

Other Plastic Pyrolysis Units 11/27/2024

Tuesday, January 21, 2025 7:55 AM



Andrews, Edward S <edward.s.andrews@wv.gov>

Other Plastic Pyrolysis Units -

1 message

Andrews, Edward S <edward.s.andrews@wv.gov>

Wed, Nov 27, 2024 at 12:09 PM

To: Katie Wood <katie.wood@tetrattech.com>, Farley Wood <fwood@empirede.com>, Bernard Brown <bbrown@empirede.com>, Kathy Beckett <Kathy.beckett@steptoe-johnson.com>, Samantha Beers <Samantha.beers@steptoe-johnson.com>

Cc: Joseph R Kessler <joseph.r.kessler@wv.gov>, "Boehm, Richard A" <richard.a.boehm@wv.gov>, "Crowder, Laura M" <laura.m.crowder@wv.gov>

I found three different pyrolysis units in Illinois. I have been able to figure out some basic info about two of them. The Channahon ILL (INEOS Joliet) is converting polystyrene back down to a styrene monomer. I am thinking this unit has been exempt from Illinois EPA permitting rules.

The BP Naperville Campus is converting plastic bottles and other polyethylene terephthalate products back into original constituents. The Illinois EPA permitted this unit as a "affected pilot plant".

The third is Plastic Advanced Recycling Corporation in Willowbrook, IL. At a high level, I think (maybe) this one is kind of similar to your proposed process. I will need to dig deep on this one after Thanksgiving.


<https://www.plastic2x.com/parctechnology/>

Also, Illinois passed a law excluding pyrolysis units located in either Willis or Grady Counties from Illinois EPA permitting requirements.

<https://www.ilga.gov/legislation/ilcs/ilcs4.asp?DocName=041500050HTit%2E+VI%2DD&ActID=1585&ChapterID=36&SeqStart=40000000&SeqEnd=41100000>

Enjoy,
Ed

2 attachments

 **Construction Permit.pdf**
713K

 **eP2FPresentation.pdf**
889K



Constructio
n Permit

Bureau of Air Permit Section

File Organization Cover Sheet

Source Name:	BP Naperville Complex
ID No.:	043065AAG
Application No.:	20010010
Category:	03K Air Permit - Final
Item Date:	3/4/20
Keyword:	
Comment:	
Part:	of

IPRA - DIVISION OF RECORDS MANAGEMENT
RELEASABLE

JUN 25 2020

REVIEWER: RDH



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

3021 NORTH GRAND AVENUE EAST, P.O. BOX 18076, SPRINGFIELD, ILLINOIS 62794-8076 • (217) 783-3387

J.B. PRITZER, GOVERNOR

JOHN J. KIM, DIRECTOR

217/785-1705

CONSTRUCTION PERMIT

PERMITTEE

BP Naperville Campus
Attn: Junling Qiu
150 West Warrenville Road
Naperville, Illinois 60563

Application No.: 20010010

I.D. No.: 043065AAG

Applicant's Designation:

Date Received: January 27, 2020

Subject: Pilot Plant for BP Infinia Technology

Date Issued: March 4, 2020

Location: 150 West Warrenville Road, Naperville, DuPage County

This Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source(s) and/or air pollution control equipment consisting of a pilot plant for BP Infinia Technology, as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

1. Introduction

- a. This permit addresses the construction of a pilot plant for BP Infinia Technology (the "affected pilot plant"). This proprietary solvent-based technology is being developed to enable the recycling of plastic bottles and other items made of polyethylene terephthalate by separating the material back into its original constituents. The plant would be designed to recover solvent for reuse in the process.
- b. For the purpose of this permit, this new pilot plant is referred to as the "affected pilot plant."

2. State Emission Standards

- a. The affected pilot plant is subject to 35 IAC 218.301, which provides that no person shall cause or allow the discharge of more than 3.6 kg/hour (8.0 lbs/hour) of organic material into the atmosphere from any emission unit. If no odor nuisance exists this limitation shall apply only to "photochemically reactive material," as defined by 35 IAC 211.4690.

3. Nonapplicability Provisions

- a. This permit is issued based on this project not constituting a major modification subject to the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR §2.21, or the state rules for Major Stationary Sources Construction and Modification (MSSCAM), 35 IAC Part 203. This is because the emissions of the

affected pilot plant will not be significant (See Condition 4). In addition, the operation of the affected pilot plant will not increase the utilization of the utility equipment at the plant, which has been operating with "surplus" electricity sent to the grid.

- b. This permit is issued based on the source with the affected pilot plant continuing to be an area source for emissions of hazardous air pollutants (HAPs).
- c. This permit is issued based on the affected pilot plant not being a "pollution control facility," as defined by Section 3.330 of the Illinois Environmental Protection Act. This is because the plant will be developed/operated for research and development of process technology and not for storage or treatment of waste.
- d. This permit is issued based on piping components and process equipment at the affected pilot plant not being subject to requirements of otherwise applicable federal New Source Performance Standards (NSPS), including 40 CFR 60 Subparts VVa, VVb, VVc, VVd, VVe, VVf, VVg, VVh, VVi, VVj, VVk, VVl, VVm, VVn, VVo, VVp, VVq, VVr, VVs, VVt, VVu, VVv, VVw, VVx, VVy, VVz, VVaa, VVab, VVac, VVad, VVae, VVaf, VVag, VVah, VVai, VVaj, VVak, VVal, VVam, VVan, VVao, VVap, VVaq, VVar, VVas, VVat, VVau, VVav, VVaw, VVax, VVay, VVaz, VVba, VVbb, VVbc, VVbd, VVbe, VVbf, VVbg, VVbh, VVbi, VVbj, VVbk, VVbl, VVbm, VVbn, VVbo, VVbp, VVbq, VVbr, VVbs, VVbt, VVbu, VVbv, VVbw, VVbx, VVby, VVbz, VVca, VVcb, VVcc, VVcd, VVce, VVcf, VVcg, VVch, VVci, VVcj, VVck, VVcl, VVcm, VVcn, VVco, VVcp, VVcq, VVcr, VVcs, VVct, VVcu, VVcv, VVcw, VVcx, VVcy, VVcz, VVda, VVdb, VVdc, VVdd, VVde, VVdf, VVdg, VVdh, VVdi, VVdj, VVdk, VVdl, VVdm, VVdn, VVdo, VVdp, VVdq, VVdr, VVds, VVdt, VVdu, VVdv, VVdw, VVdx, VVdy, VVdz, VVea, VVeb, VVec, VVed, VVee, VVef, VVeg, VVeh, VVei, VVej, VVek, VVel, VVem, VVen, VVeo, VVep, VVeq, VVer, VVes, VVet, VVeu, VVev, VVew, VVex, VVey, VVez, VVfa, VVfb, VVfc, VVfd, VVfe, VVff, VVfg, VVfh, VVfi, VVfj, VVfk, VVfl, VVfm, VVfn, VVfo, VVfp, VVfq, VVfr, VVfs, VVft, VVfu, VVfv, VVfw, VVfx, VVfy, VVfz, VVga, VVgb, VVgc, VVgd, VVge, VVgf, VVgg, VVgh, VVgi, VVgj, VVgk, VVgl, VVgm, VVgn, VVgo, VVgp, VVgq, VVgr, VVgs, VVgt, VVgu, VVgv, VVgw, VVgx, VVgy, VVgz, VVha, VVhb, VVhc, VVhd, VVhe, VVhf, VVhg, VVhi, VVhj, VVhk, VVhl, VVhm, VVhn, VVho, VVhp, VVhq, VVhr, VVhs, VVht, VVhu, VVhv, VVhw, VVhx, VVhy, VVhz, VVia, VVib, VVic, VVid, VVie, VVif, VVig, VVih, VVii, VVij, VVik, VVil, VVim, VVin, VVio, VVip, VViq, VVir, VVis, VVit, VViu, VViv, VViw, VVix, VViy, VViz, VVja, VVjb, VVjc, VVjd, VVje, VVjf, VVjg, VVjh, VVji, VVjj, VVjk, VVjl, VVjm, VVjn, VVjo, VVjp, VVjq, VVjr, VVjs, VVjt, VVju, VVjv, VVjw, VVjx, VVjy, VVjz, VVka, VVkb, VVkc, VVkd, VVke, VVkf, VVkg, VVkh, VVki, VVkj, VVkk, VVkl, VVkm, VVkn, VVko, VVkp, VVkq, VVkr, VVks, VVkt, VVku, VVkv, VVkw, VVkx, VVky, VVkz, VVla, VVlb, VVlc, VVld, VVle, VVlf, VVlg, VVlh, VVli, VVlj, VVlk, VVll, VVlm, VVln, VVlo, VVlp, VVlq, VVlr, VVls, VVlt, VVlu, VVlv, VVlw, VVlx, VVly, VVlz, VVma, VVmb, VVmc, VVmd, VVme, VVmf, VVmg, VVmh, VVmi, VVmj, VVmk, VVml, VVmm, VVmn, VVmo, VVmp, VVmq, VVmr, VVms, VVmt, VVmu, VVmv, VVmw, VVmx, VVmy, VVmz, VVna, VVnb, VVnc, VVnd, VVne, VVnf, VVng, VVnh, VVni, VVnj, VVnk, VVnl, VVnm, VVnn, VVno, VVnp, VVnq, VVnr, VVns, VVnt, VVnu, VVnv, VVnw, VVnx, VVny, VVnz, VVoa, VVob, VVoc, VVod, VVoe, VVof, VVog, VVoh, VVoi, VVoj, VVok, VVol, VVom, VVon, VVoo, VVop, VVoq, VVor, VVos, VVot, VVou, VVov, VVow, VVox, VVoy, VVoz, VVpa, VVpb, VVpc, VVpd, VVpe, VVpf, VVpg, VVph, VVpi, VVpj, VVpk, VVpl, VVpm, VVpn, VVpo, VVpp, VVpq, VVpr, VVps, VVpt, VVpu, VVpv, VVpw, VVpx, VVpy, VVpz, VVqa, VVqb, VVqc, VVqd, VVqe, VVqf, VVqg, VVqh, VVqi, VVqj, VVqk, VVql, VVqm, VVqn, VVqo, VVqp, VVqq, VVqr, VVqs, VVqt, VVqu, VVqv, VVqw, VVqx, VVqy, VVqz, VVra, VVrb, VVrc, VVrd, VVre, VVrf, VVrg, VVrh, VVri, VVrj, VVrk, VVrl, VVrm, VVrn, VVro, VVrp, VVrq, VVrr, VVrs, VVrt, VVru, VVrv, VVrw, VVrx, VVry, VVrz, VVsa, VVsb, VVsc, VVsd, VVse, VVsf, VVsg, VVsh, VVsi, VVsj, VVsk, VVsl, VVsm, VVsn, VVso, VVsp, VVsq, VVsr, VVss, VVst, VVsu, VVsv, VVsw, VVsx, VVsy, VVsz, VVta, VVtb, VVtc, VVtd, VVte, VVtf, VVtg, VVth, VVti, VVtj, VVtk, VVtl, VVtm, VVtn, VVto, VVtp, VVtq, VVtr, VVts, VVtt, VVtu, VVtv, VVtw, VVtx, VVty, VVtz, VVua, VVub, VVuc, VVud, VVue, VVuf, VVug, VVuh, VVui, VVuj, VVuk, VVul, VVum, VVun, VVuo, VVup, VVuq, VVur, VVus, VVut, VVuu, VVuv, VVuw, VVux, VVuy, VVuz, VVva, VVvb, VVvc, VVvd, VVve, VVvf, VVvg, VVvh, VVvi, VVvj, VVvk, VVvl, VVvm, VVvn, VVvo, VVvp, VVvq, VVvr, VVvs, VVvt, VVvu, VVvv, VVvw, VVvx, VVvy, VVvz, VVwa, VVwb, VVwc, VVwd, VVwe, VVwf, VVwg, VVwh, VVwi, VVwj, VVwk, VVwl, VVwm, VVwn, VVwo, VVwp, VVwq, VVwr, VVws, VVwt, VVwu, VVwv, VVww, VVwx, VVwy, VVwz, VVxa, VVxb, VVxc, VVxd, VVxe, VVxf, VVxg, VVxh, VVxi, VVxj, VVxk, VVxl, VVxm, VVxn, VVxo, VVxp, VVxq, VVxr, VVxs, VVxt, VVxu, VVxv, VVxw, VVxx, VVxy, VVxz, VVya, VVyb, VVyc, VVyd, VVye, VVyf, VVyg, VVyh, VVyi, VVyj, VVyk, VVyl, VVym, VVyn, VVyo, VVyp, VVyq, VVyr, VVys, VVyt, VVyu, VVyv, VVyw, VVyx, VVyy, VVyz, VVza, VVzb, VVzc, VVzd, VVze, VVzf, VVzg, VVzh, VVzi, VVzj, VVzk, VVzl, VVzm, VVzn, VVzo, VVzp, VVzq, VVzr, VVzs, VVzt, VVzu, VVzv, VVzw, VVzx, VVzy, VVzz.
- f. This permit is issued based on the affected pilot plant not being subject to the control requirements of 35 IAC 218 Subpart TT, Other Emission Units. This is because the source does not meet the applicability criteria for VOM emissions in 35 IAC 218.980(a) or (b).

