analysis of the data from the air monitoring network to ensure the pollutant emission levels stay below certain thresholds that are protective of the environment and human health. U.S. EPA has not designated GHG as a criteria pollutant, therefore, modeling of impacts from greenhouse gases is not required. This project still contains emission limits for CO₂. Ohio EPA and ODNR have permitted these oil and gas operations in Ohio, and there are requirements in the permits to ensure protection of human health and the environment.

- b. This affects the air, water, and overall quality of life of our entire region. and the intensive, comprehensive studies of the impact clearly have not been done. We should not compromise our standards and this permit should be rejected and the entire Petmin project re-evaluated.

Response:

Ohio EPA appreciates and shares your concern for protection of the health of the citizens of Ohio and our environment. The requirements of this permit ensure the rules and regulations of the CAA are being followed. The BACT and modeling studies, along with the monitoring, recordkeeping, reporting, and testing requirements of this permit are protective of human health and the environment.

The facility is aware of their environmental responsibilities to apply for and obtain water pollution control permits prior to start of construction or startup of the facility. Depending on the design of the facility, permits may include sanitary sewer discharge permit (indirect discharge permit), permit-to-install wastewater treatment, and general storm water discharge permits for construction and industrial activities. There are no plans to discharge wastewater directly to Lake Erie.

10. Topic: Public Health and Welfare (Environment):

Comments:

- a. It is my sincere hope that this permit will not be granted due to the negative environmental impacts on the health and welfare of the residents of Ashtabula. There are other ways to allow for sustainable economic growth for this area.

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

Response:

This permit is written such that the air quality in the surrounding area is protected and not degraded under the CAA.

- b. Many agencies have spent millions of dollars cleaning up the air, lake and land in Ashtabula county. Wouldn't this negate this progress? Have the health affects been researched?

Response:

Ohio EPA evaluated the information on the project and determined it will not have significant impact on the lake, the air quality, or the land in the area. There is an air emissions inventory that Ohio EPA compares with the data to make sure this project will not release pollutant levels that significantly degrade the air quality achieved in the area.

- c. Besides tourism, we have the elderly, children, and those with underlying health conditions to consider.

Response:

Please see response 10.a. This also includes protecting the air for our vulnerable population.

- d. Please stop the projected Petmin Pig Plant to be built here in Ashtabula, Ohio.

Our beautiful Lake Erie and fresh air is in danger with this plant. The beautiful Harbor area, Lake Shore Park and all the residents in that area will be endangered. This definitely will hurt the tourism in our county too. I hope you would take advice from an 80 year old, who is a life-time resident and grew up in the Ashtabula Harbor.

Response:

Please see responses 10.a and 10c.

- e. I have a major concern about this permit. Just generally speaking I don't think adding 2.5 million cars of pollution to Ashtabula should be allowed. I like breathing. I like breathing clean air. I think I can say that for all of Ashtabula.

This area may need jobs, but we shouldn't have to choke as we're trying to perform them. This isn't progressive. In fact it's taking a huge step back. Please don't allow this Air Permit to pass. This is horrifying.

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

Response:

Please see responses 10.a and 10.c.

- f. I am a resident that lives along the shores of our beautiful Lake Erie and as much as I would love to see our community flourish, it has come to my attention that the Pig Iron plant that you would like to open up in Ashtabula would possibly do more harm than good to our community, due to the fact it would change the quality of our water supply, not to mention our air quality for us and generations to come. Also, visually changing our Historical Harbor area. For these reasons I wish you would consider not putting the plant in Ashtabula, Ohio.

Response:

Please see responses 10.a and 10.b.

- g. I am writing with concerns over the proposed EPA relaxation of rules governing clean water and air with regards to the pig iron plant.

To suggest allowing the pig iron plant to release pollution to our air that's equal to 2.5 million cars in Ashtabula daily is absolutely insane. We finally get the lake cleaned up somewhat and you want to take us back to the 50s? I remember when all the business owners that lived in the harbor/Bridge St area were all dying of rare cancers.

My own family has been affected by environmental poisons since 2007. In my limited neighborhood, there are 7 cases of MS, 1 ALS, 3 rare leukemia's (of which, I am 1), 2 endocrine and pancreatic cancers.

How can you even think this is appropriate? Do you think it won't happen to you or anyone you care about? I will be contacting Erin Brockovich as well as other environmental watchdogs if you don't care about the citizens of the community and continue to encourage this environmental disaster. For 110 jobs??? Are they putting money in your pocket? I cannot think of any other scenario where this would be considered beneficial to the city.

Response:

Please see responses 10.b. and 10.c.

- h. I know this late notice, but I just found about a meeting that was held regarding a new plant coming to Ashtabula. My husband and I own property in Ashtabula. I am very concerned about the pollution as I heard through the grapevine that the company filed an appeal? Apparently they are not happy with the EPA guidelines that they have to follow. Didn't we just get done cleaning up the polluted rivers in Ashtabula? Do we really

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

want to take a step backwards? I'd appreciate any feedback / information that you could send me to calm my fears.

Response:

Ohio EPA is not aware of any appeal being filed on the permit. Also, please see responses 10.a and 10.b.

- i. I am writing to you as a homeowner in Ashtabula Harbor. My husband and I are strongly against the pollution the Pig Iron plant would bring to our neighborhood. We bought our home 5 years ago planning to live the rest of our lives here. We have 4 children and 7 grandchildren in Ashtabula county, and we feel this plant is a threat to all of our wellbeing as well as to our wildlife and Lake Erie and the Ashtabula River.

I am begging you to please protect us from this plant and it's pollution. It will kill the tourism in the Harbor and make our home values drop, no one will want to live or visit here.

Response:

Please see responses 10.a and 10.c.

- j. I am writing on behalf of myself and other concerned residents of the Ashtabula Harbor area to ask that you please deny the new Petmin permit, and that you consider a complete review of the entire proposed plant.

Petmin has proven to be a terrible neighbor elsewhere. There is no reason to believe the same will not be true of their presence here in Ashtabula. We have spent decades cleaning up the area, the water, the riverbed. Horrible pollution, the kind which necessitated the designation of Superfund sites here, is not in our distant past. Many of us have family members, loved ones, and friends who are sick or gone because of industrial pollution. We cannot forget when we are still faced every day with the impact of past mistakes. But we have made progress, with the hope of a better future for our children and grandchildren. A little over 100 jobs in a county of more than 97,000 people will do nearly nothing in terms of unemployment, and even if it did, it does not justify the damage that will be done to our environment.

People are out kayaking on the beautiful river, enjoying our beaches. The water is safe to swim in now. This is once again becoming a wonderful place to live and raise a family. We, the majority, do not want a pig iron plant, with its pollution, its noise, its traffic, and its profoundly negative impact upon our environment, especially with the new permit changes Petmin is requesting. This plant is not an investment in our community, but a danger to it, with the potential for devastating consequences. Please,

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

Mr. Becker, do not allow our community and our lake to be ruined after we have fought so hard to bring it back from the former days of pollution. Consider our families, our health, our environment, and the world we will leave for generations to come.

Response:

Please see responses 10.a, 10.b., and 10.c.

- k. My family is not for this plant being built in the Ashtabula harbor. We are very concerned with the quality of air please don't lower EPA standards!

Response:

Please see response 10.a.

- l. I live in Conneaut OH. I am very concerned about the air pollution and possible water pollution to Lake Erie that this plant will create. This could be very detrimental to the great fishing we have and hurt our tourist industry not to mention personal health concerns. Is it true that the maybe able to get a permit without a pollution control plant???? Please do not allow this to happen. Please inform me if I have gotten bad information and please don't let this area fall back into the polluted mess it used to be!

Response:

Please see responses 10.a and 10.b.

- m. This plant will ruin our air quality in Ashtabula. We do not want this plant built. We have enough pollution from other plants already.

Response:

Please see response 10.a.

- n. Hello, I have been a resident along the Lake Erie coast for almost 17 years now. I moved to the Lake area from Jefferson, Ohio. I am AGAINST a Petmin facility being built in Ashtabula County. No one cares about the 110 jobs this will create, this will create health issues within our community!! Things our children will pay for!! Also, it will cripple what tourism we have. I for one am not looking forward to the added NO₂ into my AIR!!! THIS IS ABSOLUTELY INSANE!!! I along with several other hope this does not proceed! Also I have concerns regarding our water system. An upset citizen of Ashtabula County!!

Response:

Please see response 10.c.

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

- o. I am writing this letter to protest the construction of the pig iron plant in Ashtabula Ohio. I heard the Petmin Draft Air Permit public meeting on May 7, 2020 hosted by Mary McCarron. This meeting showed all of the TONS of pollution that this plant will produce. I fear that the location of the plant will not only pollute the air but it will also pollute Lake Erie. Erie PA had a pig iron plant which was closed because of public concerns. Also, this plant is not an American owned plant. I do not believe that we should suffer for the profits of another country. This plant will cause damage to our environment and to people, mammals and wildlife in my community. Thank you for letting me state my views on this subject.

Response:

Ohio EPA looked closely at the amount of air emissions expected from this plant. For those pollutants emitted in larger amounts, computer modeling was conducted to evaluate the expected ambient impact. This computer modeling demonstrated that the pollutants are not expected to cause any adverse health or welfare effects to citizens in the surrounding area.

Lake Erie is also not expected to see an adverse effect due to two main reasons. First, the concentrations of the pollutants impacting the ground level are not high enough to cause any adverse health and welfare effects to citizens. For the same reason, the concentrations are not large enough to cause any adverse impact on Lake Erie.

Second, most of the pollutants are in the gaseous state when released which means they disperse into the air without depositing on the ground or in the lake.

Based on these reasons, Ohio EPA believes the emissions from this plant will not adversely impact either the citizens in the area or Lake Erie itself.

- p. As a resident of Ashtabula living near the area being considered for this permit I implore you to stop the project from continuing until ALL the necessary safeguards are in place to protect our precious air and water quality.

The amount of emissions they are asking to be allowed to dump on the area is obscene! Ashtabula is still suffering from all the contamination left behind by such dirty industries in our past. We are slowly recovering and Making progress with tourism and sport fishing businesses. Please don't put us back under the literal cloud of contamination!

Just look to the problems and concerns other countries this company has operated in and protect us from ending up the same.

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

Response:

Please see responses 10.a and 10.o.

- q. As an environmental engineer and resident of Northeast Ohio I am very concerned about the potential impacts of water pollution, air pollution of the proposed pig iron plant, especially concerning fugitive air emissions, run-off and the lack of the previously expected co-facility to recapture carbon dioxide. I strongly urge OEPA to focus on these issues and not allow the proposed facility to be built and operated until these concerns are appropriately addressed and its impacts on health, the environment, and global warming are eliminated or rendered negligible.

Response:

Please see responses 9.a., 10.a, and 10.o.

- r. Mr. Becker, you realize that local citizens are hardly in a position to challenge a multi million International Corporation nor are local officials qualified in all aspects of its operations. We depend upon you and the EPA. As I indicated previously, the history of pollution and environmental poisoning in our Ashtabula area is unprecedented! A mere investigation with the Cleveland Clinic professionals over the past 50 years will give some insight. And I am confident your EPA records are full of documentary evidence.

However, Anthony, what those records do not show is the sad faces of literally thousands of local residents who suffered from the pollution and lived in fear of its effects upon them and their children.

Just ask the older parishioners of Our Lady of Peace Catholic Church on Columbus Ave Ashtabula, Ohio.

Response:

Please see response 10.c.

- s. Why should we have this built when it will certainly pollute the water of Lake Erie and our drinking water and ultimately our children?

Response:

Please see responses 10.b, 10.c, and 10.o.

- t. Given the large scale of this project, the current amount of pollution and the potential impact this project will have on the quality of life, tourism and health of our air and water, we would like to recommend the new air permit not be granted until a comprehensive environmental and economic impact study be completed.

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

Response:

Please see responses 10.a and 10.b.

- u. Having been born in Pittsburgh in 1953, I have been sensitive all my life to the detrimental effects of airborne particulates. I live less than a mile from the proposed Petmin facility. The increases requested in this new permit application trouble me greatly. I think the new permit should not be granted.

Response:

Please see response 10.c.

- v. Why should we want any pollution in our area where we live?

Response:

Please see response 10.a.

- w. Why is there even a question regarding CO₂ emissions, and the possibility of less than acceptable quality of air that Ashtabula County will experience.

Response:

Please see responses 9.a. and 10.a.

- x. I live three blocks from the projected pig iron plant. How will the increase of air pollutants affect my health? Would you let your mother live three blocks away?

Response:

Please see response 10.c.

- y. Would any of the panelists live near the projected pig iron plant once it is operational?

Response:

The panelists believe it is safe to live near this proposed facility based on expected air emissions and the computer modeling that predicts the downwind pollutant concentrations. For those reasons, we would not be concerned with living in the nearby areas. Please also see response to 10.c.

- z. Why would we allow this plant after all the work we have been doing to clean up the lake with the Lake Erie commission?

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

Response:

Please see responses 10.a and 10.o.

aa. I'm am very much against this plant polluting our beautiful Lake Shore Park.

Response:

Please see response 10.a.

bb. I have a friend whose father-in-law works in the oil and gas industry in a great plains state. He is an oil man through and through. She sent the plans for this plant to her father-in-law to ask if she should be concerned, and his reply was "This is the kind of project that a company puts in when they don't give a sh[expletive] about that community." He cautioned her not make further economic investments into the area for that reason. So I would like to state my opposition to this project on the basis of my concern for the health, safety, and well being of the residents of this community and the impact to our shared environment.

