

**PTI/PTIO Application A0043120
Cleveland Public Power - Ridge Rd
1318008750
November 15, 2011**

Application for Permit-to-Install or Permit-to-Install and Operate

This section should be filled out for each permit to install (PTI) or Permit to Install and Operate (PTIO) application. A PTI is required for all air contaminant sources (emissions units) installed or modified after January 1, 1974 that are subject to OAC Chapter 3745-77. A PTIO is required for all air contaminant sources (emissions units) that are not subject to OAC Chapter 3745-77 (Title V). See the application instructions for additional information.

For OEPA use only:	<input checked="" type="checkbox"/> Installation	<input checked="" type="checkbox"/> Request Federally enforceable restrictions
	<input type="checkbox"/> Modification	<input type="checkbox"/> General Permit
	<input type="checkbox"/> Renewal	<input type="checkbox"/> Other

1. Please summarize the reason for this permit application. This text will be in the public notice that will appear in the newspaper of the county where the facility is located.

This PTI application is for a Municipal Solid Waste (MSW) energy recovery facility. The facility will employ Kinsei Sangyo technology and utilize MSW as a feedstock to batch gasifiers to produce synthetic gas, combust the syngas and generate steam and electric power. The facility will include front-end Material Recovery Facility (MRF) equipment to prepare the MSW prior to use in the batch gasifiers. The facility is a minor source for new source review and will be subject to the Title V Operating Permit requirements.

The summary attachment to this application includes:

- (1) A description of the processes that will be installed;
- (2) A general Process Flow Diagram for the facility;
- (3) An analysis of the applicability of state and federal air pollution control rules;
- (4) A description of the Best Available Technology (BAT) that will be employed; and
- (5) A summary of the air quality modeling analyses that support approval of this application.

Is the purpose of this application to transition from OAC Chapter 3745-77 (Title V) to OAC Chapter 3745-31 (PTIO)?

No

2. **Establish PER Due Date** - Select an annual Permit Evaluation Report (PER) due date for this facility (does not apply to facilities subject to Title V, OAC Chapter 3745-77). If the PER has previously been established and a change is now desired, a PER Change Request form must be filed instead of selecting a date here.
 PER not applicable (Title V) or due date already established

3. **Federal Rules Applicability**

New Source Performance Standards (NSPS)
 New Source Performance Standards are listed under 40 CFR 60 - Standards of Performance for New Stationary Sources.

Subject to subpart:

- AAAA - Small Muni. Waste Combustion Units After Aug. 30, 1999 or Modified After June 6, 2001

National Emission Standards for Hazardous Air Pollutants (NESHAP)
 National Emissions Standards for Hazardous Air Pollutants are listed under 40 CFR 61. (These include asbestos, benzene, beryllium, mercury, and vinyl chloride).

Not affected

Maximum Achievable Control Technology (MACT)
 The Maximum Achievable Control Technology standards are listed under 40 CFR 63 and OAC rule 3745-31-28.

Not affected

Prevention of Significant Deterioration (PSD)
 These rules are found under OAC rule 3745-31-10 through OAC rule 3745-31-20.

Not affected

Greenhouse Gas Pollutant Prevention of Significant Deterioration (PSD)
 These rules are listed under 40 CFR Parts 51, 52.

Not affected

Non-Attainment New Source Review
 These rules are found under OAC rule 3745-31-21 through

Not affected

OAC rule 3745-31-27.

112 (r) - Risk Management Plan
These rules are found under 40 CFR 68.

Not affected

Title IV (Acid Rain Requirements)
These rules are found under 40 CFR 72 and 40 CFR 73.

Not affected

4. Express PTI/PTIO - Do you qualify for express PTI or PTIO processing?

No

5. Air Contaminant Sources in this Application - Identify the air contaminant source(s) for which you are applying below.

Attach additional pages if necessary. Section II of this application and an EAC form should be completed for each air contaminant source.