4. Operational Requirements

- a. The annual usage of solvents by the affected pilot plant shall not exceed the following limits:

Type of Solvent	Limit (tons/calendar year)
VOM (including VOM HAPs)	3.5
Methanol	8.0
HAPs other than methanol	1.0

- b. At all times, the Permittee shall, to the extent practicable, maintain and operate the affected pilot plant, including the VOM solvent recovery systems that are part of the plant, in a manner consistent with good air pollution control practice.
- c. The consumption of VOM solvent by the affected pilot plant, determined as the difference between the amount of virgin VOM solvent delivered to the plant and the amount of VOM solvent in materials sent off-site for recycling or disposal, shall not exceed 9.0 tons/calendar year.

5. Emissions

- a. The annual emissions of VOM, methanol and HAPs other than methanol of the affected pilot plant shall not exceed the following limits. Compliance with these limits shall be determined based from the usage of these materials, with adjustment allowed for the amounts of these pollutants in materials sent offsite and the amounts of these pollutants consumed by the chemical material that occur in the affected pilot plant.

Pollutant	Limit (tons/calendar year)
VOM (including VOM HAPs)	5.4
Methanol	4.4
HAPs other than methanol	1.0

- b. This permit is issued based on the affected pilot plant having minimal emissions of particulate, including emissions from receiving and preliminary processing of feedstock, i.e., particulate emissions overall of no more than 1.1 tons/year.

6. Operational Monitoring for the Solvent Recovery System(s)

- a. For the solvent recovery system(s) for VOM solvent in the affected plant, the Permittee shall maintain instrumentation for at least one operating parameter that is indicative of the operation and functioning of the system(s). If information from this instrumentation is not automatically recorded, the data measured by these systems shall be manually recorded on at least a daily basis when the affected pilot plant or a particular portion of the plant served by a recovery system is operated.

7. Recordkeeping

- a. The Permittee shall maintain file(s) containing the following information for the affected pilot plant:
 - i. A process flow diagram for the plant that identifies the principle portions of the plant (e.g., the handling of feedstocks, the depolymerization process and the

purification of monomers) and the VOM solvent recovery systems and the portions of the plant that they serve.

- ii. Information for each of the organic solvents used in the plant, including the identity (name or chemical type), whether the solvent is a VOM or contains HAPs, and if the solvent contains HAPs, the HAP content (percent by weight).
 - iii. A demonstration of compliance with 35 IAC 218.301 for the individual process emission units in the plant, which demonstration shall either show the emissions of organic material from the unit are not "photochemically reactive material," as defined by 35 IAC 211.4690, or show that maximum hourly organic material emission rate from the unit will not exceed 8.0 pounds/hour, with supporting documentation and calculations.
 - iv. A demonstration that the feedstock processed by the affected pilot plant is not a waste as defined by Section 3.535 of the Illinois Environmental Protection Act.
- b. The Permittee shall maintain a log or other records for the affected pilot plant that includes information identifying periods when the plant or portions of the plant are operated.
 - c. The Permittee shall maintain a log or other records for the affected pilot plant that address the maintenance and repair of solvent recovery systems.
 - d. The Permittee shall maintain records for the usages of solvents by the affected pilot plant to address compliance with Condition 4(a) (tons/month and tons/year), with supporting data calculations.
 - e. The Permittee shall maintain records of the following items related to the emissions of pollutant(s) of the affected pilot plant to address compliance with Condition 5(a) if the annual usage of solvent(s) exceeds the respective limit for the pollutant in Condition 5(a). Otherwise, if the usage of the solvent is no more than the limit for the pollutant and the Permittee does not otherwise keep these records, the emissions of pollutant will be assumed to be the same as the usage of the respective solvent.
 - i. Records for amount of the pollutant in the shipments of waste solvent sent offsite, with the date of each shipment, the total weight of the shipment, and the weight of the pollutant in the shipment, with supporting documentation.
 - ii. Records for emissions of the pollutant, determined by subtracting the amount of the pollutant in waste shipments from the usage of the pollutant (tons/month and tons/calendar year), with supporting data calculations.

- iii. If the annual emissions of the pollutant, as determined above, exceeds the applicable limit in Condition 5(a), a determination based on engineering analysis of the net amount of the pollutant that is consumed by the chemical reactions that are involved in processing the feedstock to the affected pilot plant (pound of pollutant consumed /pound of feedstock processed), with supporting documentation. Otherwise, if the Permittee does not keep these records, the emissions of the pollutant will be assumed to be usage of the pollutant less the amount of the pollutant in waste shipments.
- iv. If the Permittee keeps the above records, records for the emissions of the pollutant (tons/month and tons/year), determined by subtracting the net amount of the pollutant consumed in the pilot plant, as calculated in accordance with the factor in Condition 7(a)(iii) from the emissions as determined pursuant to Condition 7(a)(iii), with supporting data calculations.
- f. As solvent(s) that are HAPs or contain HAPs are used in the affected pilot plant, unless and until the Permittee notifies the Illinois EPA that the source has become a major source for HAPs, the Permittee shall keep records for the usage and emissions of HAPs by the source as reasonably necessary to show that the source continues to be an area source for HAP emissions.

8. Notification and Reporting

- a. The Permittee shall notify the Illinois EPA within 30 days of the date that it first processes plastic in the affected pilot plant.
- b. The Permittee shall promptly notify the Illinois EPA of deviations of the affected pilot plant with requirements of this permit. These reports shall contain the following information:
 - i. Identification of the emission unit(s) and/or operation involved.
 - ii. Description of the deviation, including date, time and duration.
 - iii. Probable cause of the deviation.
 - iv. Corrective actions or preventive measures taken.
- c. The Permittee shall notify the Illinois EPA within 30 days of the date that it first begins to use the affected pilot plant for a technology other than the BF Infinita process or similar process(es).

9. Reporting Address

Notifications and reports required by this permit shall be sent to:

Illinois Environmental Protection Agency
Bureau of Air
Compliance Section (840)
P.O. Box 19274
Springfield, Illinois 62794-9274

10. Other Requirements

- a. This permit does not relieve the Permittee of the responsibility to comply with all Local, State and Federal Regulations which are part of the applicable Illinois State Implementation Plan, as well as all other applicable Federal, State and Local requirements.
- b. In particular, this construction permit also does not provide approval(s) as permit(s) would be needed from the Illinois EPA Bureau of Water for construction or other activities at the source related to wastewater from the affected pilot plant.
- c. This permit also does not excuse the Permittee from the obligation to undertake further actions at the source as may be needed to eliminate air pollution, including nuisance due to odors, such as implementation of additional work practices for handling of materials and processing of wastes.

11. Authorization to Operate

The Permittee may operate the affected pilot plant as addressed by this construction permit under this permit until the Clean Air Act Permit Program (CAAPP) permit for the source is revised to address the affected pilot plant. This condition supersedes Standard Condition 6.

If you have any questions on this permit, please contact Anwar Azem at 217/785-1785.

Raymond E. Pilapil

Raymond E. Pilapil
Manager, Permit Section
Bureau of Air

REP:ASA:tan
RA 28



STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
P. O. BOX 18508
SPRINGFIELD, ILLINOIS 62794-8508

**STANDARD CONDITIONS FOR CONSTRUCTION/DEVELOPMENT PERMITS
ISSUED BY THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY**

July 1, 1988

The Illinois Environmental Protection Act (Illinois Revised Statutes, Chapter 111-1/2, Section 1088) authorizes the Environmental Protection Agency to impose conditions on permits which it issues.

The following conditions are applicable unless superseded by special condition(s).

