

STATE OF NEW YORK  
PUBLIC SERVICE COMMISSION

At a session of the Public Service  
Commission held in the City of  
Albany on August 16, 2012

COMMISSIONERS PRESENT:

Garry A. Brown, Chairman  
Patricia L. Acampora  
Maureen F. Harris  
James L. Larocca  
Gregg C. Sayre

CASE 03-E-0188 - Proceeding on Motion of the Commission  
Regarding Retail Renewable Portfolio Standard.

ORDER DENYING REQUEST TO MAKE GLUED WOOD ELIGIBLE  
FOR BURNING AS AN UP TO 10% PORTION OF BIOMASS FUEL

(Issued and Effective August 16, 2012)

BY THE COMMISSION:

INTRODUCTION

Biomass is an eligible feedstock for the generation of electricity in the Renewable Portfolio Standard (RPS) program using either direct-burn combustion technologies, or gasification technologies where the biomass is converted into a gas before it is combusted. To be eligible for RPS incentive payments, the feedstock for direct-burning must be clean wood that is either source-separated, or culled from comingled construction and demolition debris at an approved materials reclamation facility. The purpose of source-separation, or supervised separation at a materials reclamation facility, is to ensure that no adulterated wood gets into the feedstock. Adulterated wood includes wood that has been treated with chemicals, oil or creosote, and wood containing glues and resins such as plywood and particle board. When adulterated wood is burned it may give off toxic emissions that are more harmful to

the environment than burning clean wood. For the purposes of direct-burning of biomass, the RPS program has been designed to avoid such added emissions by controlling the feedstock rather than the emissions. The RPS program is administered by the New York State Energy Research and Development Authority (NYSERDA). In this order, the Commission denies the request of Niagara Generation, LLC (NiGen) for authorization to burn "Glued Wood" (wood containing binders, resins or glues including, but not limited to plywood, particle board, and fiber board) as an up to 10% portion of biomass direct-burn fuel eligible for RPS production incentive payments.

#### BACKGROUND

The RPS program was instituted by the Commission in 2004<sup>1</sup> and in its "Main Tier" provides financial incentives on a per megawatt-hour basis to chosen large-scale renewable resource generation facilities. NiGen was awarded a biomass RPS incentive contract in a solicitation conducted in December of 2006. The NiGen contract was executed on April 17, 2007. It provides for incentive payments for biomass generation commencing in 2008 and terminating in 2017. By a petition dated March 26, 2012, NiGen requests authorization to burn Glued Wood as an up to 10% portion of biomass fuel eligible for production incentive payments in the RPS program.

The NiGen generating facility is a former coal plant that NiGen converted to operate as a multiple fuel boiler. NiGen has permits that allow it to burn several fuels at the facility including coal, tires, and various wood-based fuels.

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<sup>1</sup> CASE 03-E-0188, Renewable Portfolio Standard (RPS), Order Regarding Retail Renewable Portfolio Standard (issued September 24, 2004).

The NiGen facility is eligible for RPS incentives only when it is operating on feedstock qualified as eligible biomass as defined by the Commission. The Commission has developed a list of eligible biomass fuels for use under certain circumstances in generating electricity eligible for RPS incentive payments.<sup>2</sup> Generally, wood-based fuel that is "unadulterated" is considered eligible for direct combustion in generating electricity under the RPS Program. Biomass fuels that are adulterated are not eligible for direct combustion. Adulterated biomass fuels may be eligible for gasification prior to combustion if it can be demonstrated that the air emissions from burning the resultant biogas are comparable or cleaner than the air emissions of direct-burning unadulterated wood.