Response:

Please see response 10.c.

cc. I moved to Ashtabula because of the lake and the area's natural beauty. The community should focus on preserving those things rather than trying to bring back the old industrial base.

Response:

Please see response 10.a.

dd. We should not trade of our health and environment for monetary gain. If we do; we lose.

Response:

Please see response 10.a.

ee. I am very fearful of this project and the effect it is going to have on our environment. No price can be put on clean air.

Response:

Please see response 10.a.

ff. I would like to state my opposition to this project as unsafe and a huge environmental impact to Ashtabula and downwind communities.

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

Response:

Please see response 10.a.

- gg. Factories in this area have always given false assurances and often paid fines about pollution. Yet, one finally paid \$990 to each residence. That wasn't fair to the many families, such as mine, that suffered high cancer rates, with no previous family history. What assurance can you give that we will not be subjected to further harmful pollution, esp. since standards seem to change at the will of politicians?

Response:

Please see response 10.c.

- hh. Ashtabula has already seen far more than its share of environmental damage. Lake Shore Park is still contains one of the dirtiest beaches on the Great Lakes. Ashtabula industry originally promised jobs, but those jobs were unsustainable, and the corporate profits left, leaving environmental destruction in their wake. The area is now depressed, but is seeing signs of recovery based on the recreational values of a cleaner lake, not on the promise of more jobs along with additional pollution.

Response:

Please see responses 10.a and 10.o.

11. Topic: Public Health with respect to COVID-19:

Comments:

- a. With the current COVID-19 crisis impacting specifically the health of peoples lungs, it would be inappropriate to grant this permission at this time due to the potential impact to the health of the Community.

Response:

Ohio EPA understands COVID-19 patients often have breathing difficulties due to the disease. Any pollution can, at times, cause or exacerbate disease-induced breathing problems for people with a variety of respiratory conditions. The air pollution rules and laws are designed to protect the very young and very old – those with limited lung capacity, but the rules cannot always protect those with severe breathing difficulties due to disease.

In those cases, other measures are necessary, as determined by the individual's physician.

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

Ohio EPA is limited in that it is required, by law, to issue air permits that meet all the applicable air pollution rules and laws. The Agency cannot legally deny a permit that meets the rules and would likely be overturned on appeal if it did so.

Ohio EPA works to ensure all requirements are met to protect public health and welfare. The air pollution permit contains many requirements to ensure the facility operates in compliance with all applicable air pollution rules and regulations. These requirements help ensure the emissions will not cause any adverse health or welfare impacts to people near the plant.

- b. Soot and coronavirus are linked now. How much soot will be produced by the plant / vehicles ... EPA has not updated its rules but this question is not about compliance but about potential impacts in General.

Response:

Soot consists of particles resulting from the incomplete combustion of hydrocarbons. Petmin U.S.A.'s proposed facility is a major source for particulate matter of 10 microns or less (PM_{10}). As such, the PSD permitting program requires modeling and the use of best available control technology (BACT) for PM_{10} . The facility's potential-to-emit (PTE) for PM_{10} is 63.97 tons per year. The PM_{10} control equipment includes baghouses and good combustion practices.

The max modeled concentration for this project for PM_{10} (including background) is 43.58 mg/m^3 and the NAAQS concentration requirement is 150 mg/m^3 . These data indicate the project is within compliance with the state and federal rule requirements; the modeled concentration for PM_{10} is approximately 30 percent of the NAAQS standard.

- c. On top of this, lowering our environmental standards during a pandemic is the wrong way to go. People with compromised health, which can happen because of environmental pollution, are MORE susceptible to death by COVID-19. In the richest country that has ever existed in the history of planet earth, this is a poor excuse for lowering our standards.

Response:

Ohio EPA is not aware of the lowering of any air pollution standards that apply to this facility.

12. Topic: Applicability of Air regulations:

Comments:

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

- a. Under similar environmental laws, such as the Clean Water Act, individuals and companies that propose environmental degradation as a part of completing a project are sometimes required to mitigate for that damage, either by replacing in-kind the type of habitat lost, or paying into a fund or mitigation bank that conducts environmental conservation.

Is there any similar “no net loss” policy under the Clean Air Act?

Many Ashtabula residents that I’ve spoken to would have much less fear and anxiety about this project if Petmin was somehow required to improve air quality within the area in order to offset the over 390,000 tons of pollution they will be emitting every year.

Response:

The CAA does have a similar “no net loss” rule, but it applies only when a large air pollution source is going to be located in a non-attainment area. In this case, the area is in attainment and the rule does not apply.

13. Topic: Continuous compliance:

Comments:

- a. How can we be assured that accurate, hourly emissions of nitrogen oxides, particulate matter, and CO will not pose health risks to people living in close proximity to the plant? Please describe the techniques and frequency of monitoring these pollutants once the plant is operational.

Response:

Ohio EPA has many regulatory tools to ensure public health will be protected. The first is establishing emissions limits in permits. These limits are based on the maximum allowed production capacity of the equipment or, in some cases, are limited by the terms of the permit. The emission limits are then modeled using sophisticated computer models that calculate the expected concentrations of the pollutants outside the facility’s property. These models base their calculations on the emission rate, the stack flow rate, the stack temperature, the stack diameter, building dimensions, various meteorological conditions, the terrain, and other significant sources of pollution in the area. As a result, we know the expected concentrations of these pollutants when the facility is operating.

Ohio EPA reviews the modeling results and compares the predicted pollutant concentrations with the air quality standards to ensure health and welfare will be protected.

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

Ohio EPA does the following to ensure sources operate in compliance with the emissions limits:

- *Larger sources must conduct emissions tests to verify sources and controls are operating correctly and can meet the emission limits. These tests must follow U.S. EPA-approved methods to ensure accuracy. Ohio EPA staff witness the emissions testing to verify it is done correctly and reviews and confirms the results.*
- *Larger sources are required to install continuous monitoring equipment that either continuously measure the emissions coming out of the stack or continuously measure key parameters of the equipment to ensure it is operating correctly. This continuous monitoring equipment must meet detailed quality control requirements to ensure the data are accurate.*
- *Most sources are required to keep detailed records of the source's operation of the sources so Ohio EPA can determine if the equipment is operating normally.*
- *Most sources are required to submit periodic reports concerning the operation of the equipment. Ohio EPA staff review these reports to ensure compliance.*
- *Ohio EPA conduct periodic inspections to ensure compliance.*
- *Ohio EPA investigates citizen complaints to verify that the company is in compliance.*

The permit defines all requirements the company must meet. For example, please see some of the monitoring, record keeping, and emissions testing language from the draft Petmin U.S.A. permit for the Electric Arc Furnace (EAF) beginning on page 54:

Monitoring and/or Recordkeeping Requirements

- (2) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop, in inches of water, across each baghouse when the controlled emissions unit(s) is/are in operation, including periods of startup and shutdown. The permittee shall record the pressure drop across each baghouse on a daily basis. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee. The acceptable pressure drop for each baghouse shall be based upon the manufacturer's specifications until such time as any required performance testing is conducted and the appropriate range is established to demonstrate compliance.

Whenever any of the monitored values for pressure drop deviates from the limit(s) or range(s) established in accordance with this permit for screen building baghouse or EAF baghouse, the permittee shall promptly investigate

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

- a. the date and time the deviation began;
- b. the magnitude of the deviation at that time;
- c. the date the investigation was conducted;
- d. the name(s) of the personnel who conducted the investigation; and
- e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

- a. a description of the corrective action;
- b. the date corrective action was completed;
- c. the date and time the deviation ended;
- d. the total period of time (in minutes) during which there was a deviation;
- e. the pressure drops readings immediately after the corrective action was implemented; and
- f. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

Testing Requirements:

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

- a. The emission testing shall be conducted within 6-months after startup of the EAF, emissions unit P901.
- b. The emission testing shall be conducted to demonstrate compliance with the allowable PM₁₀, PM_{2.5}, NO_x, CO and CO₂ emission limitations.
- c. The following test method(s) shall be employed to demonstrate compliance with the allowable emission limitations:

for PM₁₀: Method 201 or 201A and 202 of 40 CFR Part 51, Appendix M;

for PM_{2.5}: Method 201A and 202 of 40 CFR Part 51, Appendix M;

for NO_x: Methods 7 or 7E of 40 CFR Part 60, Appendix A;

for CO: Method 10 of 40 CFR Part 60, Appendix A;

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

for CO₂: Method 3A of 40 CFR Part 60, Appendix A; and
Methods 1 through 4 of 40 CFR Part 60, Appendix A.

Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

- d. A record of pressure drop values across each baghouse shall be maintained during the emission test in order to verify manufacturer's recommended pressure drop range or to revise and establish an acceptable pressure drop range. Data shall be recorded at 15-minute increments or less throughout the entire test while sampling.
- e. A record of merchant pig iron produced for each heat shall be maintained during the emission test in order to calculate emissions rates, in units of pounds of a pollutant per ton MPI produced.
- f. During the emission testing, the emissions unit shall be operated under operational conditions approved in advance by the Ohio EPA Northeast District Office. Operational conditions that may need to be approved include, but are not limited to, the production rate, the type of material processed, material make-up (solvent content, etc.), or control equipment operational limitations (burner temperature, precipitator voltage, etc.). In general, testing shall be done under "worst case" conditions expected during the life of the permit. As part of the information provided in the "Intent to Test" notification form described below, the permittee shall provide a description of the emissions unit operational conditions they will meet during the emissions testing and describe why they believe "worst case" operating conditions will be met. Prior to conducting the test(s), the permittee shall confirm with the Ohio EPA Northeast District Office that the proposed operating conditions constitute "worst case". Failure to test under the approved conditions may result in Ohio EPA not accepting the test results as a demonstration of compliance.
- g. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA Northeast District Office's refusal to accept the results of the emission test(s).
- h. Personnel from the Ohio EPA Northeast District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
- i. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA Northeast District Office within 30 days following

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA Northeast District Office.

- b. Per your website and related article, the EPA has experienced significant decreases in funding, monitoring and enforcement (https://www.epa.gov/sites/production/files/2020-04/documents/epa_oig_20200331_20-p-0131.pdf) . The report shows that monitoring and enforcement decreased by more than 50% between 2007 and 2018. In March 2020, due to COVID-19, normal monitoring requirements and penalties for violations were put on hold indefinitely.

Because communities rely on the EPA to uphold standards and protect the health of residents, is this a good time to relax air quality standards for the projected pig iron plant when we have no way to ensure monitoring will be available in the future?

Response:

The above referenced funding, monitoring, and enforcement report is associated with U.S. EPA, not Ohio EPA. Although some of Ohio EPA's funding comes from U.S. EPA in the form of grants, Ohio EPA's funding from U.S. EPA has not significantly changed.

However, our funding has decreased in recent years due to other reasons which has provided some challenges to our programs. However, during this time, the rules associated with permitting the Petmin U.S.A. facility have not changed, so the requirements that a facility like Petmin U.S.A. must meet are the same.

The air quality standards are also the same, so there has been no decrease in the health and welfare protection they provide.

- c. Petmin's subsidiary, Tendele Coal Mining, has received numerous environmental violations and complaints in South Africa. It is alleged that Tendele's Somkhele mine operated without a water license for 8 years, using large quantities of water to wash coal, in a drought-stricken region of South Africa. The Global Environmental Trust has sued Tendele based on water violations, relocation of residents living near the Somkhele mine against their will, and threats to rare wildlife located near the mine, including rhinoceros. Can we trust that Petmin will comply with its EPA permit here in Ashtabula? What monitoring and enforcement is in place to ensure this?

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

Response:

For each emissions unit, the permit contains specific monitoring and recordkeeping requirements depending on the type of emissions unit. The permit also contains reporting requirements for each emissions unit that require the facility to report on a quarterly basis any deviations and/or exceedances of the permit requirements (i.e., emissions limitations, control measures, operational restrictions, monitoring, and recordkeeping, etc.).

If Petmin U.S.A. fails to report this information and/or occurrences of emissions limitations and/or numerous deviations, the Ohio EPA and/or U.S. EPA may pursue enforcement action against the facility.

- d. “The permittee shall report actual emissions pursuant to OAC Chapter 3745-78 for the purpose of collecting Air Pollution Control Fees.” How will Petmin properly collect and report emissions to the EPA and how often are they required to do so? Will these reports be made available to the public, and if so, how and where? If Petmin violates these emission requirements, can the Ohio EPA shut the plant down?

Response:

Each year, Petmin U.S.A. will be required to submit a FER which will be reviewed by Ohio EPA staff. The public may access these reports by submitting a public records request to the NEDO (see link provided below):

<https://epa.ohio.gov/dir/publicrecords#112015048-public-records>

The air pollution permit contains many requirements to ensure the facility operates in compliance with all applicable air pollution rules and regulations. These requirements help ensure the emissions will not cause any adverse health or welfare impacts to people near the plant.

The permit also requires the facility to notify Ohio EPA immediately if any emission source or air pollution control equipment breaks down in a manner that would cause the emission of air contaminants in violation of any applicable regulation or permit limit. Ohio EPA investigates breakdowns or any excess emissions to make sure public health is protected and to make sure the equipment is fixed. Repeated breakdowns may result in a submittal of a preventable abatement plan approved by the director of Ohio EPA and shall become part of the permit. The director shall take appropriate enforcement action for breakdowns that result in emissions that endanger or could endanger the health or safety of the public.

