



STATE OF NEW JERSEY
Board of Public Utilities
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www.nj.gov/Board/

CLEAN ENERGY

IN THE MATTER OF THE APPEAL BY JAMES S.)
KNOELLER SR. FOR REIP SMALL WIND REBATE)
PAYMENT FOR REIPR-07339)

ORDER

) DOCKET NO. EW12090798V

Parties of Record:

James S. Knoeller, Sr., Petitioner
Stefanie A. Brand, Esq., Director, New Jersey Division of Rate Counsel

BY THE BOARD:

This Order memorializes action taken by the New Jersey Board of Public Utilities ("Board") at its December 18, 2013 public meeting where the Board considered the appeal by James S. Knoeller, Sr. for a rebate payment to be made in the small wind rebate program within the Renewable Energy Incentive Program ("REIP") in New Jersey's Clean Energy Program ("NJCEP").

BACKGROUND AND PROCEDURAL HISTORY

By Order dated June 21, 2013, Docket No. EO13050376V, ("the June 21, 2013 Order") the Board approved Fiscal Year 2014 ("FY14") programs and budgets for the New Jersey Clean Energy Program ("NJCEP"). The Order approved the compliance filings of the various program managers which set out program descriptions and detailed budgets for the NJCEP in FY14. Honeywell, as the renewable energy market manager ("Market Manager"), proposed the Board allocate sufficient funding to honor all commitments made in the Renewable Energy Incentive Program, which included a reservation of funds for the rebate commitment made in 2010 to Jim Knoeller, 100 Carriage Road, Forked River, NJ 08731.

On or about April 9, 2010, an application was submitted by Skylands Renewable Energy LLC. to the Market Manager for a rebate in the REIP for a 40 kW Enertech E-44A wind turbine to be installed on the Knoeller farm. The Market Manager issued a rebate approval letter committing \$79,355 for the project dated June 7, 2010. Wind equipment was installed at the Knoeller site in December 2010. Final as-built application paperwork was submitted for the installed equipment on January 14, 2011 with documentation that the project had passed local code inspection and received JCPL interconnection approval. Following these project development milestones, an NJCEP quality assurance inspection was conducted on January 18, 2011. An NJCEP

inspection report is the final document required in the REIP application file before the Market Manager finalizes application review within the six week rebate payment process.

On March 7, 2011, prior to the issuance of an REIP rebate for the Knoeller application, the NJCEP Program Coordinator, AEG, received "conflict resolution inquiries" from two NJCEP rebate applicants – Mr. Knoeller and Mr. Spiro Martin. Both individuals had Enertech 44A/40 kW wind turbines installed by Skylands Renewable Energy on the same day. Mr. Knoeller reported "numerous problems resulting in very few operational days" since the installation of the Enertech turbine in December 2010. Knoeller reported to AEG that "[i]n February it only operated three days. Last Tuesday March 1, a new part was installed, and on Wednesday there was a major malfunction which caused all three blades to disengage and blow off." Mr. Martin reported to AEG that he was advised to disable the turbine pending an investigation of the failure by the manufacturer. Mr. Martin's turbine did not malfunction, but the manufacturer warned against operation until a retrofitted bolster on the blades could be affixed. After receiving code inspection and manufacturer clearance to operate the turbine, the Market Managers paid the rebate to Mr. Martin. Mr. Martin also advised AEG that he sought a full refund of all payments made to the installer toward the purchase of the wind energy system.

Preceding the events involving the two Enertech wind turbines, on January 8, 2011, an Xzeres wind energy system caught fire in Villas, NJ. This wind installation also had been commissioned and inspected shortly before the system caught fire at the nacelle atop the turbine and at the load diversion device within the resident's garage. The wind turbine fire garnered significant press coverage due to the difficulty experienced by the local fire department in extinguishing the blaze atop the turbine's nacelle. Xzeres promptly replaced the turbine, controls, and load diversion device.

Based on these events, Staff issued a notice to stakeholders via email distribution list and a post to the NJCEP website on March 8, 2011 that "effective immediately, there is temporary a hold on all new REIP wind application and REIP wind rebate processing until further notice". The Market Managers initiated an investigation of the safety record of the turbines which had been provided rebates or had commitments pending in the NJ small wind rebate program. Staff visited the Knoeller farm to inspect the failed turbine on March 24, 2011. Following an initial investigation of the turbines in the program, discussions with the NJ Division of Consumer Affairs, the NJ Department of Community Affairs code enforcement officials, regional and national wind industry representatives, Staff convened a meeting of the NJ Small Wind Working Group. The working group met on April 14, 2011 to discuss the turbine failures and the implication of the hold on rebate processing activities in the REIP program.