1. Unless this permit has been extended or it has been voided by a newly issued permit, this permit will expire one year from the date of issuance, unless a continuous program of construction or development on this project has started by such time.
2. The construction or development covered by this permit shall be done in compliance with applicable provisions of the Illinois Environmental Protection Act, and Regulations adopted by the Illinois Pollution Control Board.
3. There shall be no deviations from the approved plans and specifications unless a written request for modification, along with plans and specifications as required, shall have been submitted to the Agency and a supplemental written permit issued.
4. The Permittee shall allow any duly authorized agent of the Agency upon the presentation of credentials, at reasonable times:
 - a. to enter the Permittee's property where actual or potential effluent, emission or noise sources are located or where any activity is to be conducted pursuant to this permit,
 - b. to have access to and copy any records required to be kept under the terms and conditions of this permit,
 - c. to inspect, including during any hours of operation of equipment constructed or operated under this permit, such equipment and any equipment required to be kept, used, operated, calibrated and maintained under this permit,
 - d. to obtain and remove samples of any discharge or emission of pollutants, and
 - e. to enter and utilize any photographic, recording, testing, monitoring or other equipment for the purpose of preserving, testing, monitoring, or recording any activity, discharge, or emission authorized by this permit.
5. The issuance of this permit:
 - a. shall not be considered as in any manner affecting the title of the premises upon which the permitted facilities are to be located,
 - b. does not release the Permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the proposed facilities,
 - c. does not release the Permittee from compliance with the other applicable statutes and regulations of the United States, of the State of Illinois, or with applicable local laws, ordinances and regulations,
 - d. does not take into consideration or attest to the structural stability of any units or parts of the project, and

- e. in no manner implies or suggests that the Agency (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the proposed equipment or facility.
6.
 - a. Unless a joint construction/operation permit has been issued, a permit for operation shall be obtained from the Agency before the equipment covered by this permit is placed into operation.
 - b. For purposes of shakedown and testing, unless otherwise specified by a special permit condition, the equipment covered under this permit may be operated for a period not to exceed thirty (30) days.
 7. The Agency may file a complaint with the Board for modification, suspension or revocation of a permit:
 - a. upon discovery that the permit application contained misrepresentations, misinformation or false statements or that all relevant facts were not disclosed, or
 - b. upon finding that any standard or special conditions have been violated, or
 - c. upon any violations of the Environmental Protection Act or any regulation effective thereunder as a result of the construction or development authorized by this permit.



Waste Plastic to Fuel

Zero Pollution Conversion Technology



**PLASTIC
ADVANCED
RECYCLING
CORP.**

Confidential Information

Who We Are and What We Do

PARC is a leading pyrolysis technology company that achieved continuous production to convert waste plastics into high quality fuel through patented systems that are financially and environmentally beneficial.

- Reduce** waste plastic streams and mitigate environmental pollution by efficiently converting all types of plastics, including PVC
- Produce** high-quality, ready-to-use fuel for industrial furnace and can be refined into Gasoline and Diesel by refinery
- Create** a sustainable solution to today's most daunting problems: environmental deterioration and energy shortage
- Offer** green jobs that are beneficial to local economy



Hawaii, US



Naples, Italy

Confidential information

Who We Are and What We Do

Plastic Advanced Recycling Corp



Confidential Information

3

Company Overview

- Founded in 1994 and built first plant in Beijing in 1995
- PARC has devoted itself to improving and perfecting its waste-to-fuel technology for 20 years
- Currently have two operational plants in Jiangsu Province, China
A new facility with two units are expected to be installed within 2015
- Independently own three US patents. Certified by ISO 9001

Facility in Nantong, China



Waste Plastic to Fuel

Advantages:

- Continuous operation with high efficiency and capacity
30 tons of waste plastic per day; 10,000 tons per year
- Automatic continuous feeding and discharging system
- New technology pyrolysis reactor
- No sorting is needed;
able to process co-mingled plastics
- System is scaled to need
- Minimum emission
- High output ratio



Confidential Information

5

Waste Plastic to Fuel

Process:

- Feedstock– Plastic packaging, agricultural film, food and beverage containers, etc.

> All types of plastic 

> Single unit of equipment can process 30 tons of waste plastic a day, totaling 10,000 tons a year

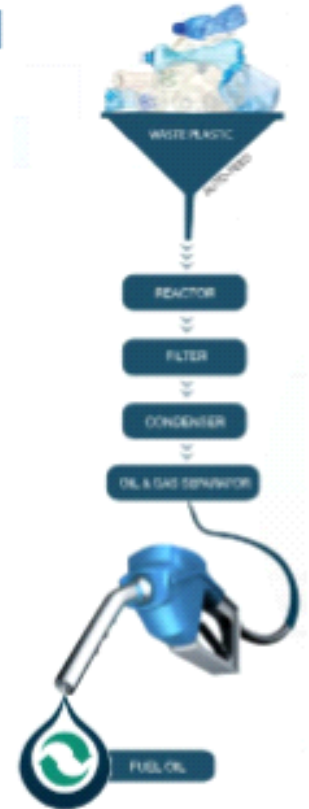
> Types of plastic that have high oil yield: PP, PS, LDPE, HDPE

• Low-temp & pressure **800°F/500 °C** pyrolysis reaction

• Reaction– solid to liquid and gas

• Filtrated and condensed into mixed fuel

• (optional) Refine into diesel and gasoline



Waste Plastic to Fuel

Output:

- **Up to 60%** of the output is mixed fuel (depends on feedstock), which can be used in industrial boilers, generators, or can be further refined into diesel and gasoline by the refinery



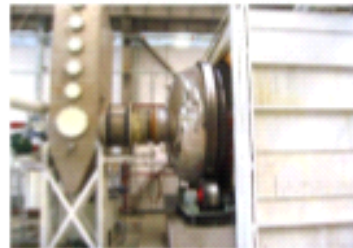
- **17%-32%** is solid residue, which can be used as a heating source similar to lean coal.
- **15%-18%** is combustible gas which is recycled back to the furnace as heat.

Value Proposition

- Reduce plastic waste pollution and tipping fees associated with plastic sourcing.
- Reduce GHG emissions related to incineration and oil extraction.
- Reduce dependency on foreign oil and exposure to volatile oil prices.
- Create additional revenue through mixed fuel sales.
- Create green jobs for local community.
- Create strong environmental stewardship with local community by better waste management practice.



DRYER



FILTER



CONDENSER

Thank You !



Plastic Advanced Recycling Corporation
Add: 7884 S Quincy St.
Willowbrook, IL 60527, U.S.
Tel: 1-630-655-6976
Fax: 1-630-654-0530
Email: info@plastic2x.com
www.plastic2x.com

Confidential Information

Additional Info Other Units 11/25/2024

Tuesday, January 21, 2025 7:53 AM



Andrews, Edward S <edward.s.andrews@wv.gov>

RE: Kore Infrastructure Permits

1 message

Kathy Beckett <Kathy.beckett@steptoe-johnson.com>
To: "Andrews, Edward S" <edward.s.andrews@wv.gov>

Mon, Nov 25, 2024 at 10:08 AM

Thank you. Our education continues.....

Kathy Beckett

Steptoe & Johnson PLLC
P.O. Box 1588, Charleston, WV 25326-1588
Overnight
Chase Tower, 17th Floor
[707 Virginia Street, East, Charleston, WV 25301](http://707.VirginiaStreetEast.com)
O: 304-353-8172 F: 304-353-8183 C: 304-539-8119

Kathy.Beckett@Steptoe-Johnson.com
www.steptoe-johnson.com



 Please consider the environment before printing this email

Steptoe & Johnson PLLC Note:

This e-mail and any attachments are confidential and may be protected by legal privilege. If you are not the intended recipient, be aware that any disclosure, copying, distribution or use of this e-mail or any attachment is prohibited. If you have received this e-mail in error, please notify us immediately by returning it to the sender and delete this copy from your system. Also, In accordance with I.R.S. Circular 230, we advise you that any tax advice in this email is not intended or written to be used, and cannot be used, by any recipient for the avoidance of penalties under federal tax laws. Thank you for your cooperation.

From: Andrews, Edward S <edward.s.andrews@wv.gov>

Sent: Thursday, November 21, 2024 4:31 PM

To: Farley Wood <fwood@empirede.com>; Bernard Brown <bbrown@empirede.com>; Kathy Beckett <Kathy.beckett@steptoe-johnson.com>; Samantha Phillips Beers <Samantha.beers@steptoe-johnson.com>

Cc: Crowder, Laura M <laura.m.crowder@wv.gov>; Joseph R Kessler <joseph.r.kessler@wv.gov>; Boehm, Richard

A <richard.a.boehm@wv.gov>

Subject: Kore Infrastructure Permits

[EXTERNAL EMAIL] DO NOT CLICK links or attachments unless you trust edward.s.andrews@wv.gov.

SCAQMD permitted the pyrolysis unit to only process digested, dewatered sewage sludge biosolids. Also, SCAQMD used the provisions of Rule 441 to permit this facility.

<https://www.aqmd.gov/docs/default-source/rule-book/rule-iv/rule-441.pdf?sfvrsn=4>

Subpart AAAA specifically excludes sewage sludge from the definition of "municipal solid waste or municipal-type waste"/

From what I can tell, the Kore's process is fairly comparable except that the process heater for the pyrolysis unit can only burn natural gas or treated syn gas.

Thanks,

Ed Andrews

Step toe & Johnson PLLC Note:

This e-mail and any attachments are confidential and may be protected by legal privilege. If you are not the intended recipient, be aware that any disclosure, copying, distribution or use of this e-mail or any attachment is prohibited. If you have received this e-mail in error, please notify us immediately by returning it to the sender and delete this copy from your system. Thank you for your cooperation.

Availability 11/19/2024

Tuesday, January 21, 2025 7:59 AM



Andrews, Edward S <edward.s.andrews@wv.gov>

Re: Possible Dates/Times for a Call

1 message

Andrews, Edward S <edward.s.andrews@wv.gov>
To: Kathy Beckett <Kathy.Beckett@steptoe-johnson.com>

Tue, Nov 19, 2024 at 8:47 AM

Joe had to back out on the Wednesday Afternoon Call.

We could still go over our discussion with R3.

Friday, 11/22, is not blocked off. 9-10 and the afternoon is open.

Ed

On Mon, Nov 18, 2024 at 10:29 AM Kathy Beckett <Kathy.Beckett@steptoe-johnson.com> wrote:

Funny, I meant to reference Farley Wood but my old air agency brain kicked in.....

Kathy Beckett

Steptoe & Johnson PLLC
P.O. Box 1588, Charleston, WV 25326-1588
Overnight
Chase Tower, 17th Floor
707 Virginia Street, East, Charleston, WV 25301
O: 304-353-8172 F: 304-353-8183 C: 304-539-8119

Kathy.Beckett@Steptoe-Johnson.com
www.steptoe-johnson.com



 Please consider the environment before printing this email

Steptoe & Johnson PLLC Note:

This e-mail and any attachments are confidential and may be protected by legal privilege. If you are not the intended recipient, be aware that any disclosure, copying, distribution or use of this e-mail or any attachment is prohibited. If you have received this e-mail in error, please notify us immediately by returning it to the sender and delete this copy from your system. Also, In accordance with I.R.S. Circular 230, we advise you that any tax advice in this email is not intended or written to be used, and cannot be used, by any recipient for the avoidance of penalties under federal tax laws. Thank you for your cooperation.