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

In the General Requirements of the permit, any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the CAA and is grounds for enforcement action or for permit revocation, revocation and re-issuance or modification.

Ohio EPA may also pursue enforcement action in the event of noncompliance which can include monetary fines, environmentally beneficial projects, facility shutdown, etc.

- e. You provided emissions numbers for brand new equipment. Will those emission numbers change as the equipment ages?

Response:

Fluctuations in equipment emissions are possible as equipment ages; however, the facility and all associated emissions units are still required to maintain compliance with all permit requirements, including any emissions limitations.

- f. Radiation levels from Fukushima are too high in California yet EPA doesn't enforce. What will EPA do in Ohio for enforcement in Ohio? What assurances are you offering that enforcement will happen?

Response:

Ohio EPA cannot comment on U.S. EPA enforcement actions. Please see 13.d above for potential Ohio EPA enforcement action as a result of permit noncompliance.

- g. Anyway you present this, it's polluting our lungs and the air we breath why would you want to give them this permit?

Response:

Ohio EPA is required, by law, to issue air pollution permits to any facility that will comply with all applicable air pollution rules and laws. The air pollution permit contains many requirements to ensure the facility operates in compliance with all applicable air pollution rules and regulations. These requirements help ensure the emissions will not cause any adverse health or welfare impacts to people near the plant.

14.Topic: Enforcement:

Comments:

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

- a. Petmin's subsidiary, Tendele Coal Mining, has received numerous environmental violations and complaints in South Africa. It is alleged that Tendele's Somkhele mine operated without a water license for 8 years, using large quantities of water to wash coal, in a drought-stricken region of South Africa. The Global Environmental Trust has sued Tendele based on water violations, relocation of residents living near the Somkhele mine against their will, and threats to rare wildlife located near the mine, including rhinoceros. Can we trust that Petmin will comply with its EPA permit here in Ashtabula? What monitoring and enforcement is in place to ensure this?

Response:

See response 13.c.

- b. Is the Ohio EPA concerned about Petmin's poor environmental track record at other sites around the World?

Response:

Ohio EPA does consider the environmental track record of companies when we are crafting air permits. For instance, we may require more detailed monitoring and recordkeeping to ensure a source continues to operate in compliance. Ohio EPA does not, however, have the authority to deny a permit because of the company's prior track record. Ohio EPA is committed to ensuring that Petmin U.S.A. complies with all requirements contained in this permit.

- c. How will Trump administration relaxing of all regulations affect enforcement of standards?

Response:

The Trump administration has changed multiple air pollution rules and regulations. However, none of those changes impact the requirements that Petmin U.S.A. must meet. Ohio EPA is committed to ensuring Petmin U.S.A. complies with all requirements contained in its air permit. In the event of noncompliance, please see 13.d above.

15.Topic: Safety:

Comments:

- a. What emergency plan is going to be in place for accidental pollution discharges into air or water? Where can the public view this plan?

Response:

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

The facility's air and water permits will contain requirements to report malfunctions, accidental pollution discharges within a specified time according to the OAC. Ohio EPA's Division of Environmental Response and Revitalization (DERR) has a hotline for reporting these types of releases to the environment. For emergencies, please call the spill hotline at: 800-282-9378.

- b. What emergency plans are going to be in place should this facility suffer an unfortunate event such as accidental releases or discharges of pollutants into the air or water or, even worse, some catastrophic event (gas pipeline leak or explosion) that might endanger the lives and properties in the surrounding neighborhoods? Where can the public view these plans?

Response:

Any industrial facility, including Petmin U.S.A., must meet various federal and state regulations that require plans and/or address accidents and releases. As part of the review of the air permit, Ohio EPA does not evaluate these programs. For more information on these programs it is best for the commenter to contact the programs directly. We have listed many of these programs below with links to key information. Note that some of these programs may not apply to Petmin U.S.A. depending upon the material they store or use or depending upon the processes they use. Also, if the program applies, Petmin U.S.A. may not have needed to submit information to them yet, depending upon the deadlines for the various programs. Here is a list of some programs that might apply:

***Emergency Planning and Community Right-to-Know Act (EPCRA)
Hazardous Chemical Inventory Reporting Requirement:***

Facilities must submit MSDSs (or SDSs), or a list of hazardous chemicals, to their State Emergency Response Commission (SERC), Local Emergency Planning Committee (LEPC) and local fire department.

Facilities must also submit an annual inventory of these chemicals by March 1 of each year to their SERC, LEPC and local fire department. The information submitted by facilities must be made available to the public. (This information is used in local and state emergency planning).

<https://www.epa.gov/epcra/epcra-sections-311-312#covered>

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

Toxic Release Inventory:

If it manufactures, process or otherwise uses listed chemicals above threshold quantities, Petmin USA will be required to file a Toxic Release Inventory.

https://www.epa.gov/sites/production/files/2019-05/documents/tri_for_communities_fact_sheet_summer_2018.pdf

Slug Control Plan:

In its industrial discharge permit, the local authority will evaluate the facility's need for a Slug Control Plan.

https://www3.epa.gov/npdes/pubs/pretreatment_streamlining_8.0.pdf

Emergency Release Notification Requirements:

If a release of an Extremely Hazardous Substance (EHS) at or above its applicable reportable quantity, the facility must notify the State Emergency Response Commission (SERC) and Local Emergency Planning Committee (LEPC) for any area(s) likely to be affected by the release. If an accidental release of a hazardous substance listed under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), the facility must notify the National Response Center (NRC), as well as the SERC and LEPC.

The facility must provide a detailed follow-up written report as soon as practicable after the release. SERCs and LEPCs are required to make these reports available to the public.

<https://www.epa.gov/epcra/epcra-section-304#notification%20requirements>

Risk Management Plan (RMP):

Owners and operators of a facility (stationary source) that manufactures, uses, stores, or otherwise handles more than a threshold quantity of a listed regulated substance in a process, must implement a risk management program and submit a single RMP for all covered processes at the facility.

https://www.epa.gov/sites/production/files/2020-03/documents/caa112_rmp_factsheet_march_2020_final.pdf

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

Spill Prevention, Countermeasures and Control Plan (SPCC):

The Plan describes oil handling operations, spill prevention practices, discharge or drainage controls, and the personnel, equipment and resources at the facility that are used to prevent oil spills from reaching navigable waters or adjoining shorelines.

https://www.epa.gov/sites/production/files/2013-08/documents/qf_app_guidance_0.pdf

Occupational Safety and Health Administration (OSHA):

OSHA's mission is to ensure safe and healthful working conditions for working men and women by setting and enforcing standards and by providing training, outreach, education and assistance.

<https://www.osha.gov/aboutosha>

- c. But Petmin will be self reporting on any accidents so how will the EPA know?

Response:

Please see responses 15.a and 15.b

- d. Ashtabula has had a history of plants contaminating our environment. What emergency health issues could put the public at risk? Tickle emissions have created issues on the east side for years. It seems that this project is becoming a bate and switch scenario to a community hungry for economic relief.

Response:

Ohio EPA is familiar with the environmental history of the area, including U.S. EPA Superfund sites. Ohio EPA would not issue an air permit that undoes what past cleanup efforts have achieved. This permit ensures the CAA is followed using emission limits, control equipment, monitoring, recordkeeping, reporting, and testing. The NAAQS are set for the purpose of protecting health and welfare.

16.Topic: Chemical Compositions:

Comments:

- a. What are the specific VOCs (volatile organic compounds) that will be released by the Petmin plant?

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

- b. How much of each of the VOCs, individually, will be emitted from this facility (Benzene, Formaldehyde, Toluene, Naphthalene, Dichlorobenzene and other such VOC emissions)?
- c. Is the Ohio EPA concerned that Benzene and Chlorinated solvents will be produced as part of the VOC output from the Petmin plant?
- d. What are the VOC's (specifically) that will be emitted by this plant and how much of each particulate will be emitted?
- e. Are any of the VOCs carcinogens?

Response:

For comments 16.a. through 16.e., the total VOC emissions from this project is 16.80 tons per year. Of this, approximately 64 percent is from the products of combustion from firing natural gas and to a lesser extent from firing diesel fuel (< 1 percent). The remainder of VOC emissions, approximately 36 percent, are from the electric arc furnace (EAF).

For natural gas combustion, specific VOCs may be found in U.S. EPA's "AP-42, Compilation of Air Pollution Emission Factors," Table 1.4-3, Section 1.4, Natural Gas Combustion:

<https://www3.epa.gov/ttn/chief/ap42/ch01/final/c01s04.pdf>

Table 1.4-3 denotes which VOCs that are listed under Section 112 of the CAA as Hazardous Air Pollutants (HAPs), known to cause cancer and other serious health impacts. It is noted in this AP-42 section that trace amounts of specific VOCs in the natural gas (e.g., benzene and formaldehyde) may be emitted if they are not completely combusted in the units.

Benzene, formaldehyde, toluene, naphthalene and dichlorobenzene emissions were calculated, using emission factors in Table 1.4-3 and combined emissions are expected to be approximately 0.1 ton per year. For all HAPs, emissions were calculated to be approximately 2.2 tons per year. These estimates may be conservative because some emission factors are based on the method of detection limits (minimum detection limit a substance can be reported). Please note, according to Engineering Guide #69, sources emitting air contaminants solely from the combustion of fossil fuels are exempted from air toxics modeling.

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

Natural gas is introduced in the process along with oxygen (O₂), a catalytic reaction takes place converted natural gas and O₂ to carbon monoxide (CO) and hydrogen (H₂) gas.

For the EAF, VOCs were estimated using an emission factor found in U.S. EPA's "AP-42, Compilation of Air Pollution Emission Factors," Table 12.5.1-8, Section 12.5.1, Iron and Steel Production - Steel Mini-mills. There are no specific VOCs listed in this AP-42 section. VOCs emissions, attributed to this emission factor, come from contaminated scrap steel, including oil, solvents, and plastics. Because scrap steel will not be used in this process (virgin iron pellets will be used), VOC emissions may have been over-estimated for the EAF.

It is common practice in the air pollution field and in permit development to utilize a conservatively high emission factor for a similar source.

<https://www3.epa.gov/ttn/chief/ap42/ch12/final/c12s0501.pdf>

- f. Right now the EPA only regulates PM 10 and PM 2.5 based on the concentrations of particles in the air, but not based on the chemical composition of the particles. There have been several published scientific studies showing that the chemical composition of particulate matter influences its toxicity and ability to generate free radicals, inflammation, and damage to human tissues. While chemical composition is not technically regulated, would Petmin and the EPA be amenable to conducting some chemical analysis of particle emissions from the pig iron facility to gain a better understanding of potential health effects?
- g. Several published scientific studies have shown that certain iron species present in particulate matter emissions cause free radical formation and associated tissue damage when inhaled. Can you give us an idea of what, if any, iron compounds might be present in particulates emitted from this facility.
- h. We understand that ultrafine particles (PM <0.1 micrometer) are a byproduct of combustion and will be emitted in significant quantities by this facility, because it proposes to conduct high levels of combustion for extended time periods. Ultrafine particles have been shown to cause serious negative health effects, possibly more detrimental than effects of regulated particles such as PM 10 and PM 2.5. However, the EPA does not regulate ultrafine particles. Why doesn't the EPA regulate ultrafine

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

particles? Do you expect that ultrafine particle emissions from this project could negatively affect the health of Ashtabula residents?

- i. Has anyone taken into account what the Particulate Matter will be consisting of? Will the local community be breathing in iron particulates as a result of this plant's operations and emissions?
- j. What is the chemical composition of the reducing gas used in the DRI?
- k. What are the particulates that result from combustion?
- l. Has anyone taken into account what the Particulate Matter will be consisting of? Will the local community be breathing in iron particulates as a result of this plant's operations and emissions?

Response:

For comments 16.f. through 16.l., PM emissions primarily consist of iron and iron oxides emitted from material handling and EAF operations. Material handling operations include transporting iron ore pellets on a series of conveyor belts throughout the plant and screening of materials (removing fines from the iron ore pellets). The EAF operations include melting the pellets, further refinement of the molten iron, and casting. Emissions from the screening building and the melt shop, housing the EAF, are controlled by baghouses.

Iron oxides primarily consist of iron(II) oxide (Fe_2O_3), possibly with a small amount of iron(III) oxide (Fe_3O_4).

Particulate matter from natural gas combustion has been estimated to be less than 1 micrometer in size. U.S. EPA sponsored studies indicate the particulate matter resulting from natural gas combustion generally consist of larger molecular-weight hydrocarbons that are not fully combusted.

Note that when Ohio EPA evaluates particulate emissions, it also reviews to determine if the particulate emissions consist of any air toxic compounds. So, the toxicity of any compound is also evaluated.

- m. I am concerned about heavy metals that could be emitted from this plant that are hidden from us in this process.

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

Response:

The application listed heavy metal emissions. Manganese emissions are expected to be emitted at 0.098 tpy and chromium emissions are expected to be emitted at 0.009 tpy. These emissions will be emitted to the atmosphere through a stack over a course of a year. These emission rates are very low and are at levels in which additional modeling is not required under the air toxic policy.

17.Topic: Lead:

Comments:

- a. Is the City guaranteeing that no lead will be discharged into the air or water from the site?

Response:

According to the permit application, and Ohio EPA's review of the project, there will be no air emissions of lead from this project.

- b. What specific measures are being undertaken to insure that no lead will be discharged into the air or water from the site?

Response:

Please see response 17.a.

- c. Has a lead spread model been conducted to ensure that any lead created by the project will not cause any significant impact to individuals or the environment—including children and adults?

