

The Commonwealth of Massachusetts

Executive Office of Energy and Environmental Affairs 100 Cambridge Street, Suite 900 Boston, MA 02114

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Timothy P. Murray LIEUTENANT GOVERNOR

> Ian A. Bowles SECRETARY

> > April 24, 2009

CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS ON THE ENVIRONMENTAL NOTIFICATION FORM

PROJECT NAME:

Pioneer Renewable Energy

PROJECT MUNICIPALITY:

Greenfield

PROJECT WATERSHED:

Connecticut and Deerfield Rivers

EEA NUMBER:

PROJECT PROPONENT:

Pioneer Renewable Energy, LLC

DATE NOTICED IN MONITOR:

March 25, 2009

Pursuant to the Massachusetts Environmental Policy Act (G. L. c. 30, ss. 61-62I) and Section 11.06 of the MEPA regulations (301 CMR 11.00), I hereby determine that this project does not require the preparation of an Environmental Impact Report (EIR).

PROJECT OVERVIEW

As outlined in the Environmental Notification Form (ENF), the Pioneer Renewable Energy project is a 47-megawatt (MW) biomass energy plant that has been designed to use clean wood fuel comprised of forest management residue generated from within a 50-mile radius of the proposed facility. In response to this project proposal I have received numerous thoughtful and detailed comment letters expressing significant concerns about the capacity of local and regional clean biomass wood fuel supplies to meet this potential addition to demand. These comments include references to the number of recently proposed biomass wood fuel projects in Massachusetts and neighboring states. Whereas the economic and price aspects of such supply and demand dynamics for feedstock are an economic consideration for the proponent, commenters have raised questions about whether this project and others of its type, and the additional demand for proximate forestry resources that they will represent, will create a set of cumulative environmental impacts that are not properly addressed by the Commonwealth's forest

cutting regulations, wetlands protections regulations and other environmental laws. Many commenters have therefore requested that I require the preparation of an EIR to provide an opportunity for evaluation of these potential cumulative impacts as well as the long-term sustainability of biomass energy projects in the Commonwealth.

While MEPA requires that a proponent assess the cumulative and indirect impacts of a proposed project, there is a clear distinction between that obligation and a requirement that the review of a single private project serve as the vehicle for long-range regional sustainability planning. Because I am satisfied that the ENF has adequately analyzed alternatives, described the project's potential environmental impacts and provided the permitting agencies with sufficient information on which to base their permit decisions and their Section 61 Findings, I am declining to require the preparation of an EIR for this project. The project does not exceed any thresholds for a mandatory EIR, and I find that the permitting agencies possess sufficient authority to ensure that the project avoids, minimizes and mitigates its environmental impacts to the maximum extent feasible, as required by the MEPA statute.

However, I share the view that forestry and associated sustainable management issues are of importance to the Commonwealth and its citizens -- as are issues concerning the supply and availability of alternative and renewable energy sources such as biomass to provide electricity and reduce greenhouse gas emissions created by fossil fuel power plants. The mandate created under the Global Warming Solutions Act (GWSA) to curb such emissions will necessarily create new environmental considerations that, in the instance of biomass power plants, warrant evaluation by the Commonwealth's regulatory and permitting agencies, both environmental and energy. These considerations extend to the stewardship of state-owned forests by the Department of Conservation and Recreation (DCR), who must ensure that these valuable state resources are maintained for future generations. However, if approached in an integrated manner, I am confident that the Commonwealth's sustainable management of public forestry resources together with the state's renewable energy credit requirements can ensure the responsible use of biomass resources while achieving greenhouse gas reductions.

With regard to sustainable forest management regulation, DCR has already begun a long range process, including the formation of an advisory group of stakeholders and a Technical Steering Committee, to address sustainable stewardship and management of state forest lands. In this process, DCR will seek substantial public input and will consider many of the issues and concerns voiced in comment letters on this and other biomass projects. I understand that the initial public meeting will be held within the next month. Once that process is complete, DCR will also report its conclusions and recommendations to the Department of Environmental Protection (MassDEP) and the Department of Energy Resources (DOER) so that these agencies can collectively consider additional recommendations to address the role of biomass in meeting the GWSA and renewable energy mandates. In light of that report and other inputs, DOER will evaluate the range of options to enhance sustainable management of forest resources through requirements for renewable energy credits available to biomass facilities.

