

Agenda Date: 4/11/12 Agenda Item: 2H

STATE OF NEW JERSEY Board of Public Utilities 44 South Clinton Avenue, 9th Floor Post Office Box 350 Trenton, NJ 08625-0350 <u>www.nj.gov/bpu/</u>

ENERGY

ORDER

IN THE MATTER OF THE BOARD'S PROCEEDING PURSUANT TO GOVERNOR CHRISTIE'S CONDITIONAL VETO OF A3991/S2978 (LEGISLATIVE SESSION 2010-2011)

DOCKET NO. E012010026

Parties of Record

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BY THE BOARD:

BACKGROUND

On May 9, 2011, A3991 was introduced into the Legislature for the purpose of providing for an exception from the standards previously adopted by the New Jersey Board of Public Utilities ("Board" or "BPU") for use of space on utility poles, for the construction and installation by electric public utilities of certain solar and photovoltaic electric generation equipment on those poles. The legislation would have allowed the installation of solar panels and related photovoltaic electric generation equipment in the section of utility poles known as the "neutral" zone, as long as the solar and photovoltaic electric generation equipment was "constructed, installed, inspected, maintained, and replaced" under a Board approved program. The Board's current standards for the use of space on utility poles mirrors those of the National Electric Safety Code ("NESC"), published by the Institute of Electrical and Electronics Engineers, which does not permit installation of equipment in the "neutral" zone. A3991 passed both houses on December 15, 2011.

On January 9, 2012, Governor Chris Christie, pursuant to Article V, Section I, Paragraph 14 of the New Jersey Constitution, conditionally vetoed A3991, and recommended that the bill be amended to remove the statutory exceptions from the Board-regulatory standards, and direct the Board to conduct a review of the safety issues implicated by the installation of solar panels

in the "neutral" zone of utility poles. Thereafter, the Legislature amended the legislation pursuant to the Governor's recommendations, by adding the following:

The 'neutral' zone on utility poles is defined as the space "directly between the lowest electric public utility facilities located in the utility poles' supply space and the higher of 1) the highest telecommunications facilities located in the utility poles' communications space, and 2) the reference gain at the bottom of the communications worker safety zone " The Board of Public Utilities shall conduct a review of the safety implications of the installation and maintenance of solar and photovoltaic electric generation equipment by electric public utilities in the "neutral" zone on utility poles. ...and shall set forth its determinations no later than 90 days from the date of enactment of this act. [A3991, as amended January 9, 2012.]

By Order dated January 18, 2012, the Board, consistent with the amended legislation described above, initiated a review process to address the safety implications of the proposed placement of solar and photovoltaic electric generation equipment in the "neutral" zone on utility poles. The Board Order, among other things, named Commissioner Fiordaliso as the Presiding Commissioner and authorized him to set forth a procedural schedule in the matter. By Order dated January 20, 2012, Commissioner Fiordaliso set forth the dates for submissions including February 10, 2012 for Comments. Subsequently, by Order dated February 10, 2012, Commissioner Fiordaliso modified the schedule so that Comments were due on February 15, 2012. To date, the only electric public utility installing solar panels on utility poles is Public Service Electric and Gas Company ("PSE&G").

On August 3, 2009, the BPU issued an Order authorizing PSE&G to implement what has come to be known as the Solar 4 All Program ("Program"), *In The Matter of Petition of Public Service Electric and Gas Company For Approval of a Solar Generation Investment Program and Associated Cost Recovery Mechanism*, Docket Number EO09020125 ("Solar Order"). The Program is designed to support New Jersey's Energy Master Plan goals as well as spur the creation of manufacturing and construction jobs in New Jersey. The Solar Order adopted a Stipulation of Settlement regarding PSE&G's petition for approval of the Program and associated rate recovery mechanisms pursuant to <u>N.J.S.A.</u> 48:3-98.1, and under the terms of the stipulation authorized PSE&G to install up to 200,000 solar panels on utility poles in its service area through the Neighborhood Solar segment of the Program. The Solar Order and the settlement are silent on the issue of the placement of the solar panels on the poles.