Response:

Please see response 17.a.

- d. Will Lead be emitted from this plant, and if so how much?

Response:

Please see response 17.a.

- e. What are the quantities for lead emissions into the air and water and how are they regulated? We just got the river and lake cleaned up.

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

Response:

Please see response 17.a.

18.Topic: Air toxic analysis:

Comments:

- a. Why are no air toxics analyses required for this project?

Response:

Per Ohio EPA's "Engineering Guide #69: Air Dispersion Modeling Guidance," air toxics modeling is required when the potential-to-emit (PTE) of any air toxic compound is 1.0 tpy or more. Compounds considered highly toxic may require modeling at rates less than 1.0 tpy. OAC rule 3745-114 lists all the regulated air toxic compounds. For this project, no air toxic exceeds the modeling threshold of 1.0 tpy and no compound was considered highly toxic.

- b. "No air toxics modeling was required for this project." Why would you not want to model the effects of adding the expected amount of air pollutants to the existing environmental conditions so that you would know what the effects of adding these pollutants will be on the citizens of this area and beyond?

Response:

Please see response 18.a.

- c. Has a cumulative impact analysis been done as it relates to all the chemicals that will be discharged at the project site?

Response:

No. This is not a required aspect of the PSD permitting process.

- d. Has there been a sensitive receptor impact analysis done as it relates to cancer and non-cancerous impacts from chemicals that will be discharged at the project site?

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

Response:

No, the amounts of toxic compounds expected to be emitted are too small to require this type of evaluation.

- e. Has the permit applicant modeled for lead, chlorinated solvents and other chemicals that are traditionally known to contaminate (and have contaminated) local water sources and caused unsafe air emissions?

Response:

No, it has not. According to the permit application and Ohio EPA's analysis, there will be no emissions of lead or chlorinated solvents.

- f. Has any plant such as this proposed Pig Iron Plant...Emitting these levels of air toxins ...ever been considered for a Permit within 1 MILE of residential neighborhoods and recreational parks and beaches?

Response:

The amount of air toxic compounds expected to be emitted from this facility is small compared to many other industrial facilities. In fact, the amounts expected are below thresholds Ohio EPA uses to do more detailed air pollution modeling analysis.

The amounts emitted are not uncommon coming from industrial facilities. Many industrial facilities are located near neighborhoods or recreational areas. Ohio EPA's review process ensures that the pollutants will not cause adverse health or welfare effects to citizens in the area.

- g. Have there been an additional environmental impact study done concerning the emissions of these new levels of toxins?

Response:

Please see response 18.a. Ohio EPA followed all applicable rules and policies to evaluate any air toxics.

- h. Why isn't particulate matter considered hazardous when there are many studies showing that it causes inflammation, tissue damage, and decreased life expectancy?

Response:

Ohio EPA evaluates particulate matter both as a particulate and as an air toxic compound where applicable. Emissions of particulate must meet the particulate matter standards. If the particulate emitted is also an air toxic compound, then the particulate must also be evaluated as an air toxic. For this permitting project, HAP content in any of the proposed iron ore pellets

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

is shown as 0.18 percent manganese (Mn) and 0.016 percent chromium (Cr) with a project PTE of 0.11 tpy. Please note that PM₁₀ emissions from the electric arc furnace (EAF) are controlled by a baghouse and the modeling done for PM₁₀ demonstrated compliance with all associated rules and regulations.

19. Topic: Greenhouse gases:

Comments:

- a How will the Petmin pig iron plant, and its release of greenhouse gases contribute to climate change?

Response:

According to the Center for Climate and Energy Solutions, (see: <https://www.c2es.org/content/international-emissions/>), during 2018, the seven major economies of the world emitted an estimated 28,000 million metric tons of CO₂e (GHGs). The amount emitted from the Petmin U.S.A. facility (if the CO₂ plant is not built), is a very small fraction of these worldwide emissions. Because it is a small fraction, it will not significantly contribute to climate change.

Petmin U.S.A.'s GHG PTE is 0.36 million metric tons per year.

Petmin U.S.A. advises that, to its knowledge, even if a CO₂ recovery plant is not operational, the Ashtabula plant will be best-in-class worldwide in CO₂ emissions per unit of pig iron production.

U.S. EPA indicates that for each GHG, a Global Warming Potential (GWP) can be calculated to reflect how long it remains in the atmosphere, on average, and how strongly it absorbs energy. Gases with a higher GWP absorb more energy, per pound, than gases with a lower GWP, and thus contribute more to warming Earth. For more information relating to this issue, please see the following U.S. EPA website:

<https://www.epa.gov/ghgemissions/overview-greenhouse-gases>

- b Why is modeling not required for Greenhouse gases?

Response:

Modeling is designed to evaluate localized health and welfare impacts. GHG are important for worldwide impacts, not localized impacts, so the modeling is not needed.

- c How many cars would the greenhouse gas emissions be equivalent to?

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

Response:

According to U.S. EPA, a typical passenger vehicle emits about 4.6 metric tons of CO₂ per year. This assumes the average gasoline vehicle on the road today has a fuel economy of about 22 miles per gallon and drives around 11,500 miles per year. Every gallon of gasoline burned creates about 8,887 grams of CO₂. In addition to CO₂, automobiles produce methane (CH₄) and nitrogen dioxide (NO₂) from the tailpipe and hydrofluorocarbon emissions from leaking air conditioners. The emissions of these gases are small in comparison to CO₂; however, the impact of these emissions can be important because they have a higher GWP than CO₂.

Petmin's GHG PTE is 355,170 metric tons per year and, based on the information provided above, that equates to approximately 77,000 vehicles.

- d Will this Petmin facility be offsetting the greenhouse gases they will be emitting with renewable energy credits or any other way to mitigate the increase in greenhouse gases to the region?

Response:

No. There is no rule or law requiring credits or mitigation. Instead, GHGs must be restricted by employing BACT.

- e Climate change is real, is happening now, and will cause havoc to human civilization. I grew up in Ashtabula. The trees leafed out in spring during the last two weeks of May. Now, this is happening over a month earlier, as the result of a rapidly warming climate. Can you imagine larger, climate-driven catastrophes on top of the COVID-19 pandemic? A major hurricane on the gulf coast? A severe tornado outbreak in the midwestern states? More catastrophic wildfires in our western forests? The CO₂ released by this pig iron plant will increase the likelihood of these events, also. We are all linked together, and we are destroying the planet.

I am sure you realize the truth to my statements. Please do not allow this permit to be granted. AT THE VERY LEAST, this company should be required to remove its climate-changing pollution before dumping it into the atmosphere.

Response:

Please see response 19.a.

20. Topic: Ozone:

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

Comments:

- a. I am also concerned that the new permit allows increases particulate matter, Sulfur Dioxide, and NO_x as well as VOC's, all which are part of ground level ozone. The American Lung Association has given Ashtabula an F rating for ozone. The EPA Environmental Justice Screen Map shows Ashtabula between 70-90% in ozone concentration. How can even more ozone causing gases be allowed as "room for growth"?

Response:

NO_x and VOCs are considered precursors in the formation of ground-level ozone also known as smog. The facility will be reducing the amount of NO_x by using low-NO_x burners and good combustion practices to lessen the formation of smog. The VOC emissions from the facility are less than the PSD significant emissions rate (SER) of 40 tons per year and, therefore did not require further evaluation. However, this proposed project identifies a NO_x emission increase of 484.57 tons per year. Per the air permit application, on April 30, 2019, U.S. EPA issued guidance on the development of MERPs as a Tier 1 demonstration tool for ozone PM_{2.5} under PSD. This guidance addresses the MERPs and how to use them to demonstrate the project will not result in quantifiable ozone formation. Under this guidance, the Petmin U.S.A. proposed NO_x emissions increase of 484.57 tons per year is above the lowest eight-hour ozone MERP value of 126 tons per year of any source modeled in the Ohio Valley Climate Zone (see Table 4-1 of the MERPs guidance). After further evaluation methods as outlined by U.S. EPA, it was determined the ozone air quality impacts from the project would be expected to be less than the critical air quality threshold.

21. Topic: Acid Rain:

Comments:

- a. The tons of NO_x and SO_x per year will certainly impact the lake via acid rain.

Response:

The facility will be emitting significant quantities of NO_x, but these compounds will be quickly dispersed into the air, so no impacts to Lake Erie are expected. The dispersion modeling (computer modeling) of the emissions expected from the facility demonstrates that no adverse health

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

or welfare effects to citizens in the surrounding area are expected. We do not expect any adverse impact to the local environment, including Lake Erie.

Acid Rain Permits and Compliance is regulated by OAC chapter 3745-103. These rules mostly regulate large utility boilers which typically have much higher emissions than the proposed Petmin U.S.A. facility. The acid rain rules do not apply to the Petmin U.S.A. facility.

22. Topic: Lake Erie:

Comments:

- a. Has anyone modeled how much of the pollution/emissions will settle into Lake Erie, and do we know what the results of those particulates and gases will have on the lake and related ecosystems?

Response:

The facility will be emitting significant quantities of NO_x, but these compounds will be quickly dispersed into the air, so no impacts to Lake Erie are expected. The dispersion modeling (computer modeling) of the emissions expected from the facility demonstrates that no adverse health or welfare effects to citizens in the surrounding area are expected. We do not expect any adverse impact to the local environment, including Lake Erie.

- b. As I understand it, because of the pandemic, the company applying for this permit is reapplying because they are backing away from their plan for a CO₂ scrubber at this facility. This will increase the damage this facility will do to Lake Erie, and it should not be allowed. As you know, the human release of CO₂ is causing our planet to warm. This is now contributing to increased algae blooms in Lake Erie, which is causing serious damage to the Lake's ecosystems. The serious and rapidly increasing eutrophication of the lake is causing anoxic events that are destroying wildlife on a vast scale. When this is coupled with the increased discharge from this plant, it most definitely WILL degrade Lake Erie further.

Response:

This application was submitted due to design changes to the plant and to address the possibility that a partner could not be found to accept and process the CO₂ gas. The application was submitted in December 2019, prior to the pandemic in Ohio, so the changes are not related to the pandemic.

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

Petmin U.S.A. still expects to have a partner to accept and process the CO₂ gas; however, it is unclear when this might occur, and the air pollution rules allow the facility to be built with or without the partner.

CO₂ is considered a GHG. However, the amount emitted from this plant is too small to significantly impact global warming. The amount allowed to be emitted under the permit meets the air pollution rules associated with GHGs.

CO₂ emissions do not contribute to algal blooms in Lake Erie. Lake Erie's algal blooms are caused by runoff pollution.

The permit allows the plant to be built either with or without the CO₂ processing plant. If the CO₂ processing plant is not built, then there will be additional CO and GHG emissions. These are accounted for in the permit. The permit requires the CO₂ (with its contaminant H₂S) is treated in two steps:

- *Oxidation of the H₂S to SO₂ with a thermal oxidizer; then*
- *Removal of the SO₂ with a scrubber, transferring the sulfur, in dissolved solid salt form, to wastewater for pretreatment and discharge to the City of Ashtabula. The SO₂ scrubber will be designed to achieve a 98-percent removal efficiency.*

23. Topic: Odors:

Comments:

- a. Also, nearby neighborhoods are concerned with the sulfur odor; will anything be done to reduce the smell?

Response:

H₂S is the pollutant typically associated with sulfur-type odors, often described as a rotten egg-type odor. The permit requires the CO₂ (with its contaminant H₂S) be treated in two steps:

- *Oxidation of the H₂S to SO₂ with a thermal oxidizer; then*
- *Removal of the SO₂ with a scrubber, transferring the sulfur, in dissolved-solid salt form, to wastewater for pretreatment and discharge to the City of Ashtabula. The SO₂ scrubber will be designed to achieve a 98-percent removal efficiency.*

Because most of the SO₂ will be removed, Ohio EPA does not expect significant sulfur-type odors.

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

- b. Air pollution is often focused on respiratory damages. How much thought goes into smell? Is the extent of odors highly regulated and tested and enforced?

Response:

Many industrial facilities generate some odors at times. Odors typically vary with time depending upon many factors including the operation of the facility, the wind direction, and the particular compounds being emitted. The proposed Petmin U.S.A. facility may generate some odors at times.

Ohio EPA rules do not prohibit odors from industrial facilities. Instead, the rules prohibit odors of such intensity to cause a public nuisance. The official definition of a public nuisance can be found in [OAC rule 3745-15-07\(B\)](#) as:

“the emission or escape into the open air from any source or sources of odors whatsoever that is subject to regulation under OAC Chapter 3745-17, 3745-18, 3745-21, or 3745-31 and is operated in such a manner to emit such amounts of odor as to endanger the health, safety, or welfare of the public, or cause unreasonable injury or damage to property, is hereby found and declared to be a public nuisance.”

Ohio EPA does not believe the amount of emission from this facility will cause a public nuisance because the amount of emission is not expected to endanger the health, safety or welfare of the public, or cause unreasonable injury or damage to property.

- c. What will the odor of these emissions smell like, and will it be constant? We have wind from the West often, and with our homes right there by this plant the concern is having to deal with a terrible odor. And how will the odor mix with the horrible asphalt one coming from the dock company east of you?

Response:

In general, it is difficult to predict the frequency and intensity of odors because there are so many factors that influence odors. The amount of pollution emitted is certainly a factor. Other factors include the wind speed, the wind direction, the release height, the distance from the release point, the odor threshold of the compound released and even the sensitivity of the individual (different people perceive odors differently).