Through DCR's review and subsequent interagency efforts, I expect that currently proposed and future biomass facilities in Massachusetts that seek to draw upon forest resources in the Commonwealth will be operated in a manner that furthers sustainable forest management

practices and avoids potential cumulative impacts that have been envisioned by many commenters on this project. I therefore find that no further MEPA review is required for the Pioneer Renewable Energy Project and that the project may proceed to state permitting subject to the below findings and conditions.

Project Description

The project site is a 71.5-acre portion (Lot 1) of an existing 92.7-acre gravel mining site comprised of three lots (Lots 1-3), owned by the Mackin Construction Company (Mackin) and located at 37 Butternut Street in Greenfield. Mackin will continue its existing gravel mining activities in the southeastern and northern portions of Lot 1 during the construction and operation of the Proponent's biomass wood fuel facility. Mackin will also maintain ownership of Lot 2 and Lot 3, a 12-acre development parcel and a 9.2-acre non-building lot containing isolated wetlands, respectively. The project site is bounded by additional Mackin-owned property to the north (described further below), National Grid electrical transmission lines and the Interstate 91 Industrial Park to the south, the Fall River to the east and Adams Road to the west.

The proposed project will use an average of 1500 tons per day (tpd) of clean wood fuel. Steam from the project's advanced stoker boiler will feed a steam turbine to generate 47 MW (net) of electricity. Electricity from the plant will be fed to the transmission network via a new connection to one of two existing National Grid 115 kilovolt (kV) transmission lines immediately south of the project site. The Proponent will be required to file an Interconnection Request with the Independent System Operator – New England (ISO-NE) to accomplish the electrical interconnection. Approximately 90% of the project's total cooling water demand (690,000 gallons per day (gpd)) will be supplied by treated wastewater effluent from the Greenfield Water Pollution Control Plant (WPCP). The project is anticipated to generate an average of 135,750 gpd of plant process wastewaters and approximately 1,500 gpd of domestic wastewater that will be conveyed via an existing sewer main located in Butternut Street.

Permitting and Jurisdiction

The project is subject to environmental review pursuant to the following sections of the MEPA regulations: 301 CMR 11.03(7)(b)(1), because the project requires State Agency Action and the Proponent proposes to construct a new electric generating facility with a capacity of more than 25 MW; and 301 CMR 11.03(8)(b)(1), because the project is considered a new major stationary source that will emit approximately 54 tons per year (tpy) of particulate matter (as PM-10), 205 tpy of carbon monoxide (CO), 68.0 tpy of sulfur dioxide (SO₂), 27.0 tpy of volatile organic compounds (VOCs), 164.0 tpy of nitrogen oxides (NOx), and 23.0 tpy of hazardous air pollutants (HAPs). The project requires a Major Comprehensive Air Plan Approval, a Cross Connection Permit, a Beneficial Use Determination (BUD), and an Industrial and Sanitary Sewer Connection Certification and Reclaimed Water Permit from the Department of Environmental Protection (MassDEP). The project requires an Order of Conditions from the Greenfield Conservation Commission (and, on appeal only, a Superseding Order from MassDEP). The project may require a Section 401 Water Quality Certificate from MassDEP. The project will

require a Construction Access Permit from MassHighway for the crossing of Route 2 for the reclaimed water force main. The project's nitrogen oxide emissions will require Appendix A NonAttainment Review and the Proponent's purchase of emissions offsets. The project may also require: Massachusetts Department of Public Safety (DPS) Storage Tank Permits; Prevention of Significant Deterioration (PSD) Review by the US Environmental Protection Agency (EPA); and Site Plan Review, a Special Permit and a Building Permit from the Town of Greenfield.

The Proponent is not seeking financial assistance from the Commonwealth for the construction or operation of the project. MEPA jurisdiction is therefore limited to the subject matter of required or potentially required state agency actions. In this case MEPA jurisdiction applies to air quality, noise (reviewed in the MassDEP Air Plan Approval), wastewater, solid waste (associated with the MassDEP BUD), wetlands, stormwater and transportation.