Initially, the Commission allowed only clean wood based fuels that had never been comingled with adulterated wood. Clean wood resulting from construction and demolition activities was eligible only if it was source separated, that is kept separate from adulterated wood at the construction site source. By a petition dated November 6, 2009, NiGen sought authorization to also burn clean wood separated from construction and demolition debris after comingling. The November 6, 2009 petition was granted with modifications and all biomass facilities were authorized to use clean wood separated from construction and demolition debris at approved material reclamation facilities as eligible biomass fuel, subject to quality assurance plans, inspections, record retention, reporting, and third-party evaluation requirements to ensure

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<sup>2</sup> Case 03-E-0188, Renewable Portfolio Standard (RPS), Order Approving Implementation Plan, Adopting Clarifications, And Modifying Environmental Disclosure Program (issued April 14, 2005), Amended Appendix B, p. 4, entitled "Definition of Eligible Sources of Biomass".

that the separation process is supervised and the separated waste wood meets the appropriate standards. At that time, the Commission noted that it was approving the petition to reduce the flow of clean wood into landfills and adopted additional safeguards with reference to materials reclamation facilities to address concerns that such reclaimed clean wood might have become contaminated while comingled with the ineligible adulterated construction and demolition debris waste stream. The Commission required that generators examine incoming wood to ensure it consistently meets or exceeds clean wood standards prior to blending with other unadulterated fuels.<sup>3</sup> NiGen's instant petition essentially requests that this element be relaxed to allow for up to 10% Glued Wood to be direct burned along with the already eligible clean and unadulterated wood.

#### SUMMARY OF THE PETITION

In its March 26, 2012 petition, NiGen seeks authorization to burn Glued Wood as an up to 10% portion by volume of its eligible biomass fuel. NiGen seeks the authorization in the context of obtaining eligible clean wood separated from the construction and demolition debris waste stream at material reclamation facilities. NiGen claims that its proposal is consistent with Commission policies and requirements regarding biomass eligibility,<sup>4</sup> and that currently there is no set standard for the presence of Glued Wood in the

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<sup>3</sup> Case 09-E-0843 and 03-E-0188, Niagara Generation, LLC and Renewable Portfolio Standard (RPS), Order Approving Petition With Modifications (issued November 22, 2010), p. 17.

<sup>4</sup> To support this claim, NiGen cites the September 24, 2004 RPS Order at page 8 for the proposition that waste is an important energy source, and the November 22, 2010 NiGen/RPS Order at page 10 for the proposition that new technologies should be promoted.

wood culled from the construction and demolition debris waste stream. NiGen proposes that a 10% limit be set on the allowable presence of Glued Wood.

NiGen asserts that expanding the supply of eligible materials diverted from the construction and demolition debris waste stream by allowing Glued Wood will increase production of energy from renewable resources and support the New York State economy, while reducing the amount of construction and demolition debris that must be disposed of in landfills and the use of fossil fuels. NiGen asserts that the current economic downturn has reduced its access to quality wood sources and increased prices above its economic procurement costs. NiGen estimates that it can increase its best renewable resource production level of 25 MW/hr to 30 MW/hr if it is allowed to burn up to 10% Glued Wood. NiGen asserts that the ceiling of 10% on Glued Wood is achievable without the need to utilize expensive sorting technology. NiGen notes that the sorting process at material reclamation facilities involves visual identification of non-wood, plastics and treated wood, among other things, and that the identification and measure of Glued Wood is reliably accomplished through a visual inspection. NiGen's petition includes an exhibit providing recent results of visual inspections purporting to visually identify the quantity of Glued Wood in each batch of fuel to the nearest one-hundredth of a percent. NiGen attributes the addition of four additional employees directly to the inclusion of clean wood culled from construction and demolition debris in its RPS-eligible fuels, and claims that the addition of Glued Wood would similarly support job growth in the State. NiGen also notes that the burning of up to 10% Glued Wood would not violate NiGen's Title V air permit or Beneficial Use Determination (BUD) issued by the NYS Department of Environmental Conservation (DEC).