From: Kathy Beckett <Kathy.beckett@steptoe-johnson.com>
Sent: Monday, November 18, 2024 10:28 AM
To: Andrews, Edward S <edward.s.andrews@wv.gov>
Cc: Kathy Beckett <Kathy.Beckett@Steptoe-Johnson.com>
Subject: RE: Possible Dates/Times for a Call

Dear Ed,

Dale Farley and Bernard Brown have a preference for meeting on Wednesday. If that works for your team, let us know.

Thank you,
Kathy

Kathy Beckett

Steptoe & Johnson PLLC
P.O. Box 1588, Charleston, WV 25326-1588
Overnight
Chase Tower, 17th Floor
707 Virginia Street, East, Charleston, WV 25301
O: 304-353-8172 F: 304-353-8183 C: 304-539-8119

Kathy.Beckett@Steptoe-Johnson.com
www.steptoe-johnson.com



 Please consider the environment before printing this email

Steptoe & Johnson PLLC Note:

This e-mail and any attachments are confidential and may be protected by legal privilege. If you are not the intended recipient, be aware that any disclosure, copying, distribution or use of this e-mail or any attachment is prohibited. If you have received this e-mail in error, please notify us immediately by returning it to the sender and delete this copy from your system. Also, In accordance with I.R.S. Circular 230, we advise you that any tax advice in this email is not intended or written to be used, and cannot be used, by any recipient for the avoidance of penalties under federal tax laws. Thank you for your cooperation.

From: Andrews, Edward S <edward.s.andrews@wv.gov>
Sent: Friday, November 15, 2024 4:21 PM
To: Kathy Beckett <Kathy.beckett@steptoe-johnson.com>
Subject: Possible Dates/Times for a Call

[EXTERNAL EMAIL] DO NOT CLICK links or attachments unless you trust edward.s.andrews@wv.gov.

Kathy

Here are a few dates & times for a future call with the agency to go over a path to move EGG's modification application forward.

Before Thanksgiving:

Wednesday (11/20) 3 to 4 pm.

Maybe Friday (11/22) 10 to 11 am or 1 to 2 pm (I have not been able to confirm this date with our folks.)

After Thanksgiving:

Tuesday (12/3) 2 to 3 pm. (Reserved)

Backup Option - Wednesday (12/4) afternoon - prefer 2 to 3 pm.

If you could let me know if any these would not work for EGG or your schedule, please let me know.

Thanks,

Ed

Edward Andrews, P.E.

Engineer

304-414-1244

Steptoe & Johnson PLLC Note:

This e-mail and any attachments are confidential and may be protected by legal privilege. If you are not the intended recipient, be aware that any disclosure, copying, distribution or use of this e-mail or any attachment is prohibited. If you have received this e-mail in error, please notify us immediately by returning it to the sender and delete this copy from your system. Thank you for your cooperation.

Response Lt for R3 11/4/2024

Tuesday, January 21, 2025 7:51 AM



Andrews, Edward S <edward.s.andrews@wv.gov>

Response to Letter from West Virginia, Division of Air Quality from October 23, 2024

1 message

R3 ECAD ADMIN <R3_ECAD_ADMIN@epa.gov>

Mon, Nov 4, 2024 at 8:51 AM

To: "Crowder, Laura M" <Laura.M.Crowder@wv.gov>

Cc: "aearley@fairshake-els.org" <aearley@fairshake-els.org>, "frank.rocchio@oveadvocates.org" <frank.rocchio@oveadvocates.org>, "bbrown@empirede.com" <bbrown@empirede.com>, "fwood@empirede.com" <fwood@empirede.com>, "Joseph.r.kessler@wv.gov" <Joseph.r.kessler@wv.gov>, "edward.s.andrews@wv.gov" <edward.s.andrews@wv.gov>

Dear Ms. Crowder:

The attached is in response to your letter dated October 23, 2024 regarding West Virginia Division of Air Quality's previous request for a regulatory interpretation of Empire Green Generation LLC (Empire) proposal at their facility located in Follansbee, WV. Steve Ott will be following up with a meeting invitation to further discuss the status of EPA's regulatory interpretation.

Regards,



Eva Weinelt


Administrative Specialist
Enforcement and Compliance Assurance Division
US EPA Mid-Atlantic Region
Phone 215-814-2197
Email weinelt.eva@epa.gov



2 attachments



image001.jpg
6K

 RE - WV Regulatory Interpretation Request.pdf
128K



RE - WV
Regulator...



REGION 3
PHILADELPHIA, PA 19103

October 28, 2024

VIA ELECTRONIC MAIL
RETURN RECEIPT REQUESTED

Ms. Laura Crowder
Director
West Virginia, Division of Air Quality
601 37th Street SE
Charleston, WV 25304

Dear Ms. Crowder:

We received your letter dated October 23rd, 2024 regarding West Virginia Division of Air Quality's previous request for a regulatory interpretation of Empire Green Generation LLC (Empire) proposal to modify their existing permit to replace the use of medical waste with plastic as a feedstock in a pyrolytic conversion process at their facility located in Follansbee, WV.

As noted in your letter, Region 3 has been working to obtain sufficient information to develop an adequate and accurate response. Region 3 has sent Empire an Information Request Letter on August 1, 2024 and met with EPA's Office of Enforcement and Compliance Assurance (OECA) and Office of Air Quality Planning and Standards (OAQPS) several times to discuss the proposal.

While we acknowledge West Virginia DAQ is eager to complete the modification application, Region 3 believes that more information is needed for a complete response. Additionally, during the July 25, 2024 meeting between WVDAQ and Region 3, WVDAQ indicated that the permit application was incomplete and that the regulatory clock had not started yet and WVDAQ did not provide a deadline during the meeting or initial request for regulatory interpretation sent to Region 3's Air and Radiation Division on March 6, 2023.

Steve Ott of my staff will be following up with a meeting invitation to further discuss the status of EPA's regulatory interpretation.

Sincerely,

KAREN
MELVIN

Digitally signed by
KAREN MELVIN
Date: 2024.11.04
07:25:00 -0500

Karen Melvin, Director
Enforcement and Compliance Assurance Division

CC:

Penny Lassiter, EPA SPPD, lassiter.penny@epa.gov

Cristina Fernandez, EPA Region 3, Fernandez.Cristina@epa.gov

Marycate Opila, EPA Region 3, Opila.Marycate@epa.gov

Gwendolyn Supplee, EPA Region 3, Supplee.Gwendolyn@epa.gov

Diana Felix, EPA OAQPS, Felix.Diana@epa.gov

Andrew Earley, Fair Shake Environmental Legal Services, aearley@fairshake-els.org

Frank Rocchio, Ohio Valley Environmental Advocates, frank.rocchio@ovesadvocates.org

Bernard Brown, Empire Green Generation, bbrown@empirede.com

Farley Wood, Empire Green Generation, fwood@empirede.com

Joseph Kessler, WVDAQ, Joseph.h.kessler@wv.gov

Ed Andrews, WVDAQ, Edward.s.Andrews@wv.gov

Kristen Hall, EPA Region 3, hall.kristen@epa.gov

Steve Ott, EPA Region 3, ott.steven@epa.gov

Fair Shake It to R3 10/30/2024

Tuesday, January 21, 2025 7:50 AM



Andrews, Edward S <edward.s.andrews@wv.gov>

Fwd: FW: Empire Green Generation in Follansbee, WV and WVDEP's Regulatory Interpretation Request

1 message

Kessler, Joseph R <joseph.r.kessler@wv.gov>
To: Edward S Andrews <edward.s.andrews@wv.gov>

Wed, Oct 30, 2024 at 9:59 AM

----- Forwarded message -----

From: **Supplee, Gwendolyn** <Supplee.Gwendolyn@epa.gov>

Date: Wed, Oct 30, 2024 at 9:06 AM

Subject: FW: Empire Green Generation in Follansbee, WV and WVDEP's Regulatory Interpretation Request

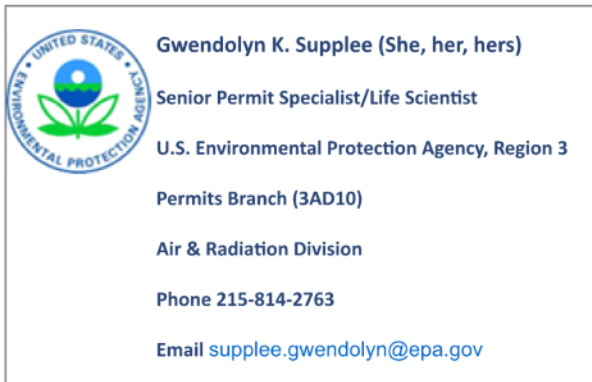
To: Kessler, Joseph R <joseph.r.kessler@wv.gov>

Hi Joe –

FYI – you may have already received this from Laura, but sending just in case.

Thanks,

-gwen



From: Andrew Earley <aeearley@fairshake-els.org>
Sent: Wednesday, October 30, 2024 8:47 AM
To: Fernandez, Cristina (she/her/hers) <Fernandez.Cristina@epa.gov>
Cc: Megan Hunter <mhunter@earthjustice.org>; OVE Advocates <oveadvocates@gmail.com>; Lassiter, Penny <Lassiter.Penny@epa.gov>; Hall, Kristen <hall.kristen@epa.gov>; Opila, MaryCate <Opila.MaryCate@epa.gov>; Ott, Steven <Ott.Steven@epa.gov>; laura.m.crowder@wv.gov; Supplee, Gwendolyn <Supplee.Gwendolyn@epa.gov>
Subject: Empire Green Generation in Follansbee, WV and WVDEP's Regulatory Interpretation Request

Caution: This email originated from outside EPA, please exercise additional caution when deciding whether to open attachments or click on provided links.

Ms. Fernandez:

Please see attached a letter addressing Empire Green Generation's proposed facility in Follansbee, WV, following our meeting on September 17, 2024. Thank you for your time and attention to this matter. Don't hesitate to reach out if we can be helpful.

Best,

Andrew Earley

WV Staff Attorney

Fair Shake Environmental Legal Services

232 Capitol Street, Ste. 14

[Charleston, WV 25301](https://www.fairshake-els.org)

aeearley@fairshake-els.org

www.fairshake-els.org

234-255-5397

This e-mail (and any attachments hereto) is intended only for use by the addressee(s) named herein and may contain legally privileged and/or confidential information. If you are not the intended recipient of this e-mail, you are hereby notified that any dissemination, distribution or copying of this e-mail, and any attachments hereto, is strictly prohibited. If you have received this e-mail in error, please (1) notify me by replying to this message; (2) permanently delete the original and any electronic copies of this e-mail and any attachments; and (3) destroy any hard copies of the same. Although this e-mail is not intended to contain any virus or defect, you are responsible for ensuring that no virus or defect exists that may affect your computer. The sender disclaims any responsibility for any loss or damages arising from any virus or defect associated with this e-mail. Thank you.