In May 2011, Staff began discussions with the National Renewable Energy Laboratory ("NREL") to conduct a forensic analysis of the failed wind turbines to determine the causes of failure and gather technical information about the turbine's ability to function. Such information would assist Staff in making a recommendation to the Board on whether to pay the REIP rebate for Knoeller's failed turbine. NREL was also requested to provide recommendations on how to redesign or strengthen the small wind rebate program. On September 23, 2011, the Board received Treasury's approval to contract with NREL to conduct the forensics analysis. On November 29, 2011, a kick-off meeting for the forensics study was conducted with the NREL study team and BPU Staff. The forensics team subsequently performed a site visit to each of the failed turbines, including the Knoeller site. At the Knoeller site, the NREL team was able to visually inspect the disengaged rotor blades.

Preliminary results of the forensics analysis were presented by the NREL study team to Staff in a report dated January 16, 2012. The NREL forensics team presented the preliminary results in a meeting with Staff, the Market Managers, Mr. Knoeller and Mr. Martin, and the installer of the Enertech turbines on January 27, 2012. NREL presented a draft report dated October 15, 2012 to Staff along with the owners of the affected turbines, the installers and the manufacturers with a request for comments. On October 09, 2013, Staff was presented with final reports produced by NREL including a report for Enertech turbines, a report for the Xzeres turbine and a summary of both. (New Jersey Small Wind Turbine Failure Analysis, Technical Services Agreement Summary, S. Hughes and L.J. Fingersh, August 2013).

The NREL forensics report provides a significant amount of technical detail related to the findings of the investigators as to the cause of the failure. In summary, the NREL forensics report on the Knoeller wind turbine failure found:

- Three Enertech blades failed at the root connection from the Enertech E44A machine at the Knoeller site in New Jersey
- Failure of the blades occurred during normal operation
- Control system modifications were not considered a primary or contributing source of failure.

And

- There was no evidence that the failure was caused by improper installation or operation, including control system modifications.

(New Jersey Small Wind Turbine Failure Assessment, Enertech E44A Blades, S. Hughes, August 2013, pp 39 & 40).

Based on the conclusions drawn by the NREL forensic investigators, specifically that the Enertech turbine blades were flawed and there was no evidence that the rotor blade separation was caused by improper operation and that all conditions in the rebate commitment letter were met including compliance with local, state, federal regulations and with program requirements, Staff recommends that the Board authorize the committed rebate payment be made to Mr. Knoeller by the Market Managers from the NJCEP REIP budget.

DISCUSSION AND FINDINGS

The Board has reviewed the petition submitted by Mr. Knoeller and the forensic engineering analysis conducted by the National Renewable Energy Laboratory (NREL) on the cause of the failure of the Enertech turbine installed for Mr. Knoeller.

Based on the above, the Board **HEREBY FINDS** that the applicant had met all NJCEP program requirements prior to the failure of the wind turbine, the NREL forensic analysis concluded that the Enertech turbine blades were flawed, and there was no evidence that the rotor blade separation experienced by the Knoeller's turbine was caused by improper operation. The Board **HEREBY DIRECTS** the Market Manager to process the rebate payment for Mr. Knoeller in the amount of \$79,355.


The Board **HEREBY DIRECTS** Staff to release the NREL report for stakeholder review and to evaluate the performance of small wind turbines that have received a rebate in New Jersey's Clean Energy Program. The Board **HEREBY DIRECTS** Staff to evaluate the safety,

performance, durability, and cost effectiveness of turbines that received NJCEP incentives and develop a recommendation on whether the Board should reestablish a small wind rebate program. Furthermore, this process should be concluded as expeditiously as possible.

The effective date of this order is December 30, 2013.

DATED: 12/18/13

BOARD OF PUBLIC UTILITIES
BY:


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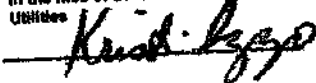

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ATTEST:

KRISTI IZZO
SECRETARY

I HEREBY CERTIFY that the within document is a true copy of the original in the files of the Board of Public Utilities



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REBATE PAYMENT FOR REIPR-07339

DOCKET NO. EW12090798V

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