NiGen further proposes that the burning of Glued Wood only be allowed at facilities like NiGen's circulating fluidized bed boilers that burn fuel at a temperature range that allows for more complete combustion of contaminants than lower temperature units, but limit the emissions of NOx in comparison to other types of facilities, such as stokers, that burn at even higher temperatures. NiGen asserts that personnel from Antares Group, Inc. have indicated to NiGen that a review of available emissions testing results shows no evidence of appreciable increases in regulated emissions for ten percent glued wood admixtures compared to clean wood chip fuels fired in the same boiler. NiGen's petition includes an exhibit providing the results of a chemical analysis on a sample batch of construction and demolition debris labeled "9% Manufactured Wood by bag volume wood" received by NiGen. The chemical analysis gives positive results for the content in the sample of moisture, ash, sulfur, volatile matter, fixed carbon, arsenic, cadmium, chromium, lead, selenium, silver, titanium and zinc. It shows no presence of cresols, herbicides or pesticides.

NOTICE OF PROPOSED RULEMAKING

A Notice of Proposed Rulemaking concerning the request made by NiGen authorization to burn Glued Wood as an up to 10% portion of biomass fuel eligible for RPS production incentive payments under consideration here was published in the State Register on May 2, 2012 [SAPA 03-E-0188SP32]. The minimum period for the receipt of public comments pursuant to the State Administrative Procedure Act (SAPA) regarding the notice expired

on June 18, 2012. Two parties submitted comments.<sup>5</sup> The comments received are summarized below.

SUMMARY OF COMMENTS

PFPI urges that the petition be rejected. PFPI believes that allowing the burning of Glued Wood will weaken the RPS program by increasing the emission of air toxics, all for the sake of prolonging the life of a plant that is already a major source of air pollution. PFPI urges the Commission to take this opportunity to reconsider its earlier decision to allow NiGen to burn wood culled from construction and demolition debris. PFPI asserts that the further broadening of the RPS fuel standard will open the door to even more burning of contaminated wood, emitting more pollutants and new classes of contaminants. According to PFPI, as more types of waste wood become RPS-eligible, more facilities will be built, putting further pressure on the waste wood supply and leading to further calls to expand the percentage of contaminated wood that can be burned. PFPI further asserts that no expansion of eligible biomass fuels should be contemplated without an extensive program of testing, citing the Biomass Power Guide as clearly supporting the additional testing PFPI recommends. PFPI also notes that Massachusetts, in recently-proposed biomass regulations, has proposed rendering fuel derived from construction and demolition debris ineligible for the Massachusetts RPS due to concerns about the emission of significant levels of air toxics, in addition to other concerns

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<sup>5</sup> Comments were received from the Partnership for Policy Integrity (PFPI) and jointly from Consolidated Edison Company of New York, Inc. and Orange and Rockland Utilities, Inc. (Con Edison/O&R).

about the greenhouse gas emission consequences of combustion resources in general.

PFPI notes that the NiGen facility is an exceptionally polluting facility, annually emitting (based on EPA emissions data) 0.25 to 25 tons of vanadium (a toxic heavy metal), 5 to 50 tons of hydrochloric acid (HCl), 200 to 1,000 tons of sulfur dioxide (SO<sub>2</sub>) and 70 to 750 tons of nitrogen oxides (NO<sub>x</sub>). PFPI warns that allowing NiGen to burn more contaminated fuels will also add more air pollution in what is already a highly impacted area. PFPI points out that estimates of air toxics concentrations for the census tract where the NiGen facility is located from EPA's National Air Toxics Assessment data indicate that acetaldehyde levels are 292% of the DEC annual health standard, arsenic concentrations are 261% of the standard, benzene concentrations are 1,138% of the standard, and formaldehyde is 2,690% of the standard. PFPI expects that the level of those pollutants will increase if NiGen is allowed to burn Glued Wood. PFPI also reports that the NiGen facility is located adjacent to residential areas and that according to National Air Toxics Assessment data the census tract where the facility is located already has an elevated cancer risk, compared to the surrounding tracts. Finally, PFPI proposes that the Commission should not only reject NiGen's petition, but also should encourage the DEC to conduct stack testing for the pollutants that the plant is currently emitting.