Emissions Unit ID	Company Equipment ID (company's name for air contaminant source)	Equipment Description (List all equipment that are a part of this air contaminant source)
B001	Gasifier/Furnace/HRSG No. 1	Baghouse for Gasifier Line No. 1
B002	Gasifier/Furnace/HRSG No. 2	Baghouse for Gasifier Line No. 2
B003	Gasifier/Furnace/HRSG No. 3	Baghouse for Gasifier Line No. 3
B004	Gasifier/Furnace/HRSG No. 4	Baghouse for Gasifier Line No. 4

The Emissions Unit ID would have been created when a previous air permit was issued. If no previous permits have been issued for this air contaminant source, leave this field blank. If this air contaminant source was previously identified in STARShip applications as a Z source (e.g., Z001), please provide that identification and a new ID will be assigned when the PTI/PTIO is issued.

6. Trade Secret Information - Is any information included in this application being claimed as a trade secret per Ohio Revised Code (ORC) 3704.08?

No

7. Permit Application Contact - Person to contact for questions about this application:

Ivan Henderson	Cleveland Public Power
Name	Title
1300 Lakeside Avenue	Cleveland, OH 44114
Street Address	City/Township, State Zip Code
2166642708	ihenderson@cpp.org
Phone	Fax E-mail

8. Application Attachments

Description	Type	EAC Form Type	Public Document Id
Executed Attestation Document	Permit application attachments and supplements		516943
Emission Calculations	Synthetic Minor strategy/facility-wide PTE analysis		516255
Project Summary and Basis for Approval	Other		516256

Section II - Specific Air Contaminant Source Information

Facility ID: 1318008750

Emissions Unit ID: B001

Company Equipment ID: Gasifier/Furnace/H
RSG No. 1

One copy of this section should be filled out for each air contaminant source (emissions unit) covered by this PTI/PTIO application identified in Section I, Question 5. See the application instructions for additional information.

1. **Air Contaminant Source Installation or Modification Schedule** Check all that apply (must be completed regardless of date of installation or modification):

New installation (for which construction has not yet begun, in accordance with OAC rule 3745-31-33). When will you begin to install the air contaminant source?
after installation permit has been issued

2. **SCC Codes** - List all Source Classification Code(s) (SCC) that describe the process(es) performed by this air contaminant source (e.g., 1-02-002-04).

See Facility Profile

3. **Emissions Information** - The following table requests information needed to determine the applicable requirements and the compliance status of this air contaminant source with those requirements. Suggestions for how to estimate emissions may be found in the instructions to the Emissions Activity Category (EAC) forms required with this application. If you need further assistance, contact your District Office/Local Air Agency representative.

- If total potential emissions of HAPs or any Toxic Air Contaminant (as identified in OAC rule 3745-114-01) are greater than 1 ton/yr, fill in the table for that (those) pollutant(s). For all other pollutants, if Emissions before controls (max), lb/hr multiplied by 24 hours/day is greater than 10 lbs/day, fill in the table for that pollutant.
- Actual emissions are calculated including add-on control equipment. If you have no add-on control equipment, Emissions before controls will be the same as Actual emissions.
- Actual emissions and Requested Allowable should be based on operating 8760 hr/yr unless you are requesting federally enforceable operating restrictions to limit emissions. If so, calculate emissions based on requested operating restrictions and describe in your calculations.
- If you use units other than lbs/hr or ton/yr, specify the units used (e.g., gr/dscf, lb/ton charged, lb/MMBtu, tons/12-months).
- Requested Allowable (ton/yr) is often equivalent to Potential to Emit (PTE) as defined in OAC rule 3745-31-01 and OAC rule 3745-77-01.

Pollutant	Emissions before controls (max)* (lb/hr)	Actual emissions (lb/hr)	Actual emissions (ton/year)	Requested Allowable (lb/hr)	Requested Allowable (ton/year)
Particulate emissions (PE/PM) (formerly particulate matter, PM)	444	2.22	9.72	2.22	9.72
PM # 10 microns in diameter (PE/PM10)	444	2.22	9.72	2.22	9.72
PM # 2.5 microns in diameter (PE/PM2.5)	444	2.22	9.72	2.22	9.72
Sulfur dioxide (SO2)	154.79	6.19	27.12	6.19	27.12
Nitrogen oxides (NOx)	77.53	15.51	67.91	15.51	67.91
Carbon monoxide (CO)	6.94	6.94	30.40	6.94	30.40
Organic compounds (OC)	2.10	2.10	9.21	2.10	9.21
Volatile organic compounds (VOC)	2.10	2.10	9.21	2.10	9.21
Lead (Pb)	15.54	0.02	0.07	0.02	0.07
Total Hazardous Air Pollutants (HAPs)	45.37	1.18	5.17	1.18	5.17

