

Connecticut Department of Environmental Protection Notice Of Tentative Determination And Intent To Issue Various Environmental Permits

Solid Waste Permit To Construct and Operate a Solid Waste Facility: Application No. 200602249

Air Point Source Permit: Application No. 200602226

Water Diversion Permit: Application No. DIV-200603081

Water Discharge Permit: Application No. 200702055 and Application No. 200800492

Tentative Determination

The Deputy Commissioner of the Department of Environmental Protection ("DEP"; "the Department"), having been duly delegated the authority to do so, hereby provides this consolidated notice of a tentative determination to approve the above-referenced applications submitted by Plainfield Renewable Energy, LLC pursuant to: (1) Connecticut General Statutes ("CGS") Section 22a-208a for a permit to construct and operate a solid waste facility; (2) CGS Section 22a-174 for a permit to construct and operate a source regulated under the Clean Air Act Amendments of 1990; (3) CGS Section 22a-368 for a permit to divert the waters of the state; and (4) CGS Section 22a-430 for a permit to discharge into the waters of the state and to withdraw waters of the state into cooling water intake structures that reflect the best technology available to minimize adverse environmental impacts.

The Applicant and the Proposed Activity

The name and address of the permit applicant are: Plainfield Renewable Energy, LLC ("PRE" or "the applicant"), 20 Marshall Street, Suite 300, Norwalk, CT 06854. PRE proposes to construct and operate a 37.5-megawatt (MW) (net) electric power generation facility using fluidized bed biomass gasification to process wood as a source of fuel. The facility will be located on an approximately 27-acre site in an industrial zone located at the intersection of Mill Brook Road and Norwich Road (State Route 12) in the Town of Plainfield, Connecticut. There are two separate operational components of the facility: (1) a volume reduction plant for storing, processing and handling wood biomass; and (2) a power block facility where the biomass is gasified and electricity generated. Operation of the facility will also require the construction, operation and maintenance of a cooling water intake structure to divert up to 893,000 gallons per day of water from the Quinebaug River in Canterbury, Connecticut and a discharge outfall pipe that will discharge to the Quinebaug River. The proposed cooling water intake structure and discharge location is adjacent to the Quinebaug River west of Packer Road, approximately 4,200 feet north of Butt's Bridge Road in the Town of Canterbury, Connecticut. Mitigation for the proposed project's environmental impacts is specifically identified in a mitigation plan entitled "Plainfield Renewable Energy, LLC, Proposed 37.5MW Biomass Facility, Mitigation and Monitoring Plan" submitted as a part of the water diversion and water discharge applications.

The Draft Permits

As mentioned above, this notice consolidates the Department's tentative determination regarding four separate permits necessary for the operation of the facility. Each permit is briefly summarized below:

1. Solid Waste Permit to Construct and Operate, Application No. 200602249

Pursuant to CGS Section 22a-208a, PRE has applied for a solid waste permit to construct and operate a wood biomass gasification plant. In the volume reduction portion of the plant pre-processed biomass, primarily in the form of wood chips with a screen size of four inches or less, will be received through a double truck scale system, unloaded in hoppers, conveyed, handled, stored in piles located in dedicated areas (outdoors and/or under a canopy structure), screened, mixed and subsequently conveyed for gasification. The power block portion of the facility ("PBF") will house various ancillary equipment designed to process the conveyed biomass (100% clean

wood, 100% regulated wood, or any mixture of both), 24 hours per day, 7 days a week, and generate steam and up to 37.5 MW net of electricity. The gasification process also results in the generation of ash residue. The PBF will incorporate various equipment systems, including, but not limited to: a combustor/boiler system; separate bottom / fly ash residue collection system that includes a storage silo; a state-of-the-art air pollution control system; an induced fan and stack system; a steam turbine generator system; water treatment, filtering, clarifier, storage and cooling systems; and a transformer connected to the electrical distribution grid. The outdoor wood chip storage area will have sealed pavement, curbs and a stormwater control system incorporating a storage buffer zone, catch basins, both underground and above ground storage tanks; a pump station; etc.

The Department has made a tentative determination to issue a solid waste permit that regulates the construction of certain portions of the facility, specifies the types of wood that can be used as fuel, and limits the processing and storage capacities of the facility. The proposed permit prohibits the receipt of treated wood chips containing pesticides or preservatives. For the first two years, quarterly compliance audits will be required to be performed by a third party engineer approved by the Department. For the next three years, such audits will be required semi-annually. The proposed permit also requires, among other things, that PRE post a surety bond as a contingency to ensure that all solid wastes authorized at the site will be properly managed.