 Letter to EPA re WVDEP Reg Int Req for Empire.pdf
352K



Letter to
EPA re W...



October 30, 2024

Cristina Fernandez
Director, Air and Radiation Division
Region 3, EPA
Fernandez.Cristina@epa.gov

Re: Empire Green Generation Follansbee, West Virginia, WVDEP Regulatory Interpretation Request

Ms. Fernandez:

Thank you for taking the time to meet with Ohio Valley Environmental Advocates and us on September 17, 2024, to discuss West Virginia's regulatory interpretation request regarding the applicability of Section 129 of the Clean Air Act ("CAA") to Empire Green Generation's proposed plastic pyrolysis and combustion facility in Follansbee, West Virginia ("Empire" or "EGG"). We appreciate that EPA offices are looking closely at this facility.

By all appearances, Empire proposes to build a plastic waste incinerator masquerading as a recycling facility to evade CAA Section 129 protections. EPA should look carefully at Empire's claim that it will be producing hydrochloric acid ("HCl") and char for sale, as well as its claims regarding the origins and handling of its plastic feedstock.

This letter provides additional information clarifying why the plastic Empire proposes to accept constitutes solid waste under EPA's Non-Hazardous Secondary Material ("NHSM") Rule. It also reiterates the concern raised on our call that the liquids and solids leaving Empire's pyrolysis trains for combustion in the vitrifiers should be evaluated to determine whether they are hazardous waste requiring additional permitting under RCRA.

I. Facility Background and WVDEP's Regulatory Interpretation Request

Empire has applied to WVDEP for a permit modification to build a facility that would accept plastic waste from other unidentified entities. Empire's application states

that it would feed the plastic into pyrolysis units—resulting in some amount of syngas, HCl, and char—and burn the resultant solids.

In March 2023, WVDOP submitted a regulatory interpretation request to Region 3 posing the following questions:

1. Should EGG's plastic feedstock be viewed as waste or non-waste?
2. If the plastic feedstock is determined to be fuel or ingredients in accordance with 40 CFR 241.3, then would the EGG pyrolysis trains be exempt from Section 129 of the CAA (e.g. subject to Subpart AAAAA, CCCC, or Subpart EEEE)?
3. EGG plans to route the ash and char stream to the vitrifier (process heater) to be coditized into products of combustion. Would the vitrifier be subject to Subpart CCCC or EEEE?
4. Would the vitrifiers be considered an "energy recovery unit" or a "commercial and industrial solid waste incineration unit" under Subpart CCCC?

As explained below, Empire's "plastic feedstock" meets the definition of a waste, triggering Section 129 requirements for the pyrolysis trains. In addition, EPA should evaluate whether the solids entering the vitrifiers are hazardous wastes triggering additional permitting requirements under RCRA.

II. Empire's "plastic feedstock" is waste

To determine whether the plastic Empire would receive constitutes a waste, we look to 40 CFR 241.3, which establishes the following criteria for a NHSM to be a non-waste when combusted: 1) the NHSM is maintained within the control of the generator and meets the legitimacy criteria in 40 CFR 241.3(d); or the discarded NHSM has undergone sufficient processing and meets the legitimacy criteria in 40 CFR 241.3(d).

The plastics Empire would combust are waste because they (1) are not managed within the control of the generator, and (2) are not sufficiently processed. In addition, the plastics do not meet the legitimacy criteria of the NHSM Rule.

A. The plastic Empire proposes to burn is not managed within the control of the generator

EPA regulations define "within control of the generator," to mean "the non-hazardous secondary material is generated and burned in combustion units at the generating facility; or that the such material is generated and burned in combustion units at different facilities, provided the facility combusting the non-hazardous secondary material is controlled by the generator; or both the generating facility and the

facility combusting the non-hazardous secondary material are under the control of the same person as defined in this section.”¹

Empire readily acknowledges that it would receive plastic waste from third parties.² Further, Empire states it is “in discussion with several entities regarding their waste plastic disposal needs, and willingness to participate in our waste recycling efforts.”³ Empire has not even determined where it will be getting its plastic, but it is clear it will be from third parties. Therefore, Empire cannot assert that the plastic it would burn will be under its control when generated, and Empire cannot meet the first prong of the NHSM Rule to obtain non-waste status for its plastic feedstock.

B. The plastic Empire proposes to burn has not been sufficiently processed.

Empire also cannot meet the second prong of the NHSM Rule because the plastic will not be sufficiently processed prior to entering the pyrolysis trains.⁴ “Processing” means any operations that transform discarded NHSM into a non-waste fuel or non-waste ingredient product.⁵ Processing “includes, but is not limited to, operations necessary to remove or destroy contaminants; significantly improve the fuel characteristics of the material, e.g., sizing or drying the material in combination with other operations; chemically improve the as-fired energy content; or improve the ingredient characteristics.”⁶ Importantly, “processing” does not include “[m]inimal operations that result only in modifying the size of the material by shredding.”⁷

In its self-determination, Empire does not address “processing;” however, Empire does address this question in its response to EPA’s Section 114 request. When asked “[h]ow is the plastic processed prior to being delivered to EGG?” Empire responds, “processing consists of sizing and consolidation of waste stream.”⁸ As expressly stated in 40 CFR 241.2, operations that only result in modifying the size of the material do not

¹ See 40 CFR 241.2(b).

² See Empire Green Generations Response to Request for Information under Section 114(a) of the Clean Air Act (July 31, 2024) (“Empire’s Section 114 Response”) at 7, available at <https://dep.ny.gov/dep/permitting/Documents/EmpireGreenGenerations-Followup/Empire%20Green%20Gen%20Reply%20to%20USEPA%20114%20Ct+%20EFT%205-30-24.pdf>.
³ Id.

⁴ See 40 CFR 241.2(b)(4).

⁵ See 40 CFR 241.2.

⁶ Id.

⁷ Id.

⁸ See Empire’s Section 114 Response at 5.

constitute processing under the NHSM rule. Thus, when the plastic waste Empire receives enters the pyrolysis trains, it has not been “sufficiently processed” to be exempt from treatment as a solid waste under the NHSM Rule.¹⁰

C. Empire cannot show the plastic satisfies all three legitimacy criteria.

Because the discarded plastic Empire would burn is not under its control when it is generated, and that discarded plastic is not sufficiently processed prior to entering Empire’s pyrolysis trains, the NHSM Rule exemption does not apply, and there is no need for EPA to assess whether the plastic meets the legitimacy criteria in 40 CFR 241.3(d). Nonetheless, it is evident that the plastics do not meet the legitimacy criteria.

For NHSM used as a fuel in a combustion unit, the legitimacy criteria requires that the NHSM (1) “be managed as a valuable commodity,” (2) “have a meaningful heating value and be used as a fuel in a combustion unit that recovers energy,” and (3) “contain contaminants or groups of contaminants at levels comparable in concentration to or lower than those in traditional fuel(s) that the combustion unit is designed to burn.”¹¹ For NHSM used as an ingredient in a combustion unit, the legitimacy criteria requires that the NHSM (1) “be managed as a valuable commodity,” (2) “provide a useful contribution to the production or manufacturing process,” (3) “be used to produce a valuable product or intermediate,” and (4) “result in products that contain contaminants at levels that are comparable in concentration to or lower than those found in traditional products that are manufactured without the [NHSM].”¹² The NHSM must meet all criteria to obtain the exemption.

The plastics Empire proposes to combust do not contain levels of contaminants comparable to or lower than the traditional fuel the unit is designed to burn. Clear guidance exists on how to determine whether a fuel is comparable.¹³ An applicant should provide the total concentrations of each contaminant after processing but before

¹⁰ In its response to EPA’s Section 114 request, Empire claims the pyrolysis is “processing” as defined in 40 CFR 241.2. See Empire’s Section 114 Response at 5. This assertion ignores that pyrolysis units are subject to regulation under Section 129 of the Clean Air Act as combustion units. See e.g. 40 CFR 63.2977. Thus, even if Empire’s pyrolysis unit constituted the “processing” necessary for the facility to obtain the NHSM Rule exemption, that very “processing” would itself require a Section 129 permit.

¹¹ 40 CFR 241.3(d)(1).

¹² 40 CFR 241.3(d)(2).

¹³ See EPA Non-Hazardous Secondary Material (NHSM) Regulations 40 CFR Part 241: Guide for Waste/Non-Waste Determinations (May 2021), available at https://www.epa.gov/assess/default.htm#2021-05/documents/nhsm_guide_5_20_2021.pdf [hereinafter “Guidance”].

combustion.¹¹ Empire has not done this. Instead, Empire states the syngas it will produce is “derived from the same base material as the traditional fuel” and makes the baseless assertion that its product is “comparable or lower than traditional fuel for contaminants.”¹²

In fact, Empire’s mixed waste stream can be expected to contain additives and contaminants higher than a traditional fuel. Plastics are made by combining fossil fuels with synthetic chemicals—more than 4,200 of these chemicals are known chemicals of concern, meaning they are persistent, bioaccumulative, mobile, and/or toxic, and can be released into air during incineration.¹³ Empire’s operations as described suggest a high potential for the release of hydrogen chloride, cadmium, PFAS and other plasticizers, chlorinated and brominated flame retardants, benzene, formaldehyde, mercury, arsenic, dioxins, and brominated dioxins (to name a few).¹⁴ Exposure to this pollution is known to increase the risk of cancer, birth defects, reproductive system damage, developmental issues, cardiovascular problems, respiratory impairment, hormonal irregularities, and neurological problems.¹⁵

Thus, Empire cannot meet the legitimacy criterion requiring its feedstock to “contain contaminants or groups of contaminants at levels comparable in concentration to or lower than those in traditional fuel.”

In addition, Empire has not demonstrated, or even believably alleged, that the plastics will “provide a useful contribution to the production or manufacturing process” or “be used to produce a valuable product or intermediate.” EPA should look closely at Empire’s proposal, which seems to be for a solid waste incinerator that would result in some HCl and char—both of questionable market value—and syngas that Empire would use solely to power its incinerator. From all appearances, Empire

¹¹ *Id.*

¹² Empire’s Section 114 Response at 5.

¹³ Wagner, M., & Monclús, L. (2024). *State-of-the-science on plastic chemicals: identifying and addressing chemicals and polymers of concern in plastic* at 3, 15. *PlastChem*, available at <https://plastchem-project.org/>

¹⁴ See Empire’s Section 114 Response at 9; see also Environmental Protection Agency. (2023). *Rulemaking Docket: Significant New Use Rules on Certain Chemical Substances*. [Regulations.gov](https://www.regulations.gov/docket/EPA-HCL-CHEM-2023-0242).