Eight participants filed submissions for Board review in this matter: Petra Solar LLC ("Petra"), Atlantic City Electric Company ("ACE"), Jersey Central Power & Light ("JCP&L"), The New Jersey Cable Telecommunications Association ("NJCTA") and International Brotherhood of Electrical Workers (IBEW) Locals 94, 456, and 827, and PSE&G filed comments. Consistent with the schedule, two parties, PSE&G and the NJCTA, filed position papers on March 19, 2012. By letter dated March 19, 2012, the New Jersey Division of Rate Counsel indicated that it would not be filing comments in this matter.

COMMENTS

IBEW Local 456

Joseph Egan, on behalf of the IBEW Local 456 commented that the union believes that solar panels can be installed in the neutral space safely and efficiently. Further, Mr. Egan commented that allowing installation in that space will permit the Project commenced by PSE&G to continue uninterrupted. Installation of 120,000 panels by Local 456 has not resulted in any situations

which affected the workers or the public, according to Mr. Egan. Moreover, the installations, as described by Mr. Egan, have been without incident. Mr. Egan emphasized that the safety of the workers is paramount, and will not be compromised in any manner by permitting installation of panels in the neutral space, and therefore Local 456 supports the placing of panels in said space.

IBEW Local 94

On February 10, 2012, Chip Gerrity, on behalf of IBEW Local 94 that represents a majority of PSE&G's union workers, expressed by letter that the local did not have concerns regarding installation of solar panels in the neutral space, understanding that the impetus for such action is to fulfill the Energy Master Plan goals for renewable energy.

IBEW Local 827

William Huber on behalf of Local 827, submitted comments urging that solar power equipment installations be made outside of the Verizon work area. Local 827 is concerned with the safety aspects of these installations, and asserts that to date many installations constitute obstructions on the poles since these installations have <u>not</u> been placed in the neutral space, which the local argues is the proper placement versus other locations on the pole. In order to abate hazards, Local 827 supports installation of solar panels in the neutral space with remediation of any nonconforming installations to protect the safety of Verizon workers.

Petra Solar

Petra is a solar panel manufacturer. Petra submitted comments and supporting materials, including a power point presentation entitled; "Safety of Petra Solar Smart Energy Modules," which addressed the design quality and safety of the solar panels. These materials outlined the extensive testing that has been performed by independent laboratories and, Petra maintained that these materials evidence the fact that the design and structural integrity of the solar panels make them safe for installation on PSE&G's utility poles.

In the review of safety implications of the installation and maintenance of solar and photovoltaic electric generation equipment in the communications worker safety zone ("CWSZ"), Petra suggests that precedents exist around the country where state commissions have amended the NESC. For example, Petra states that the Public Service Commission of Florida issued a memorandum regarding Docket No. 060173-EU which proposes amending the NESC. According to this memorandum, "...staff could not find one all-encompassing definition of "communications worker safety zone" within the NESC because the definition appears to change based on the specific facilities installed on the pole under review."

The analysis in Florida also noted that "...at least one New York electric utility company, Long Island Power Authority, appears to allow attachments in or above the CWSZ. Thus, pole attachment safety and reliability issues can be adequately addressed by the states as long as the electric utility and pole attacher implement appropriate standards and practices."

For the foregoing reasons, Petra supports the installation of its solar equipment in the neutral space and recommends that the regulations be amended to permit installation in that zone.

JCP&L

JCP&L is a public utility operating in New Jersey. On February 15, 2012, JCP&L filed comments supporting the Board's effort to explore the safety implications of the placement of solar and photovoltaic electric generation equipment in the "neutral" zone but recommending that any modifications to the accepted standards be done through the NESC code change process. In order to fully vet the safety issues, JCP&L argues that, prior to installation of solar panels in the communications workers safety zone, the NESC code change proposal should be filed and processed in the ordinary course. The well established process, according to JCP&L should be utilized, in light of the evolution of new products such as solar panels to determine the safety of installation in the neutral space. JCP&L cites Rule 238 and 239 of the NESC which states that "except as allowed by Rule 238C, 238D and 239, no supply or communications facility shall be located in the communication worker safety zone," and therefore placement of solar panels in this space should be subject to the NESC code revision cycle.