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

Ohio EPA does not expect this facility to produce significant odors for several reasons. First, the facility is using state-of-the-art control equipment which will significantly reduce emissions. Second, because the stacks are elevated and the exhaust is heated, any pollutants will be dispersed before impacting the ground. This results in lower concentrations which means the pollutants are less likely to cause an odor. Third, for the one pollutant that does have a low odor threshold (meaning you can easily smell small concentrations), hydrogen sulfide (H₂S), the emissions are well controlled, so the amount emitted is so small that odors are not expected.

Remember that our evaluations determined that the emissions from this facility are not expected to cause any adverse health or welfare effects.

In terms of combined odors, most facilities have distinctive odors if they have odors at all. So, in most cases, we can figure out the source of the odor. If citizens are experiencing odor problems, contact Ohio EPA. We will investigate to determine the source of odors and to determine what is causing them. We can often help solve those odor problems.

- d. Concerned what your definition of minimal odor is compared to what it will really be like for those of us with homes so close to the plant site.

Response:

Please see responses 23.a., b., and c.

24.Topic: Facility's operations:

Comments:

- a. How much of Petmin's product will be consumed within Ohio vs exported to other states? How much product will be consumed within the United States vs abroad? Is pollution from shipping considered an emissions unit under this permit?

Response:

Ohio EPA has not evaluated where the resulting product will be consumed because that is not part of the air pollution evaluation process.

The air emissions from shipping are not considered under this permit. This permit accounts for all air emissions generated onsite during operation of this facility.

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

- b. The comment last evening regarding the Toledo project caught my attention. According to the project website it will be the tallest structure in Ohio. I have yet to see any disclosure of the height of the Ashtabula plant. Perhaps for good reason?

Response:

This facility will have various components at different heights. To give the commenter an idea of the expected heights, the emissions stack heights provided below:

Process Gas Heater	Flare	EAF/Casting Baghouse	Startup Boiler	Emergency Generator	Blackstart Generator	HP Fire Pump	LP Fire Pump
200 ft	167.5 ft	108.6 ft	50 ft	11.1 ft	4.5 ft	11.1 ft	11.1 ft

- c. “The process includes the generation of byproducts. Taconite fines are stored in bins, later transported off-site. Remet (off-spec DRI) is stockpiled, later reintroduced into the process. Slag created at the EAF will be handled by a separate company.” Where are these “byproducts” mentioned above going to be transported “off-site”, and how will they be either used or dumped? Who will transport them? Who is the separate company handling the slag, and where will it go, and how will it be used or dumped. Are separate permits required for any of these processes?

Response:

Per the information provided in the permit application, Petmin U.S.A is negotiating with an independently owned third-party slag processing company (SPC) to take ownership and responsibility (using the SPC’s equipment) of the slag at its point of generation, i.e., as it is poured from the EAF into the SPC-owned slag pots. The third-party vendor will also manage the slag stockpile. No processing of slag is proposed to be performed onsite, although the third-party vendor may need to break the slag into a manageable size prior to loading into dump trucks and moving the slag off-site.

Slag is poured to the slag pot from the EAF; then, metal, now containing more than 96 percent iron, is poured from the EAF into ladles and transported to the pig caster, which is cooled by direct contact with water and by contact with the air. Water evaporates upon contact with hot metal and make-up water is added to the circuit. Each SPC-owned slag pot can hold several EAF loads. The SPC transports the pot containing cooled and

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

solidified slag to the storage area. Close to ground level, the transport vehicle angles the pot and the block of slag falls to the ground. From there, the slag is transported via the contractor to an outside facility.

It is important to note that the SPC will have its own, separate air pollution permit with Ohio EPA.

- d. Where is the toxic waste, removed by the scrubbers, sent to be stored. Does it end up in Ohio?

Response:

Per the air permit application, sulfur control requires a thermal oxidizer and a scrubber to convert the sulfur by oxidation to SO₂, then absorb the gas into an aqueous phase for reaction with a neutralizing agent and subsequent discharge to the City of Ashtabula wastewater treatment system.

There's also a wet scrubber to treat stripped wastewater in order to absorb ammonia in gas phase to an aqueous phase for offsite shipment.

Petmin advises that this aqueous solution of ammonium sulfate will have beneficial reuse as a fertilizer. The details for its reuse have not been finalized.

- e. How will overall air quality be monitored to ensure that this facility stays in compliance with the EPA air quality standards? Will this information be available to the public? If so, how?

Response:

The air pollution permit contains many requirements to ensure the facility operates in compliance with all applicable air pollution rules and regulations. These requirements help ensure the emissions will not cause any adverse health, safety, or welfare impacts to people near the plant.

The permit also requires the facility to notify Ohio EPA immediately if any emission source or air pollution control equipment breaks down in a manner that would cause the emission of air contaminants in violation of any applicable regulation or permit limit. Ohio EPA investigates breakdowns or any excess emissions to make sure public health is protected and the equipment is fixed. Repeated breakdowns may result in a submittal of a preventable abatement plan approved by the director of Ohio EPA and shall become part of the permit. The director shall take

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

appropriate enforcement action for break downs that result in emissions that endanger or could endanger the health or safety of the public.

In the General Requirements of the permit, any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the CAA and is grounds for enforcement action, permit revocation, reissuance or modification.

The public may also make public records requests to review all compliance reports associated with the facility at any time.

- f. What is the source of the ammonia that's being scrubbed out of the wastewater?

Response:

Petmin will utilize an amine-based absorbent in the CO₂ absorption system. Through the absorption system small amounts of ammonia gas will be generated from the absorbent. These gaseous traces are subsequently transferred/absorbed into the liquid phase and circulate in the plant cooling water circuit, where there is a cyclical concentration of the contained impurities. In order to remove the majority of the ammonia from the water prior to being received by the City of Ashtabula wastewater treatment system, the stream is passed through an ammonia removal operation. A wet scrubber is used to treat stripped wastewater – in order to absorb ammonia in gas phase to an aqueous phase for offsite shipment.

- g. Residents are concerned about the large size of the Petmin plant and it's effect on the view from the historic bridge street. Will you specify are the dimensions of the footprint of the projected Petmin pig iron plant? How many feet is the projected smokestack?

Response:

The project will be located within the footprint of the Kinder Morgan Pinney Dock (KM) facility which is approximately 310 acres, in the county and city of Ashtabula. The site is approximately 575 feet above sea level.

Stack heights provided below:

Process Gas Heater	Flare	EAF/Casting Baghouse	Startup Boiler	Emergency Generator	Blackstart Generator	HP Fire Pump	LP Fire Pump
200 ft	167.5 ft	108.6 ft	50 ft	11.1 ft	4.5 ft	11.1 ft	11.1 ft

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

- h. If there are scrubbers how come there are still emissions of 547 tons per year CO and 484 tons NO_x etc.?

Response:

The total emissions from the plant are calculated assuming the plant is operating at its maximum rate all year long, is complying with all applicable air pollution rule, and is using all required air pollution controls or techniques. Not all equipment is required to employ add-on control equipment like scrubbers. In many cases, the rules require the use of low-emitting equipment or processes instead of add-on controls.

Both CO and NO_x come from combustion processes. The large amounts are generated simply because a large amount of natural gas is combusted. No add-on control is required for the natural gas burners. Instead, they are required to employ burners designed to reduce emissions.

- i. Will it run 24/7? Can we make it close by 5:00 so we don't miss our magnificent lake sunsets?

Response:

This permit does not have any restrictions concerning when the plant can operate because, in this case, there are no applicable air pollution rules or regulations that restrict the hours of operation. Because there are no air pollution rules that allow Ohio EPA to require closing by 5 p.m., we cannot put that kind of restriction in the permit.

- j. Did the company anticipate this design change in advance of the original permissions and submit the original request knowing they would request it be revised in the hopes of pushing it through with less scrutiny?

Response:

There are two main reasons why a second permit application was submitted. The first was because more detailed engineering of the equipment was completed that resulted in changes from what was originally proposed. This is common when it comes to large new plants because the permit applications often need to be submitted before the detailed design is complete. When the first permit application was submitted, the detailed design information had not been developed, so the application had to use preliminary engineering information.

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

The second reason was because Petmin U.S.A. had not yet been able to get a commitment from the third-party partner to accept and process the CO₂ gas. The main reason why the third-party has not committed to install the gas processing plant is because they don't want to commit to building a gas processing plant without being sure the Petmin U.S.A. plant will be built. Petmin U.S.A. expects the third-party plant to be built, but, just in case, the revised permit allows for operation without the third-party.

With two permits undergoing review, the proposed facility has undergone more scrutiny that it would have under one application.

- k. How will the waste from the plant be disposed of?

Response:

Please see response 25.h.

- l. Is this the first type of plant to be built in the U.S.? If so, why would we allow this to happen? 110 jobs is not reason enough, 500 jobs are only temporary for construction.

Response:

There are other facilities throughout the United States that manufacture merchant pig iron (MPI). According to Petmin U.S.A.'s air permit application, this project will produce MPI from iron pellets to generate nodular pig iron, the highest purity grade of MPI. The fundamental manufacturing process is an established and proven technology – the direct reduction of iron pellets to form Direct Reduced Iron (DRI). However, purification via smelting in an EAF to produce MPI is a novel technology.

Ohio EPA's role is to determine if the proposed facility will meet all applicable air pollution rules and regulations. Our process does not evaluate the number of jobs produced by any particular project.

25. Topic: CO₂ plant:

Comments:

- a. In the first permit-to-install for this facility (2/6/2019), a CO₂ recapture plant was required. This new permit would allow construction (and operation?) to begin without construction of the CO₂ recapture plant. Can you clarify if this permit allows Petmin to operate the pig iron facility without the CO₂ recapture plant being up and operational? If so, why was it required in the first permit but not this one?

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

Response:

The current permit allows the plant to be built either with or without the CO₂ processing plant. The initial permit required the use of a CO₂ processing plant because Petmin U.S.A. proposed that approach in their application even though it was not required by any applicable air pollution rule or law.

The possibility remains that the CO₂ gas stream is sold to an independent third-party who processes the gas in a CO₂ processing plant onsite. This separate facility would purchase the CO₂ gas stream from the Petmin U.S.A. facility as its feedstock and purify the CO₂. The CO₂ processing plant would receive the CO₂ that contains H₂S. The sulfur is removed in the third-party's gas purification process, and the purified CO₂ is sold on the commercial market. It is important to note that this independent third-party will need to obtain an air permit prior to operation of the CO₂ processing plant.

Petmin has reiterated its objective to operate the facility with a CO₂ Plant. The company has also advised that, even in the case that a CO₂ plant is not operational, the proposed plant will, to their knowledge, have the lowest CO₂ emissions among pig iron production plants worldwide, in terms of tons CO₂ emitted per ton of pig iron produced.

- b. "CO₂ will be removed from a portion of the quenched gas stream (exiting the reduction reactor) through an absorption/desorption process. The absorption tower extracts CO₂ and H₂S from the quenched gas and into the water stream. The desorption column will release the H₂S and CO₂ gases from the liquid stream. From there, the CO₂ off gas containing H₂S can be treated either directly by Petmin or by an onsite CO₂ plant run by a third party." Will Petmin build and operate a CO₂ treatment plant on their site, or will this plant be run by a third party? If so, who is that third party, and what regulations will apply to them, and how will those regulations be enforced? Why is Petmin not required to build and operate a CO₂ treatment plant from the start, especially given the increase in CO₂ emissions shown in the new draft permit?

Response:

The permit allows the plant to be built either with or without the CO₂ processing plant. If the CO₂ processing plant is built, then it is most likely to be built and operated by a third party. In that case, the third party will have to apply and obtain an air pollution permit for its facility. Any applicable air pollution rules and regulations will be contained within that air permit. Petmin U.S.A. still expects to have a partner to accept and process the CO₂ gas: however, it is unclear when this might occur, and the

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

air pollution rules allow the facility to be built with or without the partner. Petmin U.S.A. is not required to install a CO₂ processing plant because the applicable air pollution rules and regulations don't require it.

- c. Will the public receive information on the details regarding whether Petmin or a third party will treat CO₂ and H₂S emissions before the plant is operational? How and when can we expect to receive this information?

Response:

If a third party decides to build a CO₂ processing plant, it will need to obtain air permits. In that case, the public will be informed through newspaper notifications or other media outlets.

- d. I would like to know what company or companies manufacture CO₂ capture process and which one Petmin planned to use.

Response:

The third-party CO₂ processing manufacturer has not been selected.

- e. Will the public receive information on the details regarding whether Petmin or a third party will treat CO₂ and H₂S emissions before the plant is operational?

How and when will this information be available?

Response:

The air permit contains the air pollution obligations that must be met by Petmin U.S.A. for either CO₂ scenario. If a third-party installs a CO₂ processing plant, then the public will be notified through media outlets as part of the air pollution permit process.

- f. A CO₂ recapture plant was part of the first permit- to-install for this facility. This new permit would allow construction of this facility to begin without this plant. Can you clarify if this permit allows Petmin to operate the pig iron facility without the CO₂ recapture plant being up and operational? If so, why was it required in the first permit but not in this one?

Response:

Please see response 25.b.

- g. What impact would the CO₂ system have/not have on the overall emissions?

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

Response:

CO₂ emissions are approximately 50% less when operating a CO₂ processing plant.