PFPI is critical of NiGen's chemical analysis because NiGen did not test for additional toxic contaminants expected in Glued Wood, such as formaldehyde. PFPI cites a 1995 study of organic emissions from combustion of plywood and particleboard that determined that there is good reason to believe that the combustion of Glued Wood will result in emission of organic hazardous air pollutants. The study found that the burning of

Glued Wood led to emissions of polycyclic aromatic hydrocarbons, toluene, and formaldehyde, with large quantities of benzene, naphthalene, acenaphthylene and anthracene, under certain levels of combustion efficiency. In particular, benzene emissions were observed to increase exponentially with carbon monoxide production. According to PFPI, the NiGen facility burns a variety of fuels of different moisture content which leads to extremely variable carbon monoxide emissions rates, which PFPI concludes would correspond with high emission rates for air toxics. In addition, according to PFPI, NiGen does not utilize an oxidation catalyst to reduce carbon monoxide and oxidize organic hazardous air pollutants emitted by burning Glued Wood. PFPI believes that NiGen's air permit that allows the plant to emit 0.2 lb/MMBtu of carbon monoxide as an hourly standard, translating to about 505 tons of carbon monoxide per year, reflects PFPI's concern about increased air toxics as a result of carbon monoxide production.

Con Edison/O&R also recommend that NiGen's petition be denied. Con Edison/O&R state that they have long supported the Commission's RPS policies and that they have consistently urged the Commission to implement the RPS program in a manner that assures funds are spent wisely and with vigilance against proposals that would have the effect of raising program costs. They also recommend that the Commission take no steps in furtherance of RPS, without assurance that such steps do not harm the State's environment. Con Edison/O&R oppose NiGen's petition because, contrary to NiGen's arguments, implementation of the proposal could have the effect of raising environmental costs for the RPS program and may also result in electric customers paying for activities that are not directly related to achieving a cleaner energy future. Con Edison/O&R believe that electric customers who fund the RPS program should not see those

funds used as a method to fund the local costs of solid waste disposal. They note that they similarly opposed the petition of Covanta Energy Corporation to include garbage incineration as an eligible RPS resource. Con Edison/O&R further argue that every point made by NiGen in support of its petition (cheaper fuel source, handling jobs, more use of waste) could be used to urge eligibility of other problematic waste streams to NiGen's fuel supply. Con Edison/O&R further observe that while clean wood recovered from construction debris meets the criteria for a renewable resource, glue on its own would not meet such criteria. As such, they suggest that if the Commission chooses to grant the petition in spite of the objections, the Commission should require NiGen to account for any increase in the heating value of the combustion stream attributable solely to the addition of glue, and reduce its resulting RPS payments by that factor because the State's electric customers should not pay NiGen an RPS incentive to burn glue.

Staff advises that it has reviewed the information on air emissions submitted and cited by the petitioner and the contrary information and citations in the comments received in opposition to the petition. Staff notes that NiGen operates a circulating fluid bed boiler technology that typically operates in the range of 1,400-1,600°F, a technology that promotes more effective combustion and cleaner results than stoker boiler technology and that is more efficient than much smaller industrial-sized boilers that were the subject of some of the research. Staff's best advice as a result of its review is that the research indicates that allowing up to 10% of biomass fuel to be made up of Glued Wood could potentially result in a small

increase in a number of pollutants,<sup>6</sup> with potentially a larger increase in NO<sub>x</sub>.

#### DISCUSSION

NiGen's arguments about our promoting new technologies derived from the waste stream are misplaced. NiGen's direct burn technology is not "new" or the kind of "new technology" we were hoping to promote in the November 22, 2010 NiGen/RPS Order. That Order was referring to technologies that would take biomass fuel stock and convert it into biogas. For those technologies, we will be looking at the air emissions results to determine whether they are comparable or cleaner than the direct burning of clean wood to determine whether they should be eligible. For direct burn, our approach is to keep the feedstock clean rather than to monitor the emissions.

NiGen's argument that there is no set standard for the presence of Glued Wood in an unadulterated wood feedstock is also misplaced. There is a standard; Glued Wood may not be present. The definition set forth in the September 24, 2004 RPS Order specifically defines plywood and particle board as an adulterated form of biomass not eligible for direct combustion.