Highest single HAP	26.21	0.52	2.30	0.52	2.30
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Hazardous Air Pollutants (HAPs):

Pollutant	Emissions before controls (max)* (lb/hr)	Actual emissions (lb/hr)	Actual emissions (ton/year)	Requested Allowable (lb/hr)	Requested Allowable (ton/year)
Cadmium	1.11	0.0011	0.005	0.0011	0.005
Hydrochloric Acid (Hydrogen Chloride)	26.21	0.52	2.30	0.52	2.30
Hydrogen Fluoride (Hydrofluoric Acid)	2.48	0.05	0.22	0.05	0.22
Sulfuric Acid	14.58	0.58	2.55	0.58	2.55
Ammonia	1.27	1.27	5.55	1.27	5.55

4. **Best Available Technology (BAT)** - For each pollutant for which the Requested Allowable in the above table exceeds 10 tons per year, BAT, as defined in OAC 3745-31-01, is required. Describe what has been selected as BAT and the basis for the selection:

BAT is the use of the Kinsei Sangyo design and performance specifications with the following proposed maximum emission rates:

PE/PM-10/PM-2.5 (filterable) - BAT is not required for filterable PE/PM-10/PM-2.5 (filterable) because the Baghouse and Wet FGD will limit emissions to less than 10 tons per year (TPY) (refer to the table above);

PE/PM-10/PM-2.5 (filterable + condensable) - BAT is a Baghouse and Wet FGD with an emission rate of no more than 27.23 TPY;

NOx - BAT is a NOx Control System (SCR) with an emission rate of no more than 67.91 TPY;

SO2 - BAT is a Wet-FGD with an emission rate of no more than 27.12 TPY; and

CO - BAT is good combustion practices with an emission rate of no more than 30.40 TPY.

5. **Control Equipment** - Does this air contaminant source employ emissions control equipment?

See Facility Profile

6. **Process Flow Diagram** - Attach a Process Flow Diagram to this application for this air contaminant source. See the application instructions for additional information.

Process Flow Diagrams:

Description	Type	EAC Form Type	Public Document Id
PFD for Line No. 1	Process flow diagram		516259

7. **Modeling information:** (Note: items in bold in Tables 7-A and/or 7-B, as applicable, are required even if the tables do not otherwise need to be completed. If applicable, all information is required) An air quality modeling analysis is required for PTIs and PTIOs for new installations or modifications, as defined in OAC rule 3745-31-01, where either the increase of toxic air contaminants from any air contaminant source or the increase of any other pollutant for all air contaminant sources combined exceed a threshold listed below. This analysis is to assure that the impact from the requested project will not exceed Ohio's Acceptable Incremental Impacts for criteria pollutants and/or Maximum Allowable Ground Level Concentrations (MAGLC) for toxic air contaminants. (See Ohio EPA, DAPCs Engineering Guide #69 for more information.) Permit requests that would have unacceptable impacts cannot be approved as proposed. See the line-by-line PTI/PTIO instructions for additional information.

See Facility Profile

8. **Request for Federally Enforceable Limits** - As part of this permit application, do you wish to propose voluntary restrictions to limit emissions in order to avoid specific requirements listed below, (i.e., are you requesting federally enforceable limits to obtain synthetic minor status)?

Yes

If yes, why are you requesting federally enforceable limits?

- Avoid being a major MACT source (see OAC rule 3745-31-01)
- Avoid being a major stationary source (see OAC rule 3745-31-01)

9. **Continuous Emissions Monitoring** Does this air contaminant source utilize any continuous emissions monitoring (CEM) equipment for indicating or demonstrating compliance? This does not include continuous parametric monitoring systems.
See Facility Profile

10. **EAC Forms** The appropriate Emissions Activity Category (EAC) form(s) must be completed and attached for each air contaminant source. At least one complete EAC form must be submitted for each air contaminant source for the application to be considered complete. Refer to the list attached to the application instructions. Please indicate which EAC form corresponds to this air contaminant source.