2. Air Point Source Permit, Application No. 200602226

Pursuant to CGS section 22a-174, PRE has applied for a permit to construct and operate a source regulated under the federal Clean Air Act Amendments of 1990. While the proposed activity will affect air resources, it is the Department's tentative determination that, according to the ambient air impact analysis, the proposed facility will not cause or contribute significantly to any violation of a National Ambient Air Quality Standard or Prevention of Significant Deterioration (PSD) increment. The predicted PSD multi-source ambient impacts for nitrogen dioxide (NO₂), sulfur dioxide (SO₂), and PM-10 are presented in the table below:

Parameter	PSD Increment ($\mu\text{g}/\text{m}^3$)	Maximum Impact ($\mu\text{g}/\text{m}^3$)
SO ₂ annual	20	2
SO ₂ 24-hr average	91	9
SO ₂ 3-hr average	512	46
NO ₂ annual	25	4
PM-10 annual	17	2
PM-10 24-hr	30	7

The Department has also tentatively determined that the Lowest Achievable Emission Rate (LAER) for nitrogen oxides (NO_x) shall be 0.075 lbs/MMBtu (heat input) with the use of Selective Non-Catalytic Reduction control technology. PRE is required to purchase 210 tons of approved NO_x emission reduction credits obtained from an area designated as "serious non-attainment" for ozone, to offset the potential 174.25 tons of NO_x that may be emitted from the entire facility. The Department has also tentatively determined that for air emissions, the best available control technology for this facility will consist of multi-cyclones and fabric filters to control particulate matter and a spray dryer adsorber for controlling acid gases. Toxic air emissions will be controlled by feedstock management as well as the aforementioned air emission control technology and will comply with applicable state and federal standards, subject to annual stack test verification.

3. Diversion of Water, Application No. DIV-200603081

Pursuant to CGS section 22a-368, and section 22a-377(b)-1(b) of the Regulations of Connecticut State Agencies, PRE has applied for a water diversion permit to divert and withdraw water from the Quinebaug River, primarily for cooling water to be used at the power block portion of its facility. Specifically, the applicant proposes to withdraw a maximum of 0.893 million gallons of water per day subject to an annual average day withdrawal limitation of 0.656 million gallons per day from the Quinebaug River in Canterbury, Connecticut. The water diverted from the Quinebaug River will be pumped to the generation facility through a pipeline constructed along Packer Road and Millbrook Road. The proposed diversion will affect the Quinebaug River and approximately 0.22 acres of associated wetlands/watercourse. A tentative determination has been made to authorize the proposed diversion.

4. Water Discharge, Application No. 200702055 (NPDES Permit No. CT0030473) and Application No. 200800492 (State Permit No. SP0002426)

Pursuant to CGS section 22a-430, PRE has filed two separate applications. One is for a discharge of wastewater to the Quinebaug River and for the construction and use of the cooling water intake structures to withdraw water from the Quinebaug River (Application No. 200702055); the other is for a discharge of other wastewaters to the groundwater in the Quinebaug River watershed (Application No. 200800492). While two separate applications were filed, the Department is proposing to issue one permit that addresses both applications.

With respect to the proposed discharge to and intake from the Quinebaug River, the Department has been authorized by the U.S. EPA under the federal Water Pollution Control Act to issue a permit for these activities, and as such this permit is considered a National Pollutant Discharge Elimination System (NPDES) permit as well as a state permit. With respect to the discharge to the river, a tentative determination has been made that the proposed system to treat up to 173,571 gallons per day of cooling tower blowdown wastewater, prior to discharging to the Quinebaug River, will protect the waters of the state from pollution. This discharge is identified in the proposed permit as Discharge Serial Number (DSN) 101. The proposed permit would require that the applicant submit plans and specifications for the proposed treatment system for the cooling tower blowdown wastewater and such additional information as is necessary to ensure the protection of the waters of the state from pollution. If such plans are approved and the treatment system is constructed in full compliance with the approval, a permit would then be issued.

The proposed permit also contains a limitation regarding the thermal component of the discharge from the cooling tower blowdown wastewater into Quinebaug River. A tentative determination has been made that the proposed thermal limit is consistent with the Connecticut Water Quality Standards and Section 316(a) of the federal Water Pollution Control Act, 33 U.S.C. § 1326(a).