<u>ACE</u>

ACE, a public utility operating in New Jersey, filed comments on February 15, 2012, stating that ACE believes, at least for its own service territory, the installation of solar panels in the neutral space would be in violation of the NESC Rules 235 and 238. ACE points out that a few select items are permitted in the neutral zone and they do not include solar panels. ACE has concerns about the inability of line workers to climb poles, that the installation would violate the distance to primary lines that is traditionally required under New Jersey regulations at $\underline{N.J.A.C.}$ 12:18.6, and the New Jersey High Voltage Proximity Act $\underline{N.J.S.A.}$ 34:6-47.1 which requires qualified workers perform repairs at a distance of not less than six feet from any high voltage conductor. ACE is concerned that the method of installation being considered by the Board could impede effective access by line workers to the company's equipment.

NJCTA

The NJCTA is a voluntary trade association whose members consist of CSC, TKP, LLC, Cablevision, Comcast Communications Management LLC and Time Warner Entertainment Co. LP. (collectively "Cable Companies"). The NJCTA filed comments informing the Board that it had reached an agreement with PSE&G regarding pole mounted solar panel installations. The NJCTA recently executed an agreement with PSE&G, and accordingly does not object to the Board allowing PSE&G relief concerning its solar panel installations, provided that the relief is tailored to the need to complete the "Neighborhood Solar" Project only. NJCTA supports a limited waiver of the NESC rules as adopted by the Board in <u>N.J.A.C.</u> 14:5-2.1. The NJCTA submitted that this proceeding was not the appropriate forum for the Board to grant a general blanket waiver of its rules but rather a more narrowly tailored waiver to complete the Solar 4 All Program. The NJCTA argues that the Board has not engaged in the process outlined in <u>N.J.A.C.</u> 14:5-2.1, as such an accommodation would entail a more detailed analysis with a less limited and expedited time schedule.

PSE&G

Following the commencement of this matter, PSE&G submitted a Petition seeking an Order for a limited waiver of <u>N.J.A.C.</u>14:5-2.1(a)3, which requires the construction and installation of electric distribution company plant and facilities be in accordance with the NESC. PSE&G asserted that the limited waiver is necessary to enable PSE&G to expand its installation of solar

panels from the common space¹ to the neutral zone (or space) on poles for the purpose of completing the pole mounted segment of the Program in its service territory.

Pursuant to the Program goals, PSE&G, to date, has installed over 120,000 solar panels. The majority of the solar panels have been installed on wood poles, typically in the Common Space which is the space on the pole below the lowest communication attached height. The Solar Order authorized PSE&G's installation of up to two hundred thousand (200,000) solar panels on distribution, metal or wood utility poles in its service territory. The solar panels are interconnected with PSE&G's distribution system at secondary voltage, and are designed to deliver approximately two hundred thirty-five (235) watts into the distribution system.

PSE&G contends that the lack of further common space on poles has limited PSE&G's deployment of pole-mounted solar panels as approved in the Solar Order. PSE&G emphasized it is not aware of any safety issues arising out of the installation of solar panels. In order to complete the Board-approved goal of installing 40MW of renewable energy resources and achieve New Jersey's Renewable Portfolio Standards goals as detailed in Governor Christie's Energy Master Plan, PSE&G contends a waiver of the rules is essential.

Accordingly, PSE&G requested a limited waiver to expand its solar panel installations from the common space, to the area on the pole typically referred to as the neutral space. In support of its petition, PSE&G filed, under affidavits of confidentially, agreements reached with Verizon and the NJCTA, which set forth the installation and operating criteria for installations in the neutral space. PSE&G maintained that these installation and operating criteria ensure the protection and safety of communications workers, utility workers and the general public.