While we agree that NiGen's proposal would divert more material from landfills and would make electric generation from biomass more economic for NiGen, we do not agree that those are persuasive arguments for a change in our RPS policies. As has been pointed out by the parties making comments, many materials for which we would not consider making RPS incentive payments would meet the tests offered by NiGen. Reducing the waste sent

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<sup>6</sup> Small increases might be found in one or more of the following: SO<sub>2</sub>, NO<sub>x</sub>, CO, acetaldehyde, acrolein, formaldehyde, total aldehydes, volatile organic compounds, and HCl.

to landfills could be accomplished by direct incineration of all adulterated waste streams, not merely Glued Wood, but that does not mean that our RPS policy should promote it. The question whether NiGen's request would violate its air pollution permit is also not persuasive. NiGen can burn coal and waste tires without violating the terms of its air pollution permit, but we do not give an RPS incentive for those activities. Similarly we find NiGen's contention that granting the relief it seeks would increase production of renewable energy to be circular reasoning. By definition, any fuel or technology added to those already permitted under our RPS Program would act to increase the renewable generation under the program, regardless of the reasoning used to justify it.

The real issue to be decided is whether it is appropriate to relax our standards and pay an incentive for activity that includes, as Con Edison/O&R put it, "burning glue". NiGen argues that a 10% tolerance would have an insignificant impact. The comments in opposition oppose allowing any tolerance and warn that relaxation starts one on the path of the proverbial slippery slope so that eventually the overall standard will be lost by small, seemingly inconsequential changes. And as Staff advises, the air emissions results are difficult to resolve, but the proposed relaxation might result in some increase in unwanted air emissions. The beauty of our current policy is that it creates a bright line between clean and adulterated wood such that all participants know what is expected, and we do not need to calculate or monitor air emissions to know that our RPS activities are in line with our RPS policies.

We have already demonstrated a commitment to biomass as a portion of our RPS program, both in its original inclusion as an eligible technology, and in the wake of pressure on the

wood fuel supply by the resolution of NiGen's November 6, 2009 petition wherein we authorized all biomass facilities to use clean wood separated from construction and demolition debris at approved material reclamation facilities as eligible biomass fuel, subject to quality assurance requirements. But both those decisions were consistent with allowing only clean, unadulterated wood to be used for direct burn generation.

Our determination is that what NiGen now requests goes too far and is more than setting a reasonable standard for tolerance in the feedstock, but rather would allow a clearly ineligible fuel. Some glued wood might be expected to accidentally enter a construction and demolition waste stream, regardless of whether the material is source separated or culled at a materials reclamation facility, but even NiGen does not argue that it is not feasible to ensure by visual inspection that virtually all Glued Wood has been eliminated. While our previous decision may have resulted in NiGen hiring additional employees to examine feedstock as it arrives at NiGen's facility, NiGen has not demonstrated that granting its petition would result in the creation of even more jobs. Less stringent fuel inspection would tend to result in less necessary person-hours, not more.

Essentially, NiGen's petition boils down to a request to be allowed to be paid from RPS program funds to burn Glued Wood, primarily due to the difficult economic conditions under which it finds itself.<sup>7</sup> The root cause of NiGen's financial woes is not our definition of what it can and cannot burn. NiGen's real problem is that the energy market revenues have dropped,

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<sup>7</sup> NiGen has also filed a separate petition requesting economic assistance from us by means of restructuring the payments it contracted to receive for clean biomass production in the Main Tier. That petition is addressed in a separate order.

and NiGen is not hedged against the loss of such revenues. The RPS program is not an appropriate vehicle to address those concerns. We decline to grant the relief sought as being contrary to our interests in increasing clean and renewable energy consumed by New York electricity customers.

The Commission orders:

1. The petition of Niagara Generation, LLC for authorization to burn Glued Wood (plywood and particleboard) as an up to 10% portion of biomass fuel eligible for production incentive payments in the Renewable Portfolio Standard (RPS) program is denied.

2. This proceeding is continued.

By the Commission,

(SIGNED)

JACLYN A. BRILLING  
Secretary