- h. When Petmin presented plans at a townhall last year they assured the community that they planned to partner with another company to recapture the large volume of CO₂ that would be emitted by the plant. When asked who that company would be, it was stated that Tenova, a company working in solutions for the mining and metal industries would be their technological partner. Many of us took this information at face value and assumed that a solution to the CO₂ emissions was in the works. However, in researching carbon capture further, it appears that while many corporations are working on a solution, the technology for this process does not appear to exist. Tenova does have a process for removing CO₂ in DRI or direct reduced iron. This process produces sponge iron and is quite different from the pig iron the Petmin plan proposes to produce. It would appear that the promise to build a CO₂ capture plant in Ashtabula is an empty one at this point.

Response:

Please see response 25.j.

This facility will operate process equipment to produce DRI. DRI is produced when iron ore pellets are converted to iron pellets by the use of a reducing gas at high temperatures. The type of merchant pig iron to be produced is called nodular pig iron also known as sponge iron.

Tenova has equipped DRI plants with absorption units to remove CO₂ from process gas streams. The CO₂ is further processed by specialty gas producers to food-grade purity and to other applications.

- i. The CO₂s recapture plant that was essential for the first air permit now is deemed, "unessential." It seems strange that Petmin would have included it initially if it were not important. What emissions will be affected in the new permit with and without the CO₂ recapture plant?

Response:

Please see response 25.j.

- j. How will the CO₂ and other gases be discharged into the atmosphere? Will it be through stacks? If so, how tall will those stacks be and how many will there be? What will be the tallest structure on the site and how tall will it be?

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

Response:

CO₂ and other pollutants will be emitted mostly through stacks. Some dust emissions will be emitted directly from roadways and storage piles.

Please see responses 25.b.and 25.g. for stack height information.

- k. Why does Petmin need a third party to capture CO₂? Why can't they do it themselves and sell it themselves?

Response:

A third party is expected to have specific experience operating that type of plant.

26.PTI emissions increases:

Comments:

- a. This new draft permit for Petmin's pig iron facility shows emission levels of toxic pollutants that are in some cases two to six times higher than the original permit issued 2/6/2019. Can you please explain in terms of the manufacturing process why these increases are necessary? Can you explain why increasing particulate matter emissions by 5-fold, carbon dioxide by 6-fold, and doubling greenhouse gas emissions will not cause 2 or 5 or 6 times the amount of risk and damage to public health and the environment? What will happen if Petmin submits another permit requesting to emit double or triple or quadruple or sextuple the amount of pollution proposed in this permit?

Response:

Per the permit application, this revised permit includes a number of final design aspects to the project. These updates are:

- *CO emission rate for the EAF updated, triggering BACT review for CO emissions.*
- *Minor change to the EAF production rate, with a corresponding change to the NO_x emission rate from the EAF.*
- *Particulate matter emission rate updated for fabric filters to use an absolute (i.e., outlet concentration-based) efficiency, with corresponding expansion of BACT section.*
- *Addition of two emergency engines to the project, for fire protection.*
- *Consideration of the third-party CO₂ processing plant as a medium-*

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

term overall project objective as a novel technology for a DRI manufacturing facility, but not required in the PTI for operation of the plant. Sulfur control requires a thermal oxidizer and a scrubber to convert the sulfur by oxidation to SO₂, then absorb the gas into an aqueous phase for reaction with a neutralizing agent and subsequent offsite shipment.

- *Addition of a wet scrubber to treat stripped wastewater – in order to absorb ammonia in gas phase to an aqueous phase for offsite shipment and disposal. Petmin U.S.A. Incorporated Report – Petmin U.S.A. Incorporated September 2018 (Updated December 2019).*
- *Refinement of PM calculations for material handling, based on final design details of transfer operations.*
- *Clarification that the third-party slag processing company takes ownership of the slag at the furnace.*
- *Corresponding updates to the ambient impact analysis (air dispersion modeling report).*
- *Minor corrections to technical descriptions based on review by the process engineering design team.*

The revised air pollution permit reflects the above updates and contains many requirements to ensure the facility operates in compliance with all applicable air pollution rules and regulations. These requirements help ensure the emissions will not cause any adverse health, safety, or welfare impacts to people near the plant. If the facility submits an additional application, Ohio EPA will be required to ensure the project meets all necessary state and federal rules designed to protect the public health and welfare.

- b. Why have all of their emissions increased are they expanding or dropping BAT?

Response:

Ohio EPA's BAT rule applies to sources that have a PTE of greater than 10 tpy for each pollutant emitted. State and federal rules still apply depending on the emissions unit and emissions.

- c. Why are other emissions other than CO₂ increasing if the CO₂ capture is the issue in this revised permit?

Response:

Please see response 26.a.

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

27. Topic: Kinder Morgan - Pinney Dock:

Comments:

- a. Does this permit take into account the amount of emissions that will be emitted by the increase of transportation vehicles that will be required to bring taconite into the facility by barge and also the trucking of iron or other necessities of the plant that may be brought into the facility or taken away from the facility by trucks?

Response:

Ohio EPA has established permitting requirements (i.e., emissions limitations and/or control requirements) regarding vehicle traffic that occurs on the plant property. From an air pollution control point of view, the permit establishes strict limits for visible particulate emissions from fugitive and process sources.

Emissions that occur outside the plant property are not included in the permit. Other non-site transportation emissions would typically be covered by other mechanisms or other facility permits. Citizens can contact Ohio EPA if they have concerns with dust on roadways.

28. Topic: Public meeting:

Comments:

- a. Will the EPA consider emailing interested parties on the same day that public notices are printed in the newspaper? For this permit, interested parties were emailed almost a whole month after the notice was printed in the Star Beacon. Many concerned residents do not receive the newspaper daily and public notices are published in very fine print among many other notices. It is almost impossible for interested members of the public to find out about public hearings through the newspaper. Given the technical nature of permit documents and the lack of effort in helping the public understand these documents, it is almost impossible to read, research, and understand draft air permits with only 2 weeks notice.

Response:

Ohio EPA typically sends notices of upcoming meetings to its interested parties' list two weeks before the meeting. This is done so interested parties have ample notice; we have found sending them at the time of a required public notice – typically a month or more before the meeting – is often too soon.

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

Please see also response 28.u.

- b. In early April, 2020, several members of Ashtabula County Water Watch emailed Anthony Becker and Paul Braun of OEPA to request that the virtual hearing on 5/7/2020 be delayed and rescheduled for a time when an in-person meeting would be possible. We received responses from the OEPA deferring to Senate Bill 197 which allows the use of virtual meetings to replace in-person public hearings during the COVID-19 outbreak. We would like to state for the record that the lack of an in-person meeting is a form of censorship and a threat to public health for the following reasons:
- i. Almost 20% of households in Ashtabula County do not have a computer. With libraries closed until at least May 29, 2020, per Governor DeWine's policy, it is impossible to ensure access to the virtual meeting.
 - ii. Ashtabula County is an underserved and marginalized community with a history of environmental degradation and associated poor health outcomes. Residents deserve access to processes that protect the welfare and health of its residents and their environment. The residents deserve the opportunity to voice concerns and have their questions answered.
 - iii. In Ashtabula County, nearly 20% of the population is over the age of 65, and 17.4% of residents live in poverty (per US Census data).
 - iv. The air permit should have to wait until a fair opportunity is available to hold a public meeting. With the current "stay at home orders," new construction is not deemed essential. An estimated 500 people will be needed to build the plant and where will these folks come from? Where will they live? How will they be fed in the midst of "stay at home" orders in a city of 19,000? Residents are concerned.

Response:

Ohio EPA had to utilize a virtual hearing in place of an in-person public hearing in order to protect the public health of all people who would participate due to COVID-19 and because of the state-mandated limitations on gathering size. We could not wait until the COVID-19 period was over because (1) we have a legal obligation to process air permits within 180 days, and (2) because it was not known (and, as of this writing is still not known) when the COVID-19 risk will be resolved.

It turns out that holding the virtual hearing resulted in more citizen participation than the in-person hearing for the original permit. The original hearing had about 35 people participate. The revised permit had over 120

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

people participate. So, it appears that the virtual hearing did successfully provide a forum for interested parties to participate.

We do understand that not everyone has access to the internet and so, some people would have difficulty participating in a virtual hearing. However, citizens were still able to participate by submitting their comments by May 15, 2020 even if they didn't attend the virtual hearing.

Both an in-person hearing, and a virtual hearing have disadvantages in terms of participation. Citizens with limited travel options may not be able to attend an in-person hearing. Citizens with limited computer and internet access may not be able to attend a virtual hearing. However, it appears that for both hearings, we had significant participation.

- c. Considering the significant increase in pollutants requested in this draft vs the original permit issued 2/6/2019, should there be serious thought to delay this hearing so that an "in person" meeting could be arranged? What is the rush to push this permit through the system?

Response:

Please see response 28. b.

The Ohio General Assembly has given state agencies the authority to conduct such meetings remotely via Senate Bill 197. Under the OAC, a public meeting was not required for this draft permit; however, the Agency understands there is significant community interest in this facility and therefore opted to host this webinar.

Ohio EPA has completed a thorough review and believes the facility will meet all applicable air pollution rules and regulations.

- d. I had some questions on the call tonight. They were not read. How can I be notified that the answers to questions and comments are available for review?

Response:

The response-to-comments (RTC) document goes out with the final permit. Ohio EPA provides a response to all questions received during the comment period and public hearing regarding this project. The RTC document will be posted on the internet for any party to review.

- e. It would be most beneficial to both the community and the pig iron project to hold an in person hearing for this air permit application when the community can have all of the information presented.

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

Response:

Please see response 28.b.

- f. May I receive a transcript of this meeting?

Response:

*You can listen to the entire meeting by viewing the YouTube link:
<https://youtu.be/PLXaclEDr0I>.*

- g. Why can't this extremely important issue regarding additional pollutant emissions to our Ashtabula residents be put on hold until an in person town hall meeting can be scheduled?

Response:

Please see response 28.b.

- h. I was wondering if it's possible to extend the comment period on Petmin's draft permit-to-install 4/2/20. Since the public hearing, more Ashtabula residents have become aware of the project and need time to understand the permit and formulate questions.

Response:

The comment period was extended from May 11, to May 15, 2020.

- i. Thank you for hosting the virtual meeting on Thursday, May 7, 2020 regarding the Petmin U.S.A. air permit application. We would kindly like you to consider extending the deadline for comments as there has been much community concern; many members of the community who are just learning of the permit as of last Thursday who would like to respond.

Response:

The comment period was extended from May 11, to May 15, 2020.

- j. Will this be recorded?

Response:

Yes. A copy of the recording can be obtained by going to the following YouTube link: <https://youtu.be/PLXaclEDr0I>.

- k. Will the recording be made public?

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

Response:

Please see response 28.j.

- l. Do you feel having such an important meeting during a pandemic is appropriate.? Do you think it will effect the number of participants at this meeting?

Response:

Please see response 28.b.

- m. Can I have a recording of this presentation sent to my email address?

Response:

Please see Response 28.j.

- n. Will this recording be sent to all participants?

Response:

Please see Response 28.j.

- o. Will you be offering a transcript version of the meeting?

Response:

Please see Response 28.j

- p. Please send me a transcript of this webinar and the comments from all participants. I would like the unheard answers also.

Response:

Please see Response 28.j.

- q. How will we get the answers to public comments? What if we still don't.

Response:

The RTC goes out with the decision document. Ohio EPA provides a response to all questions received during the comment period and public hearing regarding this project. It will be posted on the internet.

- r. Do you feel having such an important meeting during a pandemic is appropriate.? Do you think it will affect the number of participants at this

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

meeting?

Response:

Please see response 28.b.

- s. I feel that having this meeting during a pandemic is shameful. Many of my local neighbors were unaware of this meeting as of this morning.

Response:

Please see response 28.b.

- t. 2020, per Governor DeWine's policy, it is impossible to ensure access to the virtual meeting. Ashtabula County is an underserved and marginalized community with a history of environmental degradation and associated poor health outcomes. Residents deserve access to processes that protect the welfare and health of its residents and their environment. The residents deserve the opportunity to voice concerns and have their questions answered. In Ashtabula County, nearly 20% of the population is over the age of 65, and 17.4% of residents live in poverty (per US Census data). The air permit should have to wait until a fair opportunity is available to hold a public meeting. With the current "stay at home orders," new construction is not deemed essential. An estimated 500 people will be needed to build the plant and where will these folks come from? Where will they live? How will they be fed in the midst of "stay at home" orders in a city of 19,000? Residents are concerned.

Response:

Please see response 28.b.

- u. I think it's deplorable that there was such little notice of this hearing and that it would occur during the Pandemic. The health of our community seems to be of little consideration. There are two neighborhoods close to the site of this proposed pig iron plant. Our air, soil, and water are ours to protect and pass on to future generations.

Response:

Ohio EPA understands it can be frustrating to find out about a new facility with little time to respond. Ohio EPA does try to notify citizens early in our process. For this permit, Ohio EPA published a public notice in the local newspaper and on its website when the application was submitted in December 2019. Another notice was placed in the newspaper April 6, 2020, when the draft permit was issued, and the virtual meeting was

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

scheduled. which also notified citizens of the public hearing. Two weeks prior to the May 7 meeting, Ohio EPA issued a news release to local media and sent citizen advisories to interested parties on its mailing list.

- v. This meeting, hearing is being held at the opportune time to slide it by, This virus is the excuse. Why the change ? You applied for a permit, now , it needs to be increased.

Response:

Please see response 28.b.

- w. The first meeting was Christmas week to slide through also.

Response:

Thank you for your comment.

- x. How many participants came to the public meeting?