Process Flow Diagrams:

Description	Type	EAC Form Type	Public Document Id
Process EAC	EAC	3100 Process operation	516279
Fuel Combustion EAC	EAC	3101 Fuel burning operation	516280

Section II - Specific Air Contaminant Source Information

Facility ID: 1318008750

Emissions Unit ID: B002

Company Equipment ID: Gasifier/Furnace/H
RSG No. 2

One copy of this section should be filled out for each air contaminant source (emissions unit) covered by this PTI/PTIO application identified in Section I, Question 5. See the application instructions for additional information.

1. **Air Contaminant Source Installation or Modification Schedule** Check all that apply (must be completed regardless of date of installation or modification):

New installation (for which construction has not yet begun, in accordance with OAC rule 3745-31-33). When will you begin to install the air contaminant source?
after installation permit has been issued

2. **SCC Codes** - List all Source Classification Code(s) (SCC) that describe the process(es) performed by this air contaminant source (e.g., 1-02-002-04).

See Facility Profile

3. **Emissions Information** - The following table requests information needed to determine the applicable requirements and the compliance status of this air contaminant source with those requirements. Suggestions for how to estimate emissions may be found in the instructions to the Emissions Activity Category (EAC) forms required with this application. If you need further assistance, contact your District Office/Local Air Agency representative.

- If total potential emissions of HAPs or any Toxic Air Contaminant (as identified in OAC rule 3745-114-01) are greater than 1 ton/yr, fill in the table for that (those) pollutant(s). For all other pollutants, if Emissions before controls (max), lb/hr multiplied by 24 hours/day is greater than 10 lbs/day, fill in the table for that pollutant.
- Actual emissions are calculated including add-on control equipment. If you have no add-on control equipment, Emissions before controls will be the same as Actual emissions.
- Actual emissions and Requested Allowable should be based on operating 8760 hr/yr unless you are requesting federally enforceable operating restrictions to limit emissions. If so, calculate emissions based on requested operating restrictions and describe in your calculations.
- If you use units other than lbs/hr or ton/yr, specify the units used (e.g., gr/dscf, lb/ton charged, lb/MMBtu, tons/12-months).
- Requested Allowable (ton/yr) is often equivalent to Potential to Emit (PTE) as defined in OAC rule 3745-31-01 and OAC rule 3745-77-01.

Pollutant	Emissions before controls (max)* (lb/hr)	Actual emissions (lb/hr)	Actual emissions (ton/year)	Requested Allowable (lb/hr)	Requested Allowable (ton/year)
Particulate emissions (PE/PM) (formerly particulate matter, PM)	444	2.22	9.72	2.22	9.72
PM # 10 microns in diameter (PE/PM10)	444	2.22	9.72	2.22	9.72
PM # 2.5 microns in diameter (PE/PM2.5)	444	2.22	9.72	2.22	9.72
Sulfur dioxide (SO2)	154.79	6.19	27.12	6.19	27.12
Nitrogen oxides (NOx)	77.53	15.51	67.91	15.51	67.91
Carbon monoxide (CO)	6.94	6.94	30.40	6.94	30.40
Organic compounds (OC)	2.10	2.10	9.21	2.10	9.21
Volatile organic compounds (VOC)	2.10	2.10	9.21	2.10	9.21
Lead (Pb)	15.54	0.02	0.07	0.02	0.07
Total Hazardous Air Pollutants (HAPs)	45.37	1.18	5.17	1.18	5.17

Highest single HAP	26.21	0.52	2.30	0.52	2.30
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Hazardous Air Pollutants (HAPs):

Pollutant	Emissions before controls (max)* (lb/hr)	Actual emissions (lb/hr)	Actual emissions (ton/year)	Requested Allowable (lb/hr)	Requested Allowable (ton/year)
Cadmium	1.11	0.0011	0.005	0.0011	0.005
Hydrochloric Acid (Hydrogen Chloride)	26.21	0.52	2.30	0.52	2.30
Hydrogen Fluoride (Hydrofluoric Acid)	2.48	0.05	0.22	0.05	0.22
Sulfuric Acid	14.58	0.58	2.55	0.58	2.55
Ammonia	1.27	1.27	5.55	1.27	5.55

4. **Best Available Technology (BAT)** - For each pollutant for which the Requested Allowable in the above table exceeds 10 tons per year, BAT, as defined in OAC 3745-31-01, is required. Describe what has been selected as BAT and the basis for the selection:

BAT is the use of the Kinsei Sangyo design and performance specifications with the following proposed maximum emission rates:

PE/PM-10/PM-2.5 (filterable) - BAT is not required for filterable PE/PM-10/PM-2.5 (filterable) because the Baghouse and Wet FGD will limit emissions to less than 10 tons per year (TPY) (refer to the table above);

PE/PM-10/PM-2.5 (filterable + condensable) - BAT is a Baghouse and Wet FGD with an emission rate of no more than 27.23 TPY;

NOx - BAT is a NOx Control System (SCR) with an emission rate of no more than 67.91 TPY;

SO2 - BAT is a Wet-FGD with an emission rate of no more than 27.12 TPY; and

CO - BAT is good combustion practices with an emission rate of no more than 30.40 TPY.

5. **Control Equipment** - Does this air contaminant source employ emissions control equipment?

See Facility Profile

6. **Process Flow Diagram** - Attach a Process Flow Diagram to this application for this air contaminant source. See the application instructions for additional information.

Process Flow Diagrams:

Description	Type	EAC Form Type	Public Document Id
PFD for Line No. 2	Process flow diagram		516266

7. **Modeling information:** (Note: items in bold in Tables 7-A and/or 7-B, as applicable, are required even if the tables do not otherwise need to be completed. If applicable, all information is required) An air quality modeling analysis is required for PTIs and PTIOs for new installations or modifications, as defined in OAC rule 3745-31-01, where either the increase of toxic air contaminants from any air contaminant source or the increase of any other pollutant for all air contaminant sources combined exceed a threshold listed below. This analysis is to assure that the impact from the requested project will not exceed Ohio's Acceptable Incremental Impacts for criteria pollutants and/or Maximum Allowable Ground Level Concentrations (MAGLC) for toxic air contaminants. (See Ohio EPA, DAPCs Engineering Guide #69 for more information.) Permit requests that would have unacceptable impacts cannot be approved as proposed. See the line-by-line PTI/PTIO instructions for additional information.

See Facility Profile

8. **Request for Federally Enforceable Limits** - As part of this permit application, do you wish to propose voluntary restrictions to limit emissions in order to avoid specific requirements listed below, (i.e., are you requesting federally enforceable limits to obtain synthetic minor status)?

Yes

If yes, why are you requesting federally enforceable limits?

- Avoid being a major MACT source (see OAC rule 3745-31-01)
- Avoid being a major stationary source (see OAC rule 3745-31-01)

9. **Continuous Emissions Monitoring** Does this air contaminant source utilize any continuous emissions monitoring (CEM) equipment for indicating or demonstrating compliance? This does not include continuous parametric monitoring systems.
See Facility Profile

10. **EAC Forms** The appropriate Emissions Activity Category (EAC) form(s) must be completed and attached for each air contaminant source. At least one complete EAC form must be submitted for each air contaminant source for the application to be considered complete. Refer to the list attached to the application instructions. Please indicate which EAC form corresponds to this air contaminant source.

Process Flow Diagrams:

Description	Type	EAC Form Type	Public Document Id
Process EAC	EAC	3100 Process operation	516281
Fuel Combustion EAC	EAC	3101 Fuel burning operation	516282

Section II - Specific Air Contaminant Source Information

Facility ID: 1318008750

Emissions Unit ID: B003

Company Equipment ID: Gasifier/Furnace/H
RSG No. 3

One copy of this section should be filled out for each air contaminant source (emissions unit) covered by this PTI/PTIO application identified in Section I, Question 5. See the application instructions for additional information.

1. **Air Contaminant Source Installation or Modification Schedule** Check all that apply (must be completed regardless of date of installation or modification):

New installation (for which construction has not yet begun, in accordance with OAC rule 3745-31-33). When will you begin to install the air contaminant source?
after installation permit has been issued

2. **SCC Codes** - List all Source Classification Code(s) (SCC) that describe the process(es) performed by this air contaminant source (e.g., 1-02-002-04).

See Facility Profile

3. **Emissions Information** - The following table requests information needed to determine the applicable requirements and the compliance status of this air contaminant source with those requirements. Suggestions for how to estimate emissions may be found in the instructions to the Emissions Activity Category (EAC) forms required with this application. If you need further assistance, contact your District Office/Local Air Agency representative.