Future Development

In addition to the project site and Lots 2 and 3 described above, I note that the Mackin Construction Company also owns a 127-acre future development parcel abutting the project site's north boundary line. Under the anti-segmentation provisions of the MEPA regulations (Section 11.01(2)(c)), I must consider all the circumstances to determine if the proposed development activities associated with the proposed Pioneer Renewable Energy development project, the future development of Lot 2 and the additional 127-acre northern parcel constitute one project for purposes of MEPA review. Under the regulations, relevant factors include but are not limited to: whether the proposed work taken together comprises a common plan or independent undertakings (regardless of the number of proponents); any time interval between the work or activities; and whether the environmental impacts caused by the proposed work are separable or cumulative. It is too early to determine whether future development of adjacent parcels may be determined to be part of the current project. However, to avoid any potential for segmentation, I am requiring that a Notice of Project Change (NPC) be filed with the MEPA Office for any future development that may be proposed for Lot 2 and/or the 127-acre future development parcel to evaluate the cumulative impacts of the future development and the Pioneer Renewable Energy Development. The Proponent for any planned future development of these adjacent parcels should consult with the MEPA Office prior to filing the NPC.

REVIEW OF THE ENVIRONEMTNAL NOTIFICATION FORM

Air Quality

The MassDEP Air Plan Approval permitting process is used to implement federal and state requirements for demonstrating compliance with the National Ambient Air Quality Standards (NAAQS) that regulate criteria air pollutants and compliance with the New Source Performance Standards (NSPS) that regulate air contaminants. As part of the permitting process, the Proponent will need to demonstrate the consistency of the project with the State Implementation Plan (SIP), which outlines how Massachusetts attains compliance with the NAAQS. The Proponent conducted an air quality dispersion modeling analysis using the AERMOD model (07026) to assess the potential impact of the project on ambient air quality. The ENF provided an overview and results of the air modeling study. Modeled air concentrations

from the project were added to ambient background conditions for comparison with federal and state standards. The results of the modeling demonstrate that the project will have impacts below Significant Impact Levels (SILs) that are a small component of the NAAQS.

The facility's ambient air quality impacts will also be below the Allowable Ambient Limits (AALs) and Threshold Effect Levels (TELs) for non-criteria pollutants. To minimize the project's air quality impacts, the project will use a full range of emission controls to meet Best Available Control Technology (BACT) and Lowest Achievable Emission Rate (LAER) requirements. The Proponent will install a wood-fired advanced stoker boiler with combustion air and over-fire air controls. The plant will be equipped with a wet cooled condenser to dissipate the waste heat generated by the steam turbine. Exhaust from the boiler will be ducted to an electrostatic precipitator (ESP), a Selective Catalytic Reduction (SCR) and oxidation catalyst system, and then to a 250 ft-tall stack. The system will be designed to control NOx, CO, VOCs, acid gases, particulate matter including fine particles (PM 2.5), heavy metals and hazardous air pollutants (HAPs). Other equipment on site will include a double-walled aqueous ammonia tank for the SCR, a 400 kW emergency generator, and portable wood processing equipment.

The project is also subject to non-attainment New Source Review (NSR) related to ozone as the facility will emit more than 50 tpy of NOx. Applicable NSR requirements for nonattainment include application of LAER technology and acquisition of emission offsets. For major sources of NOx in Massachusetts, offsets are required at a minimum ratio of 1.26:1. The Proponent has committed to purchase the necessary NOx offsets (164.3 tpy x 1.26 = 207 tpy of NOx offsets). While Massachusetts NOx banking and trading rules allow offsets to come from anywhere in the state, I encourage Proponent to work with MassDEP to buy NOx offsets from facilities within the region if available. According to the ENF, the project is not subject to Prevention of Significant Deterioration (PSD) review for criteria pollutants; the Proponent should note comments from MassDEP regarding PSD applicability thresholds.

The Air Plan Approval will include emission limits, stack testing, monitoring, recordkeeping and reporting requirements established by MassDEP for the project. MassDEP will require Continuous Emissions Monitoring Systems (CEMS) for CO, NOx, ammonia, and opacity. The facility will also be subject to an initial stack test for CO, NOx, SO₂, hydrochloric acid (HCl), PM, VOC, ammonia, and air toxics. The permit will also require monitoring of the air pollution control system's operation parameters and record keeping of all pertinent data. The Proponent should provide the Town of Greenfield with a copy of the facility's operating permit and a copy of the stack testing report.