Response:

More than 120 citizens participated.

29. Topic: Public meeting forum:

Comments:

- a. I don't feel like Mike Hopkins took the question about the composition of VOCs seriously. I felt like his attitude was, don't worry about what's in there, it's not the bulk of the pollution.

Response:

Ohio EPA has completed a thorough review and believes the facility will meet all applicable air pollution rules and regulations.

- b. The questions were not adequately answered and the scientific explanation of "it will be safe and nothing to worry about" is definitely lacking.

Response:

Ohio EPA has completed a thorough review and believes the facility will meet all applicable air pollution rules and regulations.

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

- c. I am disappointed that based on the answers provided in the Q&A portion of the meeting, it feels that the Ohio EPA has already made up it's mind to approve this permit for Petmin.

Response:

Thank you for your comment.

- d. I know the EPA regulators are supposed to be impartial and simply enforce existing laws, but it felt like Tony Becker, and Mike Hopkins in particular, were defending Petmin's right to pollute our area. That said, thanks for your time and please consider the concerns of area residents.

Response:

Thank you for your comment.

- e. Thank you for the opportunity to voice our concerns.

Response:

Thank you for your comment.

30. Topic: Has enough time been spent to ensure that this will not cause problems to our city:

Comments:

- a. Why is this being rushed through and why can't we have more analysis of potential impacts before proceeding with such heavy pollution?

Response:

Ohio EPA, Division of Air Pollution Control, received the application for this project Dec. 12, 2019. A preliminary review was conducted for completeness, followed by a technical review. The technical review included the evaluation of emission rates, air dispersion modeling, BACT, rule applicability, and development of terms and conditions.

The time and effort reviewing and writing the draft permit spanned more than two months. This included weekly conference calls with the company and their consultants to resolve technical issues associated with the permit. Public involvement is an important part of the permitting process. Comment periods are typically 30 days. This comment period began April 6, was originally to expire May 11, but we extended it to May 15. Comments were received at the public hearing, from residents by email, and from U.S. EPA. Ohio EPA has thoroughly evaluated this project,

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

spending more than three months to develop terms and conditions for the permit, including the review of comments received from all interested parties.

Ohio EPA has completed a thorough review and believes the facility will meet all applicable air pollution rules and regulations.

31. Topic: Economic growth in the region:

Comments:

- a. The purpose of this letter is to inform the EPA of the significance for the construction of the Petmin U.S.A. (Pig Iron Plant) in Ashtabula, Ohio. As a local business owner, I have witnessed first hand the struggles Ashtabula County has had with manufactures leaving the county over the past 30 years. This has created hardships within the community with low paying jobs and lack of plentiful jobs. With the construction of this plant, I firmly believe this will be the way back to a vibrant community. With the local tax dollars and higher paying jobs, I feel this will create a positive outcome on the community. In regards to concerns of pollution, this is a valid concern. I do believe Petmin U.S.A. is a responsible company with higher regard for the environment. With the oversight of the EPA in cooperation with Petmin U.S.A., I believe this can be a home run for Ashtabula County and future generations.

Response:

Thank you for your comment.

- b. I am a small business owner in Ashtabula Ohio (Sticky Fingers BBQ & Cafe). The pig iron plant that is being planned to be built in the Ashtabula Harbor is absolutely essential for the survival of not only the city but the whole county of Ashtabula. It is my opinion that the good that this plant will do for this area far outweighs the minimal emissions that it will produce. Feel free to use this email in any way you see fit.

Response:

Thank you for your comment.

- c. I think Petmin is what Ashtabula County needs!! The additional jobs and the opportunity to grow our area is a much welcome and needed addition. I am sure the environmental issues people seem worried about will be taken into account, many people in this area get caught up in their own

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

fears and try to stop change. But there are still a lot of us looking forward to working with Petmin anyway we can.

Response:

Thank you for your comment.

- d. I want to vote YES for going ahead for this project. I trust that the EPA will make sure that this business will meet all requirements. This area is desperate for jobs and need this new business. Please also continue to protect Lake Erie as well. Thank you.

Response:

Thank you for your comment.

- e. As an industrial supplier, we are very excited for the pig iron plant to be here in Ashtabula. We believe that it will bring both new jobs and further business growth in our community. Fastenal is excited to provide essential items to construction workers and contractors participating in the new build!

Response:

Thank you for your comment.

- f. I am a developer and I fully support this project.

Response:

Thank you for your comment.

- g. The Ashtabula City Port Authority fully supports the Petmin project in the City of Ashtabula. We regard it as being vitally important to the area's economy. Projects such as these bring much needed revenue into the City as well as providing high paying, long lasting quality jobs for its residents. Additionally, this project will help to provide an improved quality of life for all of us.

Response:

Thank you for your comment.

- h. Ohio EPA, Hello, I have been a resident in Ashtabula for over 38 years and have seen the area slowly deteriorate. We are in great need of something positive, economically to happen in this area very soon. The Petmin plant is the best thing that could happen to the area. It will create jobs that everyone complains that we do not have and they will be good

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

paying ones at that. These jobs will create a lot of needed income taxes which will help with fixing roads and other infrastructure. On top of that, I feel it will stimulate people to have some of the older homes and commercial buildings in the area to be fixed up and make a better image for the area, since the workers will need housing and places to shop. This will not only increase values it will help with the mental state of people here from not feeling so down that nothing good happens in Ashtabula. It may cause some pollution but the economic impact will far out way it. If we do not have something like this come in soon, the taxes in the area would need to go up a lot and the area cannot afford to do that.

Response:

Thank you for your comment.

- i. Great new pillar to economy. Just do it right to balance tourism and health.

Response:

Thank you for your comment.

32. Topic: Traffic and Noise:

Comments:

- a. Beings how the plant will run 24/7 does this mean we will have to deal truck traffic and noise 24/7?

Response:

The Ohio EPA has established permitting requirements (i.e., emissions limitations and/or control requirements) regarding vehicle traffic on the plant property for the purpose of limiting dust from the roadways. Ohio EPA has not evaluated any potential noise from this facility or from truck traffic because Ohio EPA does not have any authority over issues relating to noise pollution. Noise pollution is normally regulated by local zoning requirements.

33. Topic: General information:

Comments:

- a. What is the cost for filing a permit-to-install application with the Ohio EPA? How are funds collected from permit applications allocated? Are any funds received from permit applications allocated to funding EPA regulator/permit reviewer salaries?

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

Response:

There is no application fee associated with filing an application. Instead, there is a permit fee that is assessed when the permit is issued. The amount billed for the permit is based on the size of individual pieces of equipment. These fees are described in Ohio Revised Code (ORC) 3745.11. The fee for this permit is expected to be slightly over \$5,000.

Permit fees are placed in various air pollution fee accounts. These accounts are used for running the air pollution program, including staff salaries.

- b. The new Draft Permit to Install has the following chart at the top of the first page: No TOXIC REVIEW, Yes PSD, No SYNTHETIC MINOR TO AVOID MAJOR NSR, No CEMS, No MACT/GACT, Yes NSPS, No NESHAPS, No NETTING, No MAJOR NON-ATTAINMENT, Yes MODELING SUBMITTED Yes MAJOR GHG, No SYNTHETIC MINOR TO AVOID MAJOR GHG. Can you explain what these No's and Yes's mean, and what effect they have on the Ohio EPA's final decision?

Response:

The chart lists different classifications or types of permits that apply to the project. It is used by staff and others to quickly identify the type of permit and to track different types of permits. Below is a list of each item and what it means:

Toxic Review: *The permit application listed the amounts of toxic gases released to the atmosphere from the proposed project. Toxic gases, for the purpose of this response, mean toxic air contaminants listed in [OAC 3745-114](#). The amounts were minimal. Most were from the products of combustion of natural gas. Because of the type fuel consumed (natural gas) or amount of toxic air contaminant emitted, air dispersion modeling of toxic air contaminants was not performed nor was it required for this proposed project.*

PSD: *The facility is subject to PSD regulations, which prohibit a new or modified source to cause or contribute to, air pollution in excess of any NAAQS or PSD increment.*

Synthetic Minor to avoid major NSR: *This facility has not requested federally enforceable limits to restrict emissions below major source thresholds. The facility is considered a major stationary source since the facility's PTE for NO_x CO exceed 100 tpy.*

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

CEMS: *The facility does not employ continuous emission monitoring systems (CEMS).*

MACT/GACT: *The facility is not subject to maximum achievable control technology (MACT) standards since it is not a major source of hazardous air pollutants. The facility does not have emissions units subject to generally available control technology (GACT) standards. See information for NESHAP below for further explanation.*

NSPS: *The facility is subject to new source performance standards (NSPS) due to the proposed installation of two emergency generators, two emergency fire protection pumps, and one black-start generator. 40 CFR Part 60, Subpart IIII would apply to the aforementioned emissions units.*

NESHAP: *The facility is subject to NESHAP due the proposed installation of two emergency generators, two emergency fire protection pumps, and one black-start generator. 40 CFR Part 63.6590(c)(1), Subpart ZZZZ (MACT), states that these type of engines at an area (minor) source of HAP shall comply with MACT Subpart ZZZZ by complying with NSPS Subpart IIII.*

Netting: *Netting does not apply to this source since this is a new source. Emissions netting considers certain past and future emissions changes at an existing major source facility to determine if a “net emissions increase” of a pollutant will occur from a change in the source.*

Major Non-Attainment: *Ashtabula County is not considered a major non-attainment area. The federal CAA requires U.S. EPA to set NAAQS for pollutants considered harmful to public health and the environment. U.S. EPA has air quality standards for the following criteria pollutants: CO, lead, NO₂, PM₁₀, PM_{2.5}, ozone and SO₂. When an area does not meet the standard, it is classified it as being in “non-attainment.” This classification impacts businesses that want to locate or expand an air pollution source in that area.*

Modeling Submitted: *Because this is a PSD project, modeling was required to be submitted. The main purpose of the modeling is to ensure the project will not cause or contribute to a violation of any applicable air quality standards.*

Major GHG: *This project is considered a major source for GHGs.*

Synthetic minor to avoid major GHG: *The facility did not request any federally enforceable restrictions (i.e., emissions limitations/operational restrictions) to avoid being a major source for GHG.*

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

- c. The US EPA provided many comments and questions that were part of the first Petmin draft permit. Will they be providing comments and questions regarding this new Petmin draft permit?

Response:

Yes, please see Responses in Topic 1.

- d. Is the project being conducted on any federally owned land or does it require any kind of federal permit? If so, is there going to be a NEPA review prior to issuing any kind of permit to build?

Response:

This project is not being conducted on any federally owned land and a NEPA review is not required since it is not a major federal action per 40 CFR 1500-1508.

- e. Is there an AQMD (Air Quality Management Department) for this district? If so, are they in favor with the subject's request for additional pollution to our community and environment?

Response:

There is not an Air Quality Management Department for this district. However, U.S. EPA's Region 5 does review some Ohio EPA permits prior to being issued final. U.S. EPA did review this permit and provided comments.

- f. My question is how many superfund sites are there currently in Ashtabula county?

Response:

Ashtabula County has five sites on U.S. EPA's Superfund National Priorities list.

- g. EPA's own EJ screen shows the area is 50 to 70 % likely to get cancer and we virtually live on top of superfund site which is next door to Petmin. How can this be a good idea?

Response:

In some areas, Ohio EPA does an Environmental Justice (EJ) analysis. An EJ analysis is designed to help ensure one population does not experience a disproportionate share of pollution. EJ Screen is a tool developed by USEPA to assist state and local governments and the public to see if there may be EJ concerns in a specific area that require further

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

analysis. EJ considers a number of environmental and demographic issues. From an air quality standpoint, the Ashtabula area is not experiencing a disproportionate share of the air pollution because the whole area meets the NAAQS.

Ohio EPA evaluated all applicable air pollution rules and regulations to determine if the proposed facility would operate in compliance. Because these standards are being met, Ohio EPA does not believe the facility will cause any adverse health or welfare effects.

There are no air pollution rules that restrict the location of facilities as it relates to Superfund sites. Any health risks associated with any superfund sites are not being impacted due to this air permit.

Another component of EJ is to make sure citizens have meaningful involvement in decisions that may impact their environment and/or health. Ohio EPA issued multiple public notices in the local newspaper, issued multiple press releases to local media, sent out via e-mail multiple citizen advisories all designed to ensure citizens could participate in the process. As a result, over 120 people participated in the public hearing and over 70 people submitted comments on the draft permit. Many citizens did get to involve themselves in the process for this permit. For these reasons, this project did not need an EJ analysis.

- h. Do you know if there will be public meetings for any other necessary EPA permits?

Response:

Ohio EPA does not know what other non-Ohio EPA permits Petmin U.S.A. must receive prior to construction so we also don't know of any additional public meetings needed.

- i. When will the public have the opportunity to vote on this issue?

Response:

The approval of an air permit is not something that is voted on by the public. Instead, the Director of the Ohio EPA will make the final decision whether to issue the air permit for this project. All director's decisions may be appealed to the Environmental Review Appeals Commission within 30 days.

- j. Will residence be compensated or tax deferred for any associated health risks?

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

Response:

Ohio EPA does not expect the facility to cause any adverse health or welfare impacts. Ohio EPA is also not aware of any kind of compensation or tax-deferred program for citizens associated with new facilities.

- k. How much will the surrounding property values decrease in the area due to the undesirable conditions and health risks caused by this operation?

Response:

Ohio EPA does not evaluate property values, so we do not know the impact of this facility on property values.