- If total potential emissions of HAPs or any Toxic Air Contaminant (as identified in OAC rule 3745-114-01) are greater than 1 ton/yr, fill in the table for that (those) pollutant(s). For all other pollutants, if Emissions before controls (max), lb/hr multiplied by 24 hours/day is greater than 10 lbs/day, fill in the table for that pollutant.
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- Actual emissions and Requested Allowable should be based on operating 8760 hr/yr unless you are requesting federally enforceable operating restrictions to limit emissions. If so, calculate emissions based on requested operating restrictions and describe in your calculations.
- If you use units other than lbs/hr or ton/yr, specify the units used (e.g., gr/dscf, lb/ton charged, lb/MMBtu, tons/12-months).
- Requested Allowable (ton/yr) is often equivalent to Potential to Emit (PTE) as defined in OAC rule 3745-31-01 and OAC rule 3745-77-01.

Pollutant	Emissions before controls (max)* (lb/hr)	Actual emissions (lb/hr)	Actual emissions (ton/year)	Requested Allowable (lb/hr)	Requested Allowable (ton/year)
Particulate emissions (PE/PM) (formerly particulate matter, PM)	444	2.22	9.72	2.22	9.72
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Sulfur dioxide (SO2)	154.79	6.19	27.12	6.19	27.12
Nitrogen oxides (NOx)	77.53	15.51	67.91	15.51	67.91
Carbon monoxide (CO)	6.94	6.94	30.40	6.94	30.40
Organic compounds (OC)	2.10	2.10	9.21	2.10	9.21
Volatile organic compounds (VOC)	2.10	2.10	9.21	2.10	9.21
Lead (Pb)	15.54	0.02	0.07	0.02	0.07
Total Hazardous Air Pollutants (HAPs)	45.37	1.18	5.17	1.18	5.17

Highest single HAP	26.21	0.52	2.30	0.52	2.30
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Hazardous Air Pollutants (HAPs):

Pollutant	Emissions before controls (max)* (lb/hr)	Actual emissions (lb/hr)	Actual emissions (ton/year)	Requested Allowable (lb/hr)	Requested Allowable (ton/year)
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Hydrogen Fluoride (Hydrofluoric Acid)	2.48	0.05	0.22	0.05	0.22
Sulfuric Acid	14.58	0.58	2.55	0.58	2.55
Ammonia	1.27	1.27	5.55	1.27	5.55

4. **Best Available Technology (BAT)** - For each pollutant for which the Requested Allowable in the above table exceeds 10 tons per year, BAT, as defined in OAC 3745-31-01, is required. Describe what has been selected as BAT and the basis for the selection:

BAT is the use of the Kinsei Sangyo design and performance specifications with the following proposed maximum emission rates:

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SO2 - BAT is a Wet-FGD with an emission rate of no more than 27.12 TPY; and

CO - BAT is good combustion practices with an emission rate of no more than 30.40 TPY.

5. **Control Equipment** - Does this air contaminant source employ emissions control equipment?

See Facility Profile

6. **Process Flow Diagram** - Attach a Process Flow Diagram to this application for this air contaminant source. See the application instructions for additional information.

Process Flow Diagrams:

Description	Type	EAC Form Type	Public Document Id
PFD for Line No. 3	Process flow diagram		516268

7. **Modeling information:** (Note: items in bold in Tables 7-A and/or 7-B, as applicable, are required even if the tables do not otherwise need to be completed. If applicable, all information is required) An air quality modeling analysis is required for PTIs and PTIOs for new installations or modifications, as defined in OAC rule 3745-31-01, where either the increase of toxic air contaminants from any air contaminant source or the increase of any other pollutant for all air contaminant sources combined exceed a threshold listed below. This analysis is to assure that the impact from the requested project will not exceed Ohio's Acceptable Incremental Impacts for criteria pollutants and/or Maximum Allowable Ground Level Concentrations (MAGLC) for toxic air contaminants. (See Ohio EPA, DAPCs Engineering Guide #69 for more information.) Permit requests that would have unacceptable impacts cannot be approved as proposed. See the line-by-line PTI/PTIO instructions for additional information.