MassDEP has noted several issues with the air quality analysis provided in the ENF that will require further clarification and refinement during the permitting process. In particular, the Proponent will need to provide the following additional information:

 The Proponent must quantify the emission of total particulate matter (PM) for each source and should be included in the BACT analysis for each source;

- The Proponent should explain the difference in emission rates used for the air quality impact analysis (663 MMBtu per hour) and the proposed emission limits for the boiler (622.5 MMBtu per hour); and
- The Proponent should design a fugitive emissions control plan for any/all fugitive emissions that may be generated from facility operations.

Clean Wood Fuel/ Combustion Byproducts

As described in the ENF, the proposed Pioneer Renewable Energy facility has been designed to utilize approximately 500,000 tons per year of clean wood fuel derived primarily from sustainable forest harvesting practices including the removal of low-grade wood, diseased wood and invasive species in accordance with the state-regulated harvesting practices under the Forest Cutting Practices Act (M.G.L. Chapter 132), and from tree trimming, land clearing or other similar operations. Most of the plant's clean wood fuel supply will be procured as processed wood chips from forest management operations located within a 50-mile radius of the project site including; Massachusetts, northern Connecticut, southern Vermont and New Hampshire and eastern New York. The Proponent estimated that up to 15% of the plant's fuel supply will be received as stumps and slabs and will need to be processed on-site. The Proponent anticipates incorporating a minor amount of primary mill waste including clean sawdust and recycled wood shipping pallet wood as part of the plant's fuel source. The ENF includes a description of the Proponent's Fuel Source Quality Assurance Program designed to ensure that only clean wood free of contaminants will be accepted and utilized by the plant. The Proponent's proposed wood fuel quality assurance program includes the employment of an experienced onsite wood procurement agent who will inspect wood fuel supplier operations, collect and analyze wood fuel samples, monitor exhaust stack emissions, and collect and analyze fly ash and bottom ash for contaminants. The Proponent will be required to conduct fuel sampling/monitoring and continuous emissions monitoring of the exhaust stack from the boiler and air pollution control train as a condition of MassDEP's the Air Plan Approval review process.

MassDEP has requested the Proponent provide additional information describing the operation of the Proponent's Fuel Source Quality Assurance Program during the permitting process. Specifically, the Fuel Source Quality Assurance Program should include a detailed description of the criteria and testing procedures that will be employed to select and qualify clean wood fuel suppliers, and monitor, sample and analyze wood fuel quality. The Proponent will also need to provide MassDEP with a description of proposed on-site wood processing activities and the Proponent's fugitive emissions control plan for on-site wood processing activities. MassDEP recommends that the Proponent consider covering the facility's processed wood fuel storage area to minimize the wood fuel's moisture content for greater heat input value.

The project will generate approximately 8,500 tpy of fly ash and bottom ash as combustion byproducts. According to the information provided in the ENF, ash produced from the combustion of clean wood fuel has a demonstrated value for use as an agricultural soil amendment and has been approved by the US Department of Agriculture and the Organic Materials Review Institute for use in certified organic agricultural operations. The Proponent will

apply to MassDEP for a Beneficial Use Determination (BUD) for the proposed reuse of the plant's fly ash for land application as an agricultural soils amendment.

Water Supply

As noted above, approximately 90% of the project's total cooling water demand will be supplied by treated wastewater effluent from the Greenfield WPCP. The Proponent proposes to construct a new off-site pumping station at the Greenfield WPCP and a 5-mile long reclaimed water force main to supply the facility's cooling tower and boiler make-up water needs. Additional water for the plant's boiler process and domestic consumption needs will be served by a new on-site groundwater well and a water service connection to the Town of Greenfield's municipal water supply system, respectively. The project does not require any permits from MassDEP for either the groundwater or potable water supplies.

Wetlands/Stormwater

The project site does not appear to contain any wetland resource areas subject to protection under the MA Wetlands Protection Act. In response to a request from MassDEP, the Proponent should submit a Request for a Determination of Applicability (RDA) to the Greenfield Conservation Commission regarding the extent and boundaries of any jurisdictional resource areas located within the project and the 5-mile long reclaimed water force main corridor. The project's stormwater management system has been designed to meet MassDEP's Stormwater Management Regulatuions to the maximum extent practicable and the City of Greenfield's stormwater requirements. Stormwater runoff from the project's impervious surface areas, building rooftops and wood chip storage areas will be conveyed to two new on-site stormwater detention/infiltration basins.