A tentative determination has also been made, pursuant to Section 316(b) of the federal Water Pollution Control Act, 33 U.S.C. § 1326(b), that the proposed location, design, construction and capacity of the cooling water intake structures to withdraw up to 893,000 gallons per day of water from the Quinebaug River, which is identified in the proposed permit as Monitoring Location 101-H and located at Packer Road, Map 62, Lot 12B, Canterbury, Connecticut, reflect the best technology available for minimizing adverse environmental impacts.

With respect to the discharge to the groundwater in the Quinebaug River watershed, a tentative determination has been made that up to 225,000 gallons per day of fire pump test wastewater (DSN 102), 1,000 gallons per day of fire hydrant test wastewater (DSN 103), 250,000 gallons per day of make-up supply tank drain and overflow wastewaters (DSN104), and 10,000 gallons per day of demineralized water tank overflow wastewater (DSN 105), each discharged not more frequently than once per year, will not cause pollution of the waters of the state.

The proposed permit would also require that all wastewater discharged to both the Quinebaug River and the groundwater in the Quinebaug River watershed meet the applicable effluent

limitations and that periodic monitoring be performed to demonstrate that the discharges are not causing pollution.

Type of Treatment, if any, required by Water Discharge Permit

DSN 101 - Treated cooling tower blowdown wastewater - Addition of sodium bisulfite to the effluent to remove total residual chlorine prior to discharge

DSN 102 - Fire pump test wastewater - No treatment is necessary

DSN 103 - Fire hydrant test wastewater - No treatment is necessary

DSN 104 - Make-up supply tank drain and overflow wastewaters - No treatment is necessary

DSN 105 - Demineralized water tank overflow wastewater - No treatment is necessary

Monitoring Location 101-H - Cooling Water Intake Structure - Cylindrical wedge wire screen to minimize impingement and entrainment; intake cooling water treatment (on as needed basis) - Neutralization, Coagulation, Flocculation, Clarification, Filtration (as specified in the applicant's submittals)

Effluent Limits or Conditions in Water Discharge Permit

In the absence of effluent limits specified in either state or federal regulations, pursuant to section 22a-430-4(l) of the Regulations of Connecticut State Agencies, the proposed permit contains effluent limitations for heavy metals that have been determined on a case-by-case basis using Best Professional Judgment. A tentative determination has been made that these limits both meet and are consistent with the state's Water Quality Standards, including the anti-degradation policy. As with other discharge permits, the proposed permit prohibits PRE from discharging any pollutants (i.e., polychlorinated biphenyls, phosphorous, etc.) except as authorized by the permit.

Additional Requirements in the Water Discharge Permit

The proposed permit contains an enforceable compliance schedule that requires PRE to: 1) submit a complete Attachment O (Part B discharge analysis of the permit application) for the Commissioner's review for the final effluent discharged from DSN 101, 102, 103, 104 and 105; 2) conduct a one-year impingement study and up to a two-year entrainment monitoring and evaluation of the cooling water intake structure at such time as the Department provides written notification to PRE that anadromous fish populations are restored in the Quinebaug River upstream of the Aspinook Pond Dam; and 3) conduct seasonal monitoring to verify the degree and extent of the zone of influence of the thermal discharge into the Quinebaug River.

Public Hearing and Comment Information and Procedures

Availability of Applications: A copy of the applications submitted by PRE, including any supplemental application submittals for each such application, are available from: Scott Atkin, Vice President Anchor Engineering Services, Inc., 41 Sequin Drive, Glastonbury, Connecticut, between the hours of 8:30 am and 4:30 pm. Telephone Number: (860) 633-8770. In addition, the applications, any supplemental application submittals, and the proposed permits are available for inspection at the following locations during normal hours of operation:

CANTERBURY PUBLIC LIBRARY
1 Municipal Drive
Canterbury, Connecticut 06331
Telephone Number: (860) 546-9022;
and
PLAINFIELD TOWN HALL

First Selectman's Office
8 Community Avenue
Plainfield, Connecticut 06374
Attention: Tammy Barber
Telephone Number: (860) 230-3001

The applications, supplemental application submittals, information from the Department, and proposed permits are available for inspection at the Department of Environmental Protection Records File Room, 79 Elm Street, Basement floor, Hartford, Connecticut, 06106-5127 from 9:00 am to 11:45 am and 1:00 pm to 2:45 pm Tuesday, Wednesday and Thursday; Telephone Number: (860) 424-4180. Public access closes for the day at 4:00 pm. Please see <http://www.ct.gov/dep/fileroom> for DEP file review procedures.