PSE&G also filed supporting comments including the opinion of it experts, namely, William Labos, Donald Hooper and Trevor Bowmer. Mr. Labos, Director of Asset Reliability at PSE&G, submits that PSE&G has 825,000 wood poles in its service territory with 544,000 poles jointly owned with Verizon. Solar panels exist in the common space subject to an agreement with Verizon. The panel is grounded and connected to the earth through a utility service ground connection of sufficiently low impedance. The current-carrying capability limits the build up of voltages to levels below that which could result in electric hazards to persons. Mr. Labos added that the solar panels meet all Institute of Electrical and Electronics Engineers ("IEEE"), International Electro-Technical Commission ("IEC") and Underwriters Laboratories ("UL") safety standards. Panels are mounted at an angle that does not encroach on the NESC 30 by 30 inch vertical work zone as described by Mr. Labos. With over 120,000 solar panels installed, Mr. Labos submits that no problems have been reported.

According to the petition, PSE&G has developed specific criterion for potential installations in the neutral zone which have been agreed to by Verizon and the NJCTA. The criterion provides for the same clearance as luminaries and traffic signals in the NESC. PSE&G states panels will not be installed on poles with cable company power supplies or pole-to-pole guy wires attached above the communications space. From a safety and operational stand point, Mr. Labos testified that solar panels are substantially similar to street lights, which operate at low voltage (120V), weigh only 65 pounds and are positioned to permit an easy work around area. Installations of solar panels in the CWSZ can be performed by PSE&G street light mechanics, as well as, trained PSE&G or IBEW linemen or electricians.

Mr. Hooper, of Electric Supply and Communication Consulting Services, has more than 40 years experience, and consults on NESC and National Electrical Code requirements and

¹ The common space is the space on the pole below the lowest communication attachment height.

applications. He currently serves as Chair of the Interpretations Subcommittee and as a member of both the Coordinating and the Overhead Lines-Clearances Subcommittees, as well as on working groups and task forces as the need arises. Mr. Hooper concluded that solar panels are similar to street light brackets in many respects, including operating voltage, access to equipment and work practices. Installation of panels using the same installation requirements specified for street light brackets along with accepted safe work practices does not create safety problems or concerns.

Mr. Hooper indicated that the agreements between PSE&G and Verizon/NJCTA contain goodpractice operating procedures specific to solar panels. These procedures will facilitate installation, operation, maintenance, relocation and removal of solar panels in an orderly and expeditious manner.

Mr. Bowmer, Ph.D. Telcordia Technologies, a 30 year veteran in analyzing communications networks serves on technical committees of the NESC and NEC Code making panels. Mr. Bowmer states that although the NESC is written as a voluntary standard, individual states and authorities having jurisdiction such as the Board and government agencies routinely adopt the NESC, with or without changes, as part of their regulatory requirements for communications and power utilities. According to Bowmer, the safety of the worker is determined by (a) training, qualifications and experience, (b) adherence to industry practice, and (c) the compliance to established safe working methods and procedures meeting Occupational Safety & Health Administration (OSHA) standards and NESC rules.

Maintaining appropriate separation between workers and live electrical equipment is a primary reason for the CWSZ. Mr. Bowmer is satisfied that there will be adequate physical working space. As per the agreements, these solar panels will have a separation of 20-5/8 inches between the top-most communications facility and the bottom of the solar panel. Such a separation provides adequate safe working space and clearance for the communications technician when they are working on the communications plant. The 20-5/8 inches of clearance provided within the PSE&G plans is adequate safety clearance to help minimize accidental physical contact between worker and panel.

Mr. Bowmer indicated that although these panels have a larger physical profile (65 inch x 24 inch x 25 inches) than traffic lights or light fixtures, there is sufficient working space provided in the configurations specified in the agreements and installation manuals to avoid conflicts with the communications worker during their general work operations. Mr. Bowmer testified that in cases where the panel may conflict with space required to follow standard work practices, PSE&G has agreed to remove the panel on short notice as a contingency plan.

Mr. Bowmer concluded: "Based upon my knowledge and experience, it is my opinion to a reasonable degree of engineering certainty that the installation design and configuration for placing these particular PSE&G solar panels in the neutral space on poles is safe for communications workers who need to operate, install, maintain and repair their adjacent communications facilities."

In sum, the experts presented by PSE&G averred that solar panels can safely be installed in the neutral space, pursuant to the criteria established in the aforementioned agreements.