Noise

The Air Plan Approval process serves as MassDEP's mechanism for noise impact review. The Proponent conducted a noise impact modeling analysis and discussed the results in the ENF. The Proponent states in the ENF that the project will comply with MassDEP's noise policy, which requires that noise levels from the project are less than 10 decibels (dBA) over existing ambient noise and that no pure tones are generated at the nearest residential receptors. MassDEP notes however that sound levels at the western property line will exceed 10 dBa and may exceed 10 dBa at the northern property line based on noise modeling. If the noise policy cannot be achieved at the property lines, the Proponent must secure a letter of acceptance from abutting landowners. I strongly encourage the Proponent to implement a noise monitoring program to ensure that the abutting neighborhood is not adversely impacted due to noise. Mitigation measures incorporated in the facility design include natural attenuation by distance and site layout, silencers on exhaust stacks, and secondary enclosures on specific noise-producing equipment.

Traffic

The Proponent has conducted a traffic study for the project that indicates that the state highway system in the vicinity of the project has ample capacity to accommodate project-related traffic. Clean wood fuel will be delivered to the site by tractor trailer trucks (25-30 ton capacity) between the hours of 6 AM to 8 PM up to 7 days per week. The project is anticipated to generate a total of 230 delivery truck and employee trips per day. Trucks servicing the facility are proposed to use existing commercial truck routes from Route 2 and Interstate 91 to Adams Road and Butternut Street to the project site driveway. The Proponent proposes to widen a small section of Butternut Street (from 24 feet to 30 feet) at the Butternut Street/Adams Road intersection and increase the curb radii to better accommodate large delivery trucks from the south. The Proponent should continue to coordinate with the Town of Greenfield to ensure that the project's traffic impacts are adequately mitigated.

Construction Activities

The Proponent should evaluate construction period impacts, including impacts from earth moving, impacts to vegetation, potential impacts from erosion and sedimentation, traffic impacts on adjacent roadways, and impacts to adjacent land uses, and analyze feasible measures to avoid or eliminate these impacts. Construction activities must conform to current MassDEP Air Pollution Control Regulations and Solid Waste Management regulations. The Proponent should participate in MassDEP's Clean Air Construction Initiative (CACI) and the MassDEP Diesel Retrofit Program to mitigate the construction-period impacts of diesel emissions to the maximum extent feasible. The CACI program helps Proponents identify appropriate mitigation for minimizing air pollution from construction vehicles such as retrofit of construction equipment with particulate filters and oxidation catalysts and/or use of on-road low sulfur diesel (LSD) fuel.

CONCLUSION

I have determined that the ENF has sufficiently defined the nature and general elements of the project and associated measures to avoid, minimize and mitigate environmental impacts. I am satisfied that any remaining issues can be adequately addressed during the state and local permitting and review process. The proposed project, as described in the ENF, requires no further review under MEPA. However, I strongly encourage the Proponent to continue to coordinate closely with the Town of Greenfield and local neighborhoods during project permitting, construction and operation.

<u>April 24, 2009</u> Date

Ian A. Bowles, Secretary

Comments Received (continued on next page)