¹⁵ <https://www.regulations.gov/docket/EPA-HCL-CHEM-2023-0242>; see also Singla, V. (2022). *Issue brief: Recycling Lies*. <https://www.nrdc.org/sites/default/files/chemical-recycling-greenwashing-incineration-1b.pdf> at 5.

¹⁶ Landrigan, P. J., et al. (2023). *The Minderoo-Monaco Committee on plastic and Human Health*. *Annals of Global Health*, 59(1), 23. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10038112/>

proposes to run a plastic waste incinerator, but asks EPA to avoid Section 129 application by pointing to waste products that have no genuine market or value.

Accordingly, the plastic Empire would burn cannot meet the legitimacy criteria in the NHSM Rule.

III. The Solids and Liquids Exiting the Pyrolysis Process, that Empire Proposes to Burn, Are Likely Hazardous Wastes

Thus far, this letter has focused on why the plastics Empire would feed into the pyrolysis trains are “waste” triggering Section 129 requirements. In addition, the solids leaving the pyrolysis trains, that Empire generates and then proposes to burn, should be evaluated to assess whether they are hazardous wastes requiring RCRA pre-construction permits. As explained above, plastics contain numerous chemicals of concern that are hazardous to human health and the environment.¹⁸ At least some of these chemicals are likely to be present in the solids resulting from the pyrolysis process.¹⁹ Thus, there is serious concern that Empire is proposing to build a hazardous waste incinerator, and EPA should ensure Empire adheres to all relevant RCRA requirements, including pre-construction permitting.

Conclusion

We appreciate EPA’s close attention to W/DEP’s regulatory interpretation request. As explained above, Empire is proposing to build a waste incinerator. We ask that EPA respond accordingly and issue a determination finding that the plastic Empire receives constitutes waste, thus the facility must be regulated under Section 129 of the CAA. Given the nature of the facility’s feedstock, we further ask that EPA evaluate whether Empire will be generating and incinerating hazardous waste and employ all appropriate regulations for the protection of the community’s health and safety.

Sincerely,

¹⁸ See Wagner, M., & Monahan, L. (2014) *supra* note 17 at 35, 40, 43.

¹⁹ See Striglia, V. (2022) *supra* note 15 at 5 (explaining that one “chemical recycling” facility alone, Agilya, generated nearly 300,000 pounds of hazardous waste in 2019 alone. “This waste consisted primarily of benzene, along with other toxics such as lead, cadmium, and chromium.”).

Megan M. Hunter, Esq.
Earthjustice
311 South Wacker Drive, Suite 1400
Chicago, IL 60606
mhunter@earthjustice.org
312-800-8331

Andrew Earley, Esq.
Fair Shake Environmental Legal Services
232 Capitol Street, Ste. 14
Charleston, WV 25301
aeasley@fairshake-els.org
234-255-5397
*Counsel for Ohio Valley Environmental
Advocates*

CC: Kristen Hall, Chief, Air Section, Compliance and Enforcement, USEPA Region 3,
hall.kristen@epa.gov
Penny Lassiter, Director of Sector Policies and Programs Division, USEPA,
Lassiter.Penny@epa.gov
Laura Crowder, Director, Division of Air Quality, WVDEP,
laura.m.crowder@wv.gov
Marycate Opila, Acting Associate Director, Branch Chief, Permits Branch,
USEPA Region 3, Opila.Marycate@epa.gov
Gwendolyn Supplee, Permitting Support, USEPA Region 3,
Supplee.Gwendolyn@epa.gov
Steven Ott, Air Inspector, USEPA Region 3, Ott.Steven@epa.gov
Frank A. Koehn III, President, Ohio Valley Environmental Advocates, Inc.,
oveadvocates@gmail.com

Letter to R3 Re: RIR 10/23/2024

Tuesday, January 21, 2025 7:48 AM



Andrews, Edward S <edward.s.andrews@wv.gov>

WV Regulatory Interpretation Request re Empire Green Generation

1 message

Crowder, Laura M <laura.m.crowder@wv.gov>

Wed, Oct 23, 2024 at 12:18 PM

To: Lassiter.Penny@epa.gov, "Hall, Kristen" <hall.kristen@epa.gov>

Cc: "Fernandez, Cristina" <Fernandez.Cristina@epa.gov>, "Opila, MaryCate" <Opila.MaryCate@epa.gov>, "supplee.gwendolyn@epa.gov" <supplee.gwendolyn@epa.gov>, Felix.Diana@epa.gov, ott.steven@epa.gov, "aearley@fairshake-els.org" <aearley@fairshake-els.org>, "frank.rocchio@oveadvocates.org" <frank.rocchio@oveadvocates.org>, "Bernard Brown, REP" <bbrown@empirede.com>, "Farley R. Wood, P.E." <fwood@empirede.com>, Joseph R Kessler <Joseph.R.Kessler@wv.gov>, "Andrews, Edward S" <edward.s.andrews@wv.gov>

Ms. Lassiter and Ms. Hall,

Attached please find a letter detailing WV DAQ's request that the US EPA finalize the Regulatory Information Request which was sent to EPA in early March, 2024, regarding Empire Green Generation.

Thank you for consideration of this matter and please direct any further questions regarding the specifics of this request to Mr. Ed Andrews (the reviewing engineer) at (304) 926-0499 x41244 or Mr. Joe Kessler, NSR Program Manager, at (304) 926-0499 x41271.

Sincerely,

Laura M. Crowder

Director

WV Division of Air Quality

601 57th Street, SE

Charleston, WV 25304

Phone: 304-414-1253

Email: Laura.M.Crowder@wv.gov



WV EPA Reg Interpretation Req re Empire Green Generation 2024-10-23.pdf

392K



WV EPA
Reg Inter...



west virginia department of environmental protection

Division of Air Quality
601 57th Street SE
Charleston, WV, 25304
304-926-0699

Harold D. Ward, Cabinet Secretary
dep@wv.gov

October 23, 2024

Kristin Hall, Chief, Air Section,
USEPA Region III, Enforcement & Compliance Division

Penny Lawiter, Director of Sector Policies and Programs Division
(SPPD) USEPA

RE: Regulatory Interpretation Request
Empire Green Generation LLC
Facility ID: 009-00141
Permit No. R13-3555A
Follansbee, WV

Dear Ms. Hall and Ms. Lawiter:

On December 5, 2023, the West Virginia Division of Air Quality (WVDAQ) received a permit application (R13-3555A) from Empire Green Generation (EGG) proposing to modify their existing permit to replace the use of medical waste with plastic as a feedstock in a pyrolytic conversion process. On March 6, 2024, the WVDAQ sent a letter to Christina Fernandez, Director, USEPA, Region III Air and Radiation Division, requesting a regulatory interpretation regarding whether all streams that exit the pyrolysis process need to be evaluated under 40 CFR 241 to determine applicability under 40 CFR 60, Subpart CCCC (see the previously submitted letter and other relevant documents for full details on the request and the process in question). Since that letter was sent, there have been multiple interactions between the WVDAQ, USEPA, and EGG as detailed in the following list:

- 4/30/2024 - USEPA Region III requested a 40 CFR 241 Determination concerning the definition of relevant material as waste/non-waste;
- 5/3/2024 - EGG provided the WVDAQ information concerning the 40 CFR 241 Determination.

Promoting a healthy environment.

- 5/7/2024 - WVDAQ forwarded EGG's 40 CFR.241 Determination to USEPA Region III;
- 6/26/2024 - Virtual Meeting regarding EGG's Regulatory Request between WVDAQ and USEPA Region III;
- 7/3/2024 - USEPA Region III requests the contact information of EGG's Responsible Official;
- 7/3/2024 - DAQ provided the contact information of EGG's Responsible Official to USEPA Region III;
- 7/11/2024 - USEPA Region III provided the WVDAQ a draft list of questions for a Section 114(a) Request for Information (RFI) USEPA was intending to submit to EGG;
- 7/18/2024 - WVDAQ provided USEPA Region III a list of comments/suggestions regarding the draft list of questions;
- 8/1/2024 - USEPA Region III sent EGG a Section 114(a) RFI;
- 8/30/2024 - EGG provides a response to USEPA Region III's Section 114(a) RFI; and
- 9/17/2024 - EPA hosted a virtual Listening Session with interested parties concerning the proposed modification.

As can be seen from the list above, WVDAQ and EGG have been diligent and timely in responding to all requests from USEPA concerning the regulatory request first made in early March of 2024. The WVDAQ now believes USEPA has all relevant information to make a determination as requested in the March letter and strongly requests that USEPA conclude its review of this matter and finalize the determination as soon as possible. The WVDAQ believes that further delay could, with respect to R13-3555A, result in both an unfair burden to the applicant and an impediment to the WVDAQ in carrying out its policy mandate - as given under WV State Code [§21-5-1] - to provide "...for the timely processing of permit applications. ..." Thank you for consideration of this matter and please direct any further questions regarding the specifics of this request to Mr. Ed Andrews (the reviewing engineer) at (304) 926-0499 x41244 or Mr. Joe Kessler, NSR Program Manager, at (304) 926-0499 x41271.

Sincerely,

Laura M.
Crowder

Laura M. Crowder
Director



cc: Cristina Fernandez, Director, EPA Region III, Air and Radiation Division
Fernandez.Cristina@epa.gov
MaryCate Opila, Acting Associate Director, Branch Chief, Permits Branch, USEPA
Region III, Opila.Marycate@epa.gov
Gwendolyn Supplee, Permitting Support, USEPA Region III
Supplee.Gwendolyn@epa.gov
Diana Felix, OAQPS, USEPA
Felix.Diana@epa.gov
Steven Ott, Air Inspector, USEPA Region III,
ott.Steven@epa.gov
Andrew Ezley, Esq., Fair Shake Environmental Legal Services
aezley@fairshake-als.org
Frank Rocchio, President, Ohio Valley Environmental Advocates, Inc
frank.rocchio@oveadvocates.org
Bernard Brown, Chief Operating Officer, Empire Green Generation, LLC
bbrown@empireda.com
Farley Wood, P.E., Vice-President of Engineering, Empire Green Generation, LLC
fwood@empireda.com
Joseph Kessler, NER Program Manager, WVDAQ
Joseph.r.kessler@wv.gov
Ed Andrews, Engineer, WVDAQ
Edward.s.Andrews@wv.gov

Response to 114 Request 8/30/2024

Tuesday, January 21, 2025 7:45 AM



Andrews, Edward S <edward.s.andrews@wv.gov>

Fwd: Empire Green Generation Section 114 Request

1 message

Crowder, Laura M <laura.m.crowder@wv.gov>

Fri, Aug 30, 2024 at 1:22 PM

To: Beverly D McKeone <beverly.d.mckeone@wv.gov>, "Andrews, Edward S" <edward.s.andrews@wv.gov>

----- Forwarded message -----

From: **Bernard Brown, REP** <bbrown@empirede.com>

Date: Fri, Aug 30, 2024 at 11:53 AM

Subject: RE: Empire Green Generation Section 114 Request

To: Matlin, Martin <Matlin.Martin@epa.gov>

CC: jesse.d.adkins@wv.gov <jesse.d.adkins@wv.gov>, laura.m.crowder@wv.gov <laura.m.crowder@wv.gov>, Ott, Steven <Ott.Steven@epa.gov>, Hall, Kristen <hall.kristen@epa.gov>, Farley R. Wood, P.E. <fwood@empirede.com>

Mr. Matlin and Mr. Ott,

Please find our attached response. If you have any questions regarding our response, please feel to contact myself or Farley Wood.