See Facility Profile

8. **Request for Federally Enforceable Limits** - As part of this permit application, do you wish to propose voluntary restrictions to limit emissions in order to avoid specific requirements listed below, (i.e., are you requesting federally enforceable limits to obtain synthetic minor status)?

Yes

If yes, why are you requesting federally enforceable limits?

- Avoid being a major MACT source (see OAC rule 3745-31-01)
- Avoid being a major stationary source (see OAC rule 3745-31-01)

9. **Continuous Emissions Monitoring** Does this air contaminant source utilize any continuous emissions monitoring (CEM) equipment for indicating or demonstrating compliance? This does not include continuous parametric monitoring systems.
See Facility Profile

10. **EAC Forms** The appropriate Emissions Activity Category (EAC) form(s) must be completed and attached for each air contaminant source. At least one complete EAC form must be submitted for each air contaminant source for the application to be considered complete. Refer to the list attached to the application instructions. Please indicate which EAC form corresponds to this air contaminant source.

Process Flow Diagrams:

Description	Type	EAC Form Type	Public Document Id
Process EAC	EAC	3100 Process operation	516286
Fuel Combustion EAC	EAC	3101 Fuel burning operation	516287

Section II - Specific Air Contaminant Source Information

Facility ID: 1318008750

Emissions Unit ID: B004

Company Equipment ID: Gasifier/Furnace/H
RSG No. 4

One copy of this section should be filled out for each air contaminant source (emissions unit) covered by this PTI/PTIO application identified in Section I, Question 5. See the application instructions for additional information.

1. **Air Contaminant Source Installation or Modification Schedule** Check all that apply (must be completed regardless of date of installation or modification):

New installation (for which construction has not yet begun, in accordance with OAC rule 3745-31-33). When will you begin to install the air contaminant source?
after installation permit has been issued

2. **SCC Codes** - List all Source Classification Code(s) (SCC) that describe the process(es) performed by this air contaminant source (e.g., 1-02-002-04).

See Facility Profile

3. **Emissions Information** - The following table requests information needed to determine the applicable requirements and the compliance status of this air contaminant source with those requirements. Suggestions for how to estimate emissions may be found in the instructions to the Emissions Activity Category (EAC) forms required with this application. If you need further assistance, contact your District Office/Local Air Agency representative.

- If total potential emissions of HAPs or any Toxic Air Contaminant (as identified in OAC rule 3745-114-01) are greater than 1 ton/yr, fill in the table for that (those) pollutant(s). For all other pollutants, if Emissions before controls (max), lb/hr multiplied by 24 hours/day is greater than 10 lbs/day, fill in the table for that pollutant.
- Actual emissions are calculated including add-on control equipment. If you have no add-on control equipment, Emissions before controls will be the same as Actual emissions.
- Actual emissions and Requested Allowable should be based on operating 8760 hr/yr unless you are requesting federally enforceable operating restrictions to limit emissions. If so, calculate emissions based on requested operating restrictions and describe in your calculations.
- If you use units other than lbs/hr or ton/yr, specify the units used (e.g., gr/dscf, lb/ton charged, lb/MMBtu, tons/12-months).
- Requested Allowable (ton/yr) is often equivalent to Potential to Emit (PTE) as defined in OAC rule 3745-31-01 and OAC rule 3745-77-01.

Pollutant	Emissions before controls (max)* (lb/hr)	Actual emissions (lb/hr)	Actual emissions (ton/year)	Requested Allowable (lb/hr)	Requested Allowable (ton/year)
Particulate emissions (PE/PM) (formerly particulate matter, PM)	444	2.22	9.72	2.22	9.72
PM # 10 microns in diameter (PE/PM10)	444	2.22	9.72	2.22	9.72
PM # 2.5 microns in diameter (PE/PM2.5)	444	2.22	9.72	2.22	9.72
Sulfur dioxide (SO2)	154.79	6.19	27.12	6.19	27.12
Nitrogen oxides (NOx)	77.53	15.51	67.91	15.51	67.91
Carbon monoxide (CO)	6.94	6.94	30.40	6.94	30.40
Organic compounds (OC)	2.10	2.10	9.21	2.10	9.21
Volatile organic compounds (VOC)	2.10	2.10	9.21	2.10	9.21
Lead (Pb)	15.54	0.02	0.07	0.02	0.07
Total Hazardous Air Pollutants (HAPs)	45.37	1.18	5.17	1.18	5.17