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4/15/09	MA Environmental Energy Alliance
4/15/09	Rich Chown
4/15/09	Nancy Hazard
4/15/09	Wayne H. Stacker
4/14/09	David Wozniak
4/14/09	Marcia Starkey, Greenfield Historical Commission
4/1/09	Dicken Crane, Holiday Brook Farm
4/12/09	Bruce Jenks
4/14/09	Gregory Cox
4/14/09	Allan W. Blair
4/14/09	Michael Fritz
4/7/09	Buzz Wagner
4/6/09	Douglas G. Stotz, P.E.
3/30/09	Cinda H. Jones, The Cowls Companies
4/9/09	Matt Slowinski, Slowinski Wood Products
4/1/09	Robert Latson
4/1/09	Tim Farrell, F.W. Farrell Insurance Agency
4/13/09	Jennifer E. Brown
4/8/09	Elaine M. Carlson
4/14/09	Margaret E. Sheehan
4/12/09	Brian Summer
4/14/09	Carol Gilmour
4/15/09	Karl Meyer
4/15/09	Claudia and Mike Hurley
4/11/09	Donna L. Randall Lacey
4/13/09	Joseph P. Kopera
4/14/09	Jefferson H. Dickey
4/14/09	James McCaffrey, MA Sierra Club
4/15/09	Ellen Moyer
4/14/09	Tom Spiro
4/14/09	Linda Mack, MACC
4/14/09	Sandra Boston
4/14/09	Dorothy McIver and Howard Clark
4/14/09	Douglas A. Stephens
4/14/09	Judith Eiseman
4/14/09	Edwina E. Kreps
4/14/09	Mary Ann Mayaro
4/13/09	Janet Sinclair
4/12/09	Rita Jaros
4/12/09	C.E. Linderman
4/12/09	Susan M. Olmsted and R. Adin Gilman
4/10/09	Douglas J. Mahon
4/10/09	Douglas A. Stephens

Comments Received (continued on next page)

4/12/09	Marianne Swiatek
4/8/09	Mike Kocsmiersky and John Kontekakis
4/9/09	Sarah B. Stewart
4/9/09	Lucy Gionfriddo
4/9/09	Richard Stafursky
4/7/09	Garth Shaneyfelt
4/7/09	Patricia Osborne
4/7/09	Sarah B. Stewart
4/7/09	Geoff Brown
4/6/09	Megan Glanville
4/6/09	Cliff Hogan
4/10/09	Darlene L. Beckwith
4/10/09	Christine Pellerin
4/12/09	Milton Hanzel
4/11/09	Ann S. Lowell
4/13/09	Mary Hocken
4/12/09	Mary Matthews
3/25/09	Chris Matera
4/6/09	Maureen Ryan
4/6/09	Joe MacFadzen
4/6/09	Rachel Smolker
4/4/09	John Hutchison
4/5/09	Rebecca Wong
4/6/09	Jill S. Messick
4/5/09	Mary Avery
4/4/09	Kathie Breuninger
4/6/09	James R. Breton
4/4/09	Cynthia J. Fullerton
3/30/09	Paul Lauenstein (2 e-mails)
3/30/09	Stephen H. Kaiser
4/2/09	Ken Lynds, MA Wood Producers Association
4/1/09	From Stephen Kaiser to Corinne Snowdon
4/5/09	Chris Matera, MA Forest Watch
4/7/09	Steve Kaiser
4/7/09	Stephen H. Kaiser
4/6/09	Megan Glanville
4/7/09	From Stephen H. Kaiser to Dale Raczynski
4/10/09	Christine Pellerin
4/8/09	Alexander Dawson
4/13/09	Joseph P. Kopera
4/13/09	Sandra Boston
4/14/09	Margaret E. Sheehan
4/14/09	Kimberly Noake MacPhee, Franklin Regional Council of Government
4/14/09	Carol Gilmour

Comments Received: (continued)

3/30/09 Representative Christopher J. Donelan	
4/1/09 Marlene Marrocco, Director of Greenfield Economic Developme	nt
4/1/09 Sandra Shields, Director of Greenfield Department of Public W	orks
3/30/09 Christine Forgey, Mayor	
4/16/09 Brona Simon, MHC	
3/31/09 Ann L. Hamilton, President, FCCC	
4/14/09 DEP/WERO	
4/12/09 Jonathan Clapp, ECCE	
4/13/09 William Moomaw, The Fletcher School, Tufts University	
4/14/09 William Pike, MA Tree Farm Committee	
3/30/09 Andrea F. Donlon, Connecticut River Watershed Council	
4/1/09 Cinda Jones, President, MA Forest Landowners Association	
4/14/09 Mike Gildesgame, Appalachian Mountain Club	
4/14/09 E. Heidi Ricci, Mass Audubon	
4/14/09 Stephen H. Kaiser	
4/12/09 The Members of North Quabbin Energy	
4/13/09 Alexandra D. Dawson	
4/12/09 Mary S. Booth, PhD., MA Environmental Energy Alliance	
4/14/09 Madera Energy	

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ENF #14388 Pioneer Renewable Energy