Sincerely,



Bernard Brown, REP
Chief Operating Officer

Main Office: (304) 935-5851
Mobile: 916-544-1900
[Call Me On Teams!](#)

bbrown@empirede.com
www.empirediversifiedenergy.com

From: Matlin, Martin <Matlin.Martin@epa.gov>
Sent: Thursday, August 1, 2024 10:58 AM

To: Bernard Brown, REP <bbrown@empirede.com>
Cc: jesse.d.adkins@wv.gov; laura.m.crowder@wv.gov; Ott, Steven <Ott.Steven@epa.gov>; Hall, Kristen <hall.kristen@epa.gov>; Farley R. Wood, P.E. <fwood@empirede.com>
Subject: RE: Empire Green Generation Section 114 Request

Thank you for the confirmation, Mr. Brown.

Martin Matlin, Acting Section Chief
Air Section (3ED21)
U.S. EPA Region III
Four Penn Center – [1600 John F. Kennedy Blvd.](#)
(215) 814-5789

From: Bernard Brown, REP <bbrown@empirede.com>
Sent: Thursday, August 01, 2024 1:56 PM
To: Matlin, Martin <Matlin.Martin@epa.gov>
Cc: jesse.d.adkins@wv.gov; laura.m.crowder@wv.gov; Ott, Steven <Ott.Steven@epa.gov>; Hall, Kristen <hall.kristen@epa.gov>; Farley R. Wood, P.E. <fwood@empirede.com>
Subject: RE: Empire Green Generation Section 114 Request

Caution: This email originated from outside EPA, please exercise additional caution when deciding whether to open attachments or click on provided links.

We are in receipt of this document and will respond accordingly.

Respectfully,



Bernard Brown, REP
Chief Operating Officer

Main Office: (304) 935-5851
Mobile: 916-544-1900
Call Me On Teams!

bbrown@empirede.com
www.empirediversifiedenergy.com

From: Matlin, Martin <Matlin.Martin@epa.gov>
Sent: Thursday, August 1, 2024 10:51 AM
To: Bernard Brown, REP <bbrown@empirede.com>
Cc: jesse.d.adkins@wv.gov; laura.m.crowder@wv.gov; Ott, Steven <Ott.Steven@epa.gov>; Hall, Kristen <hall.kristen@epa.gov>
Subject: Empire Green Generation Section 114 Request

You don't often get email from matlin.martin@epa.gov. [Learn why this is important](#)

Dear Mr. Brown,


In the attached document, EPA is requesting information under Section 114 of the Clean Air Act. The response is due electronically no later than **September 2, 2024**. Detailed submission instructions can be found in the attached document. Should you have any questions please reach out to Steve Ott, Enforcement and Compliance Assurance Division, at (215) 814-2267 or ott.steven@epa.gov.

Thank you,
Martin Matlin

Martin Matlin, Acting Section Chief
Air Section (3ED21)
U.S. EPA Region III
Four Penn Center – [1600 John F. Kennedy Blvd.](#)
(215) 814-5789

External Email. Please make sure you trust this sender before clicking on any links or opening attachments. [Learn why this is important](#)

External Email. Please make sure you trust this sender before clicking on any links or opening attachments. [Learn why this is important](#)

 **Empire Green Gen Rely to USEPA 114 Ltr RFI 8-30-24.pdf**
3094K



Empire
Green Ge...



REGION 3
PHILADELPHIA, PA 19103

July 31, 2024

VIA ELECTRONIC MAIL
RETURN RECEIPT REQUESTED

Bernard Brown
Chief Technology Officer
Empire Green Generation, LLC
801 Koppers Rd
Follensbee, WV 26037
bbrown@empirede.com

Request for Information under § 114(a) of the Clean Air Act, 42 U.S.C. § 7414(a)

Dear Mr. Brown:

The United States Environmental Protection Agency (EPA), Region 3 hereby requires Empire Green Generation, LLC (Empire Green Generation or the Facility), located at 801 Koppers Rd, Follensbee, WV to provide certain information as part of an EPA investigation to determine the Facility's compliance with applicable standards and requirements under the federal Clean Air Act, 42 U.S.C. §7401 et seq., (CAA or the Act).

Pursuant to Section 114(a) of the CAA, 42 U.S.C. §7414(a), the Administrator of EPA is authorized to require any person who owns and/or operates an emission source to establish and maintain records, make reports, and provide such information as he/she may reasonably require for the purposes of determining whether such person is in violation of any provision of the Act. In order for EPA to determine whether a violation has occurred, you are hereby required, pursuant to Section 114(a) of the CAA, to provide responses to the following questions and requests for information regarding your facility. Therefore, you are hereby required to respond to questions and requests for information in Appendix B (see Appendix A for instructions and definitions). All information submitted in response to this request must be certified as true, correct, accurate, and complete by an individual with sufficient knowledge and authority to make such representations on behalf of Empire Green Generation. On the last page of your response(s) to this questionnaire, please include the certification contained in Appendix C.

The EPA issues this Request for Information under Section 114(a) of the CAA, 42 U.S.C. § 7414(a). Under Section 114(a), Part A – Air Quality and Emission Limitations, 42 U.S.C. §§ 7414 – Recordkeeping, Inspection, Monitoring, and Entry, the Administrator of the EPA may require any person who is subject

to the CAA to perform tests and provide information necessary to determine whether the person is acting or has acted in compliance with the CAA and the regulations promulgated thereunder. The Administrator has delegated this authority to the undersigned Division Director, of the Enforcement and Compliance Assurance Division, in EPA Region 3.

In order for the EPA to determine whether a violation has occurred, you are hereby required, pursuant to Section 114(a) of the CAA, to provide responses to the questions and requests for information in Appendix B to this letter. Failure to provide the required information may result in the issuance of an Order requiring compliance with the requirements, or the initiation of a civil action pursuant to Section 113(b) of the Act, 42 U.S.C. §7413(b). In addition, Section 113(c)(2) of the Act provides that any person who knowingly makes any false statement, representation, or certification in, or omits material information from any document required pursuant to this Act shall upon conviction be punished by a fine pursuant to Title 18 of the United States Code, or by imprisonment for not more than two years, or both. The information you provide may be used by EPA in administrative, civil, and criminal proceedings.

EPA requires Empire Green Generation to submit the requested information electronically no later than thirty (30) calendar days from the date of your receipt of this letter. You may submit your response using one of the following options: A) via email to ott.steven@epa.gov or B) by requesting a link from ott.steven@epa.gov for a secure EPA file transfer site where you may upload your response. Please note, the EPA cannot receive compressed files (.zip) via email. If you wish to submit compressed files, please select option B above. If you prefer not to send documents that you have claimed as confidential business information (CBI) to the EPA by email, please send them as electronic files through the EPA's secure file transfer site (option B). Prior to submitting your response, please send an email to ott.steven@epa.gov indicating which option you have selected to submit your response to this request.

Failure to provide all the requested information, and in the format requested, may result in additional inquiries, and may result in the initiation of a civil action pursuant to Section 205(b) of the CAA, 42 U.S.C. § 7524(b). It is important that your responses be clear, accurate, organized, and complete. We will regard any submitted information that is misleading, false, incomplete, or submitted without regard to its accuracy as a violation of the CAA and/or criminal statutes.

You must submit all requested information under an authorized signature with the following certification (provided in Appendix C):

"I certify under penalty of law that I have examined and am familiar with the information in the enclosed documents, including all attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are, to the best of my knowledge and belief, true and complete. I am aware that there are significant penalties for knowingly submitting false statements and information, including the possibility of fines or imprisonment pursuant to Section 113(c)(2) of the Clean Air Act, 42 U.S.C. § 7413(c)(2), and 18 U.S.C. §§ 1001 and 1341."

Finally, you are entitled to assert a business confidentiality claim covering all or part of the information you provide in response to this Request for Information, in accordance with the procedures described in the Confidentiality of Business Information ("CBI") regulations, 40 C.F.R. Part 2, Subpart B. However, no CBI claim may be made with respect to emissions data as defined at 40 C.F.R. § 2.304(a)(2). You must specify the page, paragraph, and sentence when identifying the information subject to your CBI claim. Appendix D of this Request for Information specifies the assertion and substantiation requirements for business confidentiality claims. The EPA may, without further notice, provide the public with any information not subject to a CBI claim.

Please submit the requested information electronically within 30 calendar days of your receipt of this letter. You may do so via email to Steve Ott, Enforcement and Compliance Assurance Division, U.S. Environmental Protection Agency Region 3, at ott.steven@epa.gov. Please note that the EPA email server will allow attachments up to 20 MB. Alternatively, you may want to provide documents in response to this Request for Information by way of a secure file sharing site. Please let us know how you want to proceed.

This request is not subject to the Paperwork Reduction Act, 44 U.S.C. § 3501 et seq., because it seeks the collection of information from specific individuals or entities as part of an administrative action or investigation.

If you have any questions regarding this information request, please contact Steve Ott, of the Enforcement and Compliance Assurance Division at (215) 814-2267 or ott.steven@epa.gov. Additionally, please visit the small business resources information sheet for assistance and information at <https://www.epa.gov/compliance/small-business-resources-information-sheet>.

Sincerely,

KAREN
MELVIN

Digitally signed by
KAREN MELVIN
DN: cn=KAREN MELVIN,
o=U.S. EPA

Karen Melvin
Director

Enforcement and Compliance Assurance Division

Enclosures:

- Appendix A: Instructions and Definitions
- Appendix B: Request for Information
- Appendix C: Statement of Certification
- Appendix D: Confidential Business Information

cc: Jesse Adkins, WVDEP, jesse.d.adkins@wv.gov
Laura Crowder, WVDEP, laura.m.crowder@wv.gov

Appendix A

INSTRUCTIONS AND DEFINITIONS

A. Instructions

1. Please provide a separate narrative response to each question and subpart of a question set forth in this Information Request. Please provide the requested non-narrative information in spreadsheet format, preferably in Excel.
2. Indicate on each document produced in response to this Information Request, or in some other reasonable manner, the number of the question to which it corresponds.
3. Provide as much information possible to completely answer each question. This includes all supporting documentation, such as performance test reports, inspection records, memorandums, facility records, etc. Failure to completely respond to any questions may increase the time necessary to determine compliance with all applicable regulations.
4. For each document provided in response to these questions, provide an accurate and legible copy, which can be used to determine completeness of this request. For any information submitted electronically, clearly label to which question(s) the data is responsive.
5. When a response is provided in the form of a number, specify the units of measure of the number in a precise manner.
6. Where documents or information necessary for a response are neither in your possession nor available to you, indicate in your response why such documents or information is not available or in your possession and identify any source that either possesses or is likely to possess such information.