Highest single HAP	26.21	0.52	2.30	0.52	2.30
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Hazardous Air Pollutants (HAPs):

Pollutant	Emissions before controls (max)* (lb/hr)	Actual emissions (lb/hr)	Actual emissions (ton/year)	Requested Allowable (lb/hr)	Requested Allowable (ton/year)
Cadmium	1.11	0.0011	0.005	0.0011	0.005
Hydrochloric Acid (Hydrogen Chloride)	26.21	0.52	2.30	0.52	2.30
Hydrogen Fluoride (Hydrofluoric Acid)	2.48	0.05	0.22	0.05	0.22
Sulfuric Acid	14.58	0.58	2.55	0.58	2.55
Ammonia	1.27	1.27	5.55	1.27	5.55

4. **Best Available Technology (BAT)** - For each pollutant for which the Requested Allowable in the above table exceeds 10 tons per year, BAT, as defined in OAC 3745-31-01, is required. Describe what has been selected as BAT and the basis for the selection:

BAT is the use of the Kinsei Sangyo design and performance specifications with the following proposed maximum emission rates:

PE/PM-10/PM-2.5 (filterable) - BAT is not required for filterable PE/PM-10/PM-2.5 (filterable) because the Baghouse and Wet FGD will limit emissions to less than 10 tons per year (TPY) (refer to the table above);

PE/PM-10/PM-2.5 (filterable + condensable) - BAT is a Baghouse and Wet FGD with an emission rate of no more than 27.23 TPY;

NOx - BAT is a NOx Control System (SCR) with an emission rate of no more than 67.91 TPY;

SO2 - BAT is a Wet-FGD with an emission rate of no more than 27.12 TPY; and

CO - BAT is good combustion practices with an emission rate of no more than 30.40 TPY.

5. **Control Equipment** - Does this air contaminant source employ emissions control equipment?

See Facility Profile

6. **Process Flow Diagram** - Attach a Process Flow Diagram to this application for this air contaminant source. See the application instructions for additional information.

Process Flow Diagrams:

Description	Type	EAC Form Type	Public Document Id
PFD for Line No. 4	Process flow diagram		516272

7. **Modeling information:** (Note: items in bold in Tables 7-A and/or 7-B, as applicable, are required even if the tables do not otherwise need to be completed. If applicable, all information is required) An air quality modeling analysis is required for PTIs and PTIOs for new installations or modifications, as defined in OAC rule 3745-31-01, where either the increase of toxic air contaminants from any air contaminant source or the increase of any other pollutant for all air contaminant sources combined exceed a threshold listed below. This analysis is to assure that the impact from the requested project will not exceed Ohio's Acceptable Incremental Impacts for criteria pollutants and/or Maximum Allowable Ground Level Concentrations (MAGLC) for toxic air contaminants. (See Ohio EPA, DAPCs Engineering Guide #69 for more information.) Permit requests that would have unacceptable impacts cannot be approved as proposed. See the line-by-line PTI/PTIO instructions for additional information.

See Facility Profile

8. **Request for Federally Enforceable Limits** - As part of this permit application, do you wish to propose voluntary restrictions to limit emissions in order to avoid specific requirements listed below, (i.e., are you requesting federally enforceable limits to obtain synthetic minor status)?

Yes

If yes, why are you requesting federally enforceable limits?

- Avoid being a major MACT source (see OAC rule 3745-31-01)
- Avoid being a major stationary source (see OAC rule 3745-31-01)

9. **Continuous Emissions Monitoring** Does this air contaminant source utilize any continuous emissions monitoring (CEM) equipment for indicating or demonstrating compliance? This does not include continuous parametric monitoring systems.
See Facility Profile

10. **EAC Forms** The appropriate Emissions Activity Category (EAC) form(s) must be completed and attached for each air contaminant source. At least one complete EAC form must be submitted for each air contaminant source for the application to be considered complete. Refer to the list attached to the application instructions. Please indicate which EAC form corresponds to this air contaminant source.

Process Flow Diagrams:

Description	Type	EAC Form Type	Public Document Id
Process EAC	EAC	3100 Process operation	516277
Fuel Combustion EAC	EAC	3101 Fuel burning operation	516278