PSE&G maintained that the Board has the authority to grant its request for a waiver, pursuant to <u>N.J.A.C</u>. 14:1-1.2(b)1, which provides that the Board has the authority to "waive section(s) of its rules if full compliance with the rule(s) would adversely affect the ratepayers of a utility or other regulated entity, the ability of said utility or other regulated entity to continue to render safe,

adequate and proper service, or in the interests of the general public." PSE&G submits that it is in the interests of the general public for the Board to grant a limited waiver of the requirements of <u>N.J.A.C.</u> 14:5-2.1(a)3 to permit solar panel installations in the neutral space.

DISCUSSION AND FINDINGS

Prior to reaching a conclusion on the question before the Board regarding the conditional veto, the Board at this time declines to expand the scope of this proceeding beyond the issues specifically addressed in Governor Christie's conditional veto of A3991/S2978 (Legislative Session 2010-2011) as suggested by ACE in its March 19, 2012 discovery responses to Rate Counsel as well as by PSE&G in its waiver petition. The Board concurs with the position of the NJCTA that the conditional veto is limited to a review of the safety implications of the placement of solar and photovoltaic electric generation equipment in the "neutral zone" on utility poles. The common space is the area below the CWSZ on the pole, and review of the placement of solar panels in the common space is outside the scope of this proceeding.

Pursuant to <u>N.J.A.C.</u> 14:1-1.2, the Board may waive sections of the rules if "full compliance would adversely affect the ratepayers of a utility or other regulated entity, the ability of said utility or other regulated entity to continue to render safe adequate and proper service, or the interests of the general public." A party seeking a waiver must state the hardship or inconvenience that would result if full compliance with the rules were required.

The record contains statements by three union locals in support of the installation of solar panels in the neutral space while fully aware of the standing NESC guidelines. Significant in the decision making process are the agreements filed by Verizon and the Cable Companies which provide for neutral zone installations. Specifically, the Cable agreement states:

"Effective upon legal authorization for PSE&G's installation of Solar Panels in the Neutral Space, any Solar Panels installed or where Solar Panels exist as of Effective Date below the Neutral Space are removed and replaced, on poles shall be located in or above the neutral space to the extent feasible in accordance with technical specifications of this Agreement."

[Cable Companies Agreement page 1]

This provision in the contract agreed upon by Cable Companies, in addition to similar language contained in the Verizon agreement, coupled with the comments filed by IBEW Locals appears to provide evidence that the installation of solar panels in the neutral space is preferred by those whose safety would be affected most by the Board's decision in this regard.

Of additional relevance to the Board are the statements of the experts submitted by PSE&G which avow installation in the neutral space does not present a hazard to the general public or the workers. Specifically, PSE&G counters ACE's comment regarding the application of the New Jersey High Voltage Proximity Act or Occupational Health and Safety Administrations standards in that each "do not apply to qualified employees engaged in the construction, reconstruction, operation and maintenance of overhead electric distribution or communications systems. PSE&G contends that the New Jersey High Voltage Proximity Act specifies approach distances for non-utility workers that exceed flash-over distances allowing a significant margin for error for these non-authorized and non qualified personnel." PSE&G Position paper at 7.

In the case before the Board, a determination must be made regarding the safety of the installation of solar and photovoltaic generation equipment in the neutral space, and the Board

must opine whether it is appropriate at this time to find in favor of PSE&G's request for a waiver of the Board's rules which adopt NESC guidelines regarding plant construction found at <u>N.J.A.C.</u> 14:5-2.1 (a)3.

Absent a waiver of the Board's current rules, there is a likelihood that PSE&G will not be in a position to complete the Program which would adversely impact ratepayers, and would not be in the best interests of the general public. The record presented provides evidence of hardship on the part of PSE&G regarding its ability to complete the Program should the Board's rules not be waived.