Availability of Proposed Permits: The proposed permits are available for inspection at the Department's Records File Room, Canterbury Public Library and Plainfield Town Hall, as noted above. Links to the proposed permits are also posted on the DEP website under "Public Participation" at <http://www.ct.gov/dep/publicnotices>.

Public Comments: All interested persons are invited to comment on the Department's tentative determination concerning the subject applications and the proposed permits. Please use the permit application numbers noted above when submitting comments to the Department or when corresponding with the Department. Written comments must be submitted to the Department no later than 30 days after the date of publication of this notice and should be directed to Tatiana Abreu, Office of Planning and Development, 79 Elm Street, Hartford, CT 06106-5127. Comments may also be submitted via electronic mail to dep.webmaster@ct.gov (please be sure to include your name, postal address and phone number in any e-mail).

Questions regarding the proposed permits may be directed as follows:

Solid Waste Permit:
Calin Tanovici, Engineering & Enforcement Division (860) 424-3315

Air Point Source Permit:
James Grillo, Bureau of Air Management (860) 424-3570

Water Diversion Permit:
Sara Radacsi, Inland Water Resources Division (860) 424-3019

Water Discharge Permit:
Charles Neziyanya, Permitting & Enforcement Division (860) 424-3846

Public Hearing: As was noted above, this is a consolidated notice involving five different applications. The Department has already received a petition signed by at least twenty-five persons requesting a hearing on the tentative determination for the water diversion application, DIV-200603081. The Department will therefore conduct that hearing as required pursuant to CGS Section 22a-371. Unless an additional petition or request for a hearing is submitted, as is provided for below, the hearing will be limited to the tentative determination for the water diversion application, DIV-200603081.

With respect to the tentative determinations for the solid waste and water discharge permit applications, pursuant to Conn. Gen. Stat. 22a-208a and 22a-430(b), the Department may hold a public hearing prior to approving or denying an application if in the Commissioner's discretion the public interest will be best served thereby, and shall hold a hearing upon receipt of a petition signed by at least twenty-five persons. Any petition requesting a hearing must clearly indicate

whether the hearing is being sought regarding the tentative determination for the solid waste application, one or both of the water discharge applications, or any combination thereof. The Department will accept a single petition requesting a hearing concerning the solid waste and water discharge applications, provided that any such request is clearly reflected in the petition. Any petition for a hearing shall be sent to Tatiana Abreu, Office of Planning and Development, 79 Elm Street, Hartford, CT 06106-5127.

With respect to the application for an air permit, pursuant to section 22a-174-2a(b)(3), any interested person has thirty (30) days from the date of publication of this notice to request a public hearing concerning the tentative determination to approve the application, in accordance with section 22a-3a-5(b) and section 22a-174-2a(c) of the Regulations of Connecticut State Agencies. Upon receipt of a request, the Department will hold a public hearing.

If a hearing is to be held regarding any application, in addition to the water diversion application, any such hearing will be consolidated with the hearing on the water diversion application. Notice of the public hearing will be published in this newspaper at a later date at least thirty (30) days prior to the scheduled date of the hearing. Notice will also be posted on the DEP website's "Calendar of Events" at <http://www.ct.gov/dep/calendar>. Notice is also hereby provided that requesting and participating in a hearing may affect whether a person can obtain judicial review of the Department's final permit decision and that judicial review may be limited to only those application(s) noted above for which holding a hearing is required.

ADA Notice

In conformance with the ADA, individuals with disabilities who need information in an alternative format, should call TDD (860) 424-3000 or contact Marcia Z. Bonitto, ADA Coordinator, via e-mail: Marcia.Bonitto@ct.gov. Requests for accommodations to attend meetings or hearings held by the DEP must be made at least two weeks prior to the scheduled hearing date. These accommodation requests may be made directly to Marcia Z. Bonitto, ADA Coordinator, via e-mail: Marcia.Bonitto@ct.gov.

/s/ Amey Marrella
Amey Marrella, Deputy Commissioner
Department of Environmental Protection

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[Draft Waste Permit \(PDF, 83KB\)](#)

[Draft Air Permit \(PDF, 428KB\)](#)

[Draft Water Diversion Permit \(PDF, 31KB\)](#)

[Draft Water Discharge Permit \(PDF, 130KB\)](#)