- l. I was in attendance at the meeting on May 7, 2020 that was in regards to an increase in emissions levels Petmin was seeking to get approval for. I am interested in knowing if Petmin does not receive approval to increase the levels of emissions, will they abandon the project to build this pig iron plant?

Response:

Ohio EPA is not aware of any contingency plans Petmin U.S.A. may have in the event its permit application is denied.

- m. Are there any other trace air pollutants that will be released but not monitored.?

Response:

The air permit application identifies the following air emissions from this project: particulate matter (PM₁₀ and PM_{2.5}), SO₂, NO_x, volatile organic compounds (VOCs), GHGs, and ammonia (NH₃). There may be trace quantities of other pollutants, but they are too small to be regulated.

- n. How often will this facility be submitting emissions data to the EPA and how can the public view that data?

Response:

Each year, the facility is required to submit a fee emissions report (FER) which includes all emissions data from the facility. The public may review this data by submitting a public records request to the Ohio EPA.

- o. Will the US EPA be involved in the review process for this permit?

Response:

U.S. EPA reviewed the draft permit and provided comments and suggestions.

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

- p. Can you provide points of contact of citizens in Toledo and other areas world wide where there are similar plants so that impact can be confirmed?

Response:

For the Iron Units facility under construction in Toledo, you may contact Matthew Stanfield (matthew.stanfield@toledo.oh.gov) - The City of Toledo Environmental Services Air Monitoring and Permitting section. For other facilities throughout the world, Ohio EPA suggests you do an internet search for “pig iron.”

- q. Could you provide us with the emission numbers for similar existing plants in the US.?

Response:

For the other facility located in Ohio, IronUnits LLC, you can obtain a copy of the air permit by searching for permit number P0126975 at the Ohio EPA web page: <https://www.epa.ohio.gov/dapc/newpermits/issued>. When you get to that web page, click on “Electronic Copies of Issued Permits” near the bottom of the page. Then, enter the permit number for the search. The emissions limits are all throughout the permit for the different processes.

A similar facility is the Voestalpine Texas, LLC facility. They make HBI (hot briquetted iron). The process is similar to Ironunits, using the Midrex technology. It is a larger facility.

As to other facilities, Ohio EPA recommends the commenter do an internet search for “pig iron” facilities and air permits. Look up the air permits for these facilities and you should be able to find the emission limits. You may need to contact the state or local air pollution agency responsible for air permits in the area. Please be aware that each facility is a little different in terms of size and processes, so emissions limits cannot always be compared directly.

- r. I am concerned that if changes are being requested now, even more drastic ones will come once the plant is built.

Response:

If Petmin U.S.A. wants to make changes to its plans, it will need to submit a permit application to be reviewed and processed by Ohio EPA so any future change will be fully evaluated.

- s. How often will an EPA inspector physically be on site?

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

Response:

Unless Ohio EPA is on site for an emergency and/or complaint investigation, DAPC will conduct compliance inspections every two years, since the facility is part of the Title V permitting program. Please note that Ohio EPA inspectors from other divisions may be on site based on division-specific requirements.

Ohio EPA DAPC personnel will also be onsite to witness initial performance tests and subsequent compliance tests. This oversight ensures that U.S. EPA approved test methods and criteria are met to ensure accurate emissions measurements.

- t. What is the time frame, after comments and answers, will the EPA make their decision to grant air permit or not?

Response:

There is no one answer on how long it takes for a decision after the comment period because the number of comments received, and the work involved can vary considerably. Comments from the public can also cause Ohio EPA to request additional information from the applicant and/or make changes in the permit has shown the time to be anywhere from a couple of weeks to multiple months.

- u. What is the time frame of public comment and review to final acceptance/non-acceptance of permit?

Response:

Please see response 33.t.

34. Topic: Opposition to the project:

Comments:

- a. I do not approve of the Petman request to relax their air quality standards for their proposed operations at 1149 E. 5th St. Ashtabula, Ohio. From my experience, when something starts wrong, there is never enough done economically to make it right. When we citizens were first approached by Petman, we were assured that “scrubbers” would be installed so environmental particulates would not be a problem in our neighborhoods and our “Historic Ashtabula Harbor”. We have been exploited by unethical industries before and have gone through a “Hazardous Superfund Cleanup”. Many citizens have had their health compromised by chemicals dumped in the air, soil and water in Ashtabula. Thousands of pounds of new hazardous particulates released into the air does not work for us as a trade-off to a few jobs. Petman needs to comply with all the most

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

stringent methods for assuring the health of our residents and our children not be compromised! Over the last 50 years I have watched improvement in our town and as a member of the Historical Restoration Board, I have seen our Historic district voted the winner of "Main Street USA" in 2018- not without a lot of sweat and tears put into turning our area into a tourist destination. We do not need to have a rotten egg smell in our Harbor. (Sulfur Dioxide-among thousands of pounds of other particulates). The new young professionals of the EPA need to resist industrial push to repeat the mistakes of the past in the name of money. Do not let our town, state, country and planet be stressed again. Show the leaders around you that you are the stewards of your environment and preserve it for me, you, our families and generations to come. Do not allow this to be approved. You will determine the effects on our environment for years to come. Thank you for any help you can give us.

b. NO.

This community has struggled enough with pollution and toxic factories. Its not about jobs it's about a healthy future for our children and our planet. I just hugged a tree.

c. NO! PLEASE!

- d. Since I am old enough to remember the suffering eyes of the parishioners at the former Our Lady of Mount Carmel parish, located off Columbus Ave, just down wind and stream from past EPA approved projects, I must ask you to do all within your power to assure my cousin James Timonere's Faith in you, as our City Manager, is not misplaced.

However, I will be establishing a fund to assure future generations, unlike my own, do not suffer from EPA boondoggles. The fund will assist in legal actions against persons and entities found to have been negligent or criminal in there approval of the pig iron plant in Ashtabula, Ohio in perpetuity. And will seek legal remedies for such actions.

The fund will be held in Trust for all of Ashtabula Citizens and will aid in investigation and processing of legitimate claims.

Contributions can be made to The Pig Iron Investigative Account and Trustee to be named. I am suggesting a Mr. Mathew Santill and the current and future resident Parish Priest of the local Catholic Church on Columbus Ave.

- e. I am writing this letter to Express my opposition to the Pig Iron plant being proposed for construction and operation in Ashtabula Ohio. I listened in and attended the Virtual "meeting" on the internet several days ago. Many

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

of my views were submitted by others so I had nothing more to add, but I do wish to write to you to Express my opposition to this construction. I have had respiratory issues for over 65 years and know personally what it is like to have breathing problems, especially when the quality of air is lessened by more pollution. This plant, OWNED BY A FOREIGN COMPANY, ie. Africa, and using Ashtabula as its location, and having been rejected by other locations, Erie, PA. is wrong for Ashtabula county.

I am 72 years old and have experienced environmental air pollution and water pollution in Ashtabula county my whole life. I have seen rivers and creeks used as waste dumps, and watched Lake Erie polluted over and over. Ashtabula has always been used by polluting companies because of the lack of regulations. It's time to reverse this process and to clean up the old and recent destruction of our environment. Our health depends on it.

OUR HEALTH DEPENDS ON IT!

You are the EPA, Environmental Protection Agency. Please be responsible and stop this oppression.

- f. I live less than 1/4 mile southeast of the proposed Petmin site. Based on the proposed emissions for air including particulates and VOCs, I strongly oppose any permit being issued to Petmin, its parent company or any affiliates, for this site.

This project has been ill-conceived from the start and proper public input was never solicited by city or county officials. We citizens of the NE side of Ashtabula do not want this plant built. Petmin has a terrible environmental record in South Africa and there are no guarantees that this will not become an environmental disaster.

- g. Please do not allow that plant to be built here in the harbor Of Ashtabula. It will ruin our water air and our tourism. I am a life-long resident and I sure don't want Ashtabula to go back in time to the dirty air and water we have fought for so long to achieve.
- h. In the past we've seen communities destroyed from such a plant why would we want this here in Ohio?
- i. Any amount of pollution is bad why should you give them this permit?
- j. I am against the new permit and feel that due diligence was not completed on this facility.
- k. Our air should not be polluted by this plant period so why do we need it here in Ohio?

Response to comments 34.a. through k:

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

Ohio EPA understands many citizens would prefer not to have a new facility located near them and would like Ohio EPA to deny the permit. The air pollution rules and regulations require Ohio EPA to approve any permit that meets all the applicable air pollution rules and regulations. The Agency cannot legally deny a permit that meets the rules.

Instead, Ohio EPA works to ensure all requirements are met so public health and welfare is protected. The air pollution permit contains many requirements to ensure the facility operates in compliance with all applicable air pollution rules and regulations. These requirements help ensure the emissions will not cause any adverse health or welfare impacts to people near the plant.

The permit also requires the facility to notify Ohio EPA immediately if any emission source or air pollution control equipment breaks down in a manner that would cause the emission of air contaminants in violation of any applicable regulation or permit limit. Ohio EPA investigates breakdowns or any excess emissions to make sure public health is protected and the equipment is fixed. Repeated breakdowns may result in a submittal of a preventable abatement plan approved by the director of Ohio EPA and shall become part of the permit. The director shall take appropriate enforcement action for breakdowns that result in emissions that endanger or could endanger the health or safety of the public.

In the General Requirements of the permit, any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the CAA and is grounds for enforcement action, permit revocation, permit reissuance or permit modification.

35.Topic: Tourism:

Comments:

- a. EPA needs to keep in mind that this plant is being built and will operate in a major tourism, dining and shopping district. This siting needs to be taken into consideration when making your decision as the plant's footprint and impact on environmental quality and, therefore, the desirability of this area to tourists and local visits will be very significant. Petmin has refused to answer questions I posed to them about the impact of the plant on property values and business in The Harbor. While these topics are outside the EPA's jurisdiction, they are quality of life and commerce issues. Given that our president is so concerned about re-starting the economy, one must fear that building this huge industrial facility in a tourist area could strike a final and fatal blow to the food, recreation and entertainment industries already established in this port and suffering from

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

the COVID-19 lockdowns.

Allowing Petmin and its affiliated companies using its byproducts will represent a significant shift from current use, from tourism to sacrifice zone.

Just two years ago, Bridge Street won the Main Street USA contest, besting 300 other communities. I am confident that if Petmin were operating there in 2017-18, the town would not have received this honor.

I am still curious as to how many emissions stacks will rise from the plant and their height, as well as the height of the arc furnace and other structures on the site. These are likely to dominate the lakefront much more so than the iconic structures that exist there today and give the area its charm and appeal.

- b. Our county's biggest economic income is tourism. What tourist will want to come to our county if our rivers, lake, air, and land are once again contaminated? Isn't the EPA to protect our environment? Please protect our environment.
- c. This particular plants' location is in the heart of Ashtabula Counties successful tourist areas.
- d. I am one of the many people in Ashtabula Harbor, Ohio who is extremely concerned about the pollution this plant will put into our area. The citizens of this area have worked long and hard to clean up our town from pollution, beautify the city with new construction, and bring in tourism to our beautiful area. We do not want all the hard work we have put into our town to be destroyed by the pollution your plant will put into our environment.
- e. I have lived in Ashtabula, Ohio my entire life. I understand there is a new Petmin pig iron plant set to be built in our beautiful Historic Harbor. I am begging you, DO NOT allow this to happen. We have worked very hard to keep our community safe and clean. Our tourism rates have flourished over the years because of the hard work our community does in keeping Ashtabula beautiful. If you allow this pig iron plant to proceed with operations it will have devastating repercussions to our beautiful community. We already suffer from hazardous air quality due to the massive amounts of manufacturing companies we have in the area. This plant will only add to the already dangerous air and water quality. We risk economic turmoil from lost business from tourism. There are people from all over the state who come to our Harbor to experience the beauty of the

Ohio EPA Response to Comments for the Petmin U.S.A. Air Permit

Lake and surrounding areas. This is our home that is going to be ruined for a pig iron plant. Our children and future generations will be the ones who suffer from the decisions made today. I ask you this, why do WE have to be your guinea pigs for this new plant? Why are you choosing to destroy OUR community? Please say NO to the Petmin pig iron plant, I beg of you.

- f. We've been enticing local business e.g. hotel at Bridge St. Their view now?
- g. Our county's largest industry is tourism. I hate to lose tourist due to our river, lake, land and air pollution. Please protect our environment. Isn't that the name of the agency? Our area has been a dumping ground for years and we finally put a stop to it. Don't set us back decades.
- h. With tourism on an upward trend in ASHTABULA will we now be promoting a Pig Iron plant as a tourist attraction? I don't think so!

Response for comment 35.a. through h.:

Please also see responses 34.a. through 34. k.

Maintaining any community for the economic benefits of tourism is an important issue. However, this is not something Ohio EPA can consider under existing rules and regulations. These issues are typically decided through local zoning rules and should be addressed with their local city or township zoning organizations.

From an air pollution control point of view, the permit establishes strict limits for visible particulate emissions from fugitive and process sources. Smoke or dust from this facility should not be observed by tourists or anyone else in the Ashtabula Harbor area. However, steam (water vapor) may be seen from the facility at times.

The number of stacks and stack height information provided in the permit application is provided below:

Process Gas Heater	Flare	EAF/Casting Baghouse	Startup Boiler	Emergency Generator	Blackstart Generator	HP Fire Pump	LP Fire Pump
200 ft	167.5 ft	108.6 ft	50 ft	11.1 ft	4.5 ft	11.1 ft	11.1 ft