Upon careful review of the submissions on behalf of the commenters/parties participating in this matter, the Board <u>HEREBY</u> FINDS that it is appropriate to conditionally waive its regulations found at <u>N.J.A.C.</u> 14:5-2.1 "Plant Construction", specifically <u>N.J.A.C.</u> 14:5-2.1(a)3, as relates to the NESC. The granting of this waiver is subject to PSE&G's performance of its obligations under its agreements with the NJCTA and Verizon. This waiver, subject to the conditions below, shall be limited solely to PSE&G and its Program segment two, Neighborhood Solar. The waiver shall have no applicability to any other electric distribution company operating within the state of New Jersey, and is of limited duration. This waiver shall expire upon either completion of segment two installations, that is, 40 MW is reached as authorized by the Board in the 2009 Solar Order, or when all available space in the neutral zone has been exhausted. When completed, the Board must be notified by PSE&G in writing of the conclusion of segment two. Further, this waiver applies solely and exclusively to solar panel installations in the neutral zone.

PSE&G is <u>HEREBY</u> <u>ORDERED</u> to submit a monthly report to the Board Secretary containing the following: (1) the number of solar panel installations in the neutral zone in the previous month (2) the amount of kW installed associated with the panels quantified in (1); and (3) the cumulative kW installed for segment two of the Program. This report shall be separate and in addition to any other reporting requirements under the Program.

Waiver Conditions:

- (a) The installation of solar panels within the communications worker safety zone must meet all other parts of the NESC as it currently applies to streetlights and traffic signals including:
 - 1. Grounding rules of NESC Rule 215C1.
 - 2. Ground clearance rules of Rule 232B3 and Table 232-2.
 - 3. Provision of sufficient climbing space in accordance with Rule 236D.
 - 4. Provision of sufficient working space around communications lines and equipment in accordance with Rule 237A.
 - 5. Work rules of Part 4 of the NESC code are followed including Rule 411E, 420E, and 422B.
- (b) Solar panel installations shall meet the following:
 - 1 Conductive portions of equipment cases and supporting hardware shall be effectively grounded.
 - 2 Electrical circuits within the equipment shall operate at potentials not exceeding those specified for communication lines except for, if applicable, the circuit connecting the equipment to the supply line.
 - 3. The voltage of the electrical circuits connecting the equipment to the supply line shall not be greater than 125 V.

- 4 Circuits operating at communication line potentials shall be electrically isolated from any circuits connecting the equipment to a supply line. Equipment containing inverters shall utilize transformer isolation and the inverter shall pass the Dielectric Voltage-Withstand Test of UL1741.
- 5. If the equipment provides energy to a supply circuit, it shall meet the requirements of IEEE 1547.

Based upon the record in this matter, the Board **FINDS** that it has the authority to grant PSE&G's request for a waiver of <u>N.J.A.C.</u>14:5-2.1(a)3, pursuant to the authority granted to it under <u>N.J.A.C.</u> 14:1-1.2(b) 1. The Board also **FINDS** that in order to allow PSE&G to complete segment two of its Program, it is necessary to allow PSE&G to expand its installation of solar panels to the neutral space on poles within its service territory. The Board further **FINDS** that the installation and maintenance of solar and photovoltaic electric generation equipment by electric public utilities in the neutral zone on utility poles can be done safely under the terms of the agreements between PSE&G and Verizon and the NJCTA, which are included in the record and the conditions contained in this Order. As such, the Board **HEREBY GRANTS** PSE&G a limited conditional waiver of <u>N.J.A.C.</u> 14:5-2.1(a)3 for completion of its Solar 4 All Program segment two as authorized by the Board in the 2009 Solar Order, provided the conditions outlined above are met and conditioned upon PSE&G's performance under executed agreements with both Verizon and NJCTA members.

By this Decision and Order, the Board <u>HEREBY</u> <u>AFFIRMS</u> the decisions made by Commissioner Fiordaliso during the course of this proceeding for the reasons stated in the Orders.

DATED: 4/12/12

BOARD OF PUBLIC UTILITIES BY:

ROBERT M. HANN PRESIDENT

ANNE M. FOX

COMMISSIONER

NICHOLAS AŠSELTA COMMISSIONER

ATTEST

KRISTI IZZO SECRETARY

OSEPH L. FIORDALISO COMMISSIONER

COMMISSIONER

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

IN THE MATTER OF THE BOARD'S PROCEEDING PURSUANT TO GOVERNOR CHRISTIE'S CONDITIONAL VETO OF A3991/S2978 (LEGISLATIVE SESSION 2010-2011) DOCKET NO. EO12010026

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