B. Definitions

1. All terms used in the Information Request will have their ordinary meaning unless such terms are defined in the Act, 42 U.S.C. Section 7410 or 40 C.F.R. Part 60, Part 61, or Part 63. The terms "Facility" and "EGG" shall mean the Empire Green Generation, LLC facility, located at 801 Koppers Rd, Follensbee, WV.
2. EPA Region 3 includes the states of Maryland, Pennsylvania, Virginia, West Virginia, Delaware, and the District of Columbia.
3. Except for in question 4, processing shall maintain its ordinary meaning.

Appendix B

REQUEST FOR INFORMATION

1. Provide a plot plan or map of facility.
2. Provide a process diagram and corresponding description of the facility.
3. Identify what type(s) of materials EGG intends to process, and:
 - a. If plastic will be material processed, identify the percentage of each plastic type intended to be processed (i.e., HDPE, PVC, ABS, PET, etc).
 - b. What is the anticipated amount of plastic processed daily?
 - c. What is the maximum possible daily capacity of material? Provide calculations.
 - d. What are the caloric values of each plastic type being processed?
 - e. How is the plastic processed prior to being delivered to EGG?
 - f. Does EGG plan to process medical waste as permitted by the WVDOP under Permit R13-3333?
4. Does EGG consider pyrolysis to be "processing" as defined in 40 CFR 241.2? Provide supporting evidence.
5. For each pyrolysis unit provide the following:
 - a. Make/model of the pyrolysis unit.
 - b. Will there be batch processing or continuous processing of plastics?
6. What is the oxygen content inside of the pyrolysis unit during normal operations? Please use either ppm or percentage of air.
 - a. How will the oxygen content be controlled?
 - b. How will the oxygen content be monitored?
 - c. How will oxygen be purged during start-up operations?
7. Provide calculations for the conversion of plastic (tons) to hydrochloric acid (gallons, tons, and concentration).
 - a. Describe how, and where in the process, the hydrochloric acid will be separated from other gases in the process.
 - b. Will water be added to the produced hydrochloric acid to change the final volume or concentration?
 - c. If water is added, will it be sourced from well/municipal water or derived from the pyrolysis/combustion process?
 - d. Will a scrubber be used to remove any residual acid forming gas, prior to the generator sets? If so provide make, model, capacity, and what type of scrubbing media material will be used.

8. How will the generated hydrochloric acid be stored and offloaded (drums, truck, or rail)
 - a. Provide details regarding truck/rail transfers, if applicable, and how emissions will be controlled?
 - b. Does EGG currently have a buyer(s) for the produced hydrochloric acid?
 - i. What are the specifications required by the buyer(s) such as %Hydrochloric Acid, purity?
 - ii. How will EGG determine if the buyer specification is met or not, please identify the analytic method(s) and type of instruments to be used?
 - iii. Who is/are the buyer(s)?
 - iv. What will EGG do with any off-spec HCL?

9. For each product of pyrolysis (oils, solids, tars, and syngas) provide a safety data sheet.
 - a. What is the expected chlorine content, by weight and percentage, found in solid and liquid streams.
 - b. Provide calculations for the conversion of plastic (tons) to each product, include expected yield of oil, solids, tars, and syngas.

10. For any syngas storage onsite provide:
 - a. Volume of storage vessel(s)
 - b. Type of storage vessel i.e. floating roof tank, totes, etc.
 - c. Pressure the gas will be stored at.
 - d. If stored as pressurized gas, where does the pressure relief device for the storage vessel vent to?

11. Provide waste determination(s) from each company/entity in which EGG intends to obtain plastics to process.
 - a. If EGG and its recycling partners are mutually held by a parent company/entity, describe the relation.

12. Pursuant to 40 CFR part 241 provide a non-hazardous secondary materials determination for all plastics intended to be processed.

13. Pursuant to 40 CFR part 241 provide a non-hazardous secondary materials determination for all products of pyrolysis prior to gas cleanup.

14. Pursuant to 40 CFR part 241 provide a non-hazardous secondary materials determination for all products of pyrolysis prior to gas cleanup.

15. For each generator set, provide the following information in an excel sheet:
- Make/model
 - Make/model of the engine.
 - Serial No of each engine.
 - Type of engines.
 - Fuel type of each engine.
 - Power output rating of the engine.
 - Make/model and capacity of electric generators.
 - Will generated electricity be used onsite or sold to the local electrical grid?
16. For each vitrifier (process heater), provide the following:
- Internal and external dimensions in feet/inches
 - Describe the process by which the vitrifier will be used and how the generated heat will interact with the process material.
 - Make/Model/Heat input Rating of the burners for each vitrifier, also please specify heat input rating by type of fuel.
 - Please note or identify any other streams entering the vitrifier?
 - What streams are leaving the vitrifier? Please describe the make-up of these streams and where any of these streams are considered and/or to be a waste.
17. For the dryer, provide the following:
- Source of the heat energy for the dryer.
 - Make/model/fuel type/heat input capacity of burner(s) if equipped.
18. For the gas cleaning trains, please provide the following:
- Please describe how the different streams (tars, oils, hydrochloric acid, solids (char), and synthetic gas) are going to be separated using the gas cleaning trains/equipment.
 - Please identify the type(s) of equipment going to be used in the gas cleaning trains.
 - Please identify the operating conditions needed to perform the desired separations.
 - Please identify any additional inlet streams that are necessary to perform the desired separations.
 - Please identify all outlet streams to include any wastewater.

Appendix C

STATEMENT OF CERTIFICATION

This Certification is for signature by the president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or another executive with authority to perform similar policy or decision-making functions of the corporation.

Empire Green Generation is submitting the enclosed documents in response to the U.S. Environmental Protection Agency's ("EPA") request for information, issued pursuant to Section 114(a) of the Clean Air Act, to determine whether the facility is in compliance with the Clean Air Act.

I certify that I am fully authorized by Empire Green Generation to provide the above information on its behalf to EPA.

I certify under penalty of law that I have personally examined and am familiar with the statements and information submitted in the enclosed documents, including all attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are, to the best of my knowledge and belief, true, correct, accurate and complete. I am aware that there are significant penalties for knowingly submitting false statements and information, including the possibility of fines or imprisonment pursuant to Section 113(c)(2) of the Clean Air Act, 42 U.S.C. § 7413(c)(2), and 18 U.S.C. §§ 1001 and 1341.

Date: _____
Name (Printed): _____
Signature: _____
Title: _____

Appendix D

CONFIDENTIAL BUSINESS INFORMATION

You may assert a business confidentiality claim covering all or part of the information you provide in response to this information request for any business information entitled to confidential treatment under section 114(c) of the Clean Air Act (the Act), 42 U.S.C. § 7414(c), and 40 C.F.R. Part 2, Subpart B (which governs treatment of CBI under both the CAA and RCRA). Under section 114(c) of the Act, you are entitled to confidential treatment of information that would divulge methods or processes entitled to protection as trade secrets. Under 40 C.F.R. Part 2, Subpart B, business confidentiality means "the concept of trade secrecy and other related legal concepts which give (or may give) a business the right to preserve the confidentiality of business information and to limit its use or disclosure by others in order that the business may obtain or retain business advantages it derives from its rights in the information." 40 C.F.R. § 2.201(e).

Information covered by a claim of business confidentiality will be disclosed by the EPA only to the extent, and by means of the procedures, set forth in section 114(c) of the Act and 40 C.F.R. §§ 2.201-2.311. If you fail to furnish a business confidentiality claim with your response to this information request, the EPA will construe your failure as a waiver of that claim, and the information may be made available to the public without further notice to you. See 40 C.F.R. § 2.203(c).

Pursuant to Section 114 of the Act and 40 C.F.R. § 2.301(h), the EPA possesses the authority to disclose to any authorized representative of the United States information which might otherwise be entitled to confidential treatment. In order to assist in its review and analysis, and in accordance with the requirements of 40 C.F.R. § 2.301(h)(2), the EPA may disclose information provided in response to this and other information requests to any person under contract or subcontract to the United States government to perform work in support of EPA in connection with the Act or regulations which implement the Act. In accordance with the requirements of 40 C.F.R. § 2.301(h)(3), the EPA may also disclose such information to State and/or local governmental agencies which have duties or responsibilities under the Act, or under regulations which implement the Act.

To assert a business confidentiality claim, you must place on (or attach to) all information you desire to assert as business confidential either a cover sheet, stamped or typed legend, or other suitable form of notice employing language such as "trade secret," "proprietary," or "company confidential" at the time you submit your response to this information request.

Please be specific by page (including Bates Stamp, if applicable), paragraph, and sentence when identifying the information subject to your claim. Where your claim, as originally made or as modified by your response to this letter, does not include all information on a page, please attach a copy of each such page with brackets around the text that you claim to be CBI. Please note that if a page, document, group, or class of documents claimed by you to be CBI contains a significant amount of information which our Office of Regional Counsel determines is not CBI, your CBI claim regarding that page, document, group, or class of documents may be denied. You should indicate if you desire confidential treatment only until a certain date or until the occurrence of a certain event. All confidentiality claims

are subject to EPA verification. If the EPA reviews your CBI claim(s) then the EPA may send notice to your business and ask you to submit additional information to substantiate the CBI claim(s). See 40 C.F.R. § 2.204(e).

The criteria the EPA will use in determining whether material you claim as business confidential is entitled to confidential treatment are set forth at 40 C.F.R. § 2.208(a)-(d), as well as the U.S. Supreme Court's decision in *Food Marketing Institute v. Argus Leader Media* (*Argus*), 139 S. Ct. 2336 (2019), which evaluated the definition of "confidential" as used in Exemption 4 of the Freedom of Information Act, 5 U.S.C. § 552. In the *Argus* decision, the Court held that at least where "[1] commercial or financial information is both customarily and actually treated as private by its owner and [2] provided to the government under an assurance of privacy, the information is 'confidential' within the meaning of Exemption 4." *Argus*, 139 S. Ct. at 2366.

Emission data, as defined at 40 C.F.R. § 2.301(a)(2), is expressly not entitled to confidential treatment under 40 C.F.R. Part 2, Subpart B. See 42 U.S.C. § 7414(c); 40 C.F.R. § 2.301(e).