

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

PJM Interconnection, L.L.C.

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Docket No. ER14-2940-000

**RESPONSIVE AFFIDAVIT OF ROBERT H. UNISZKIEWICZ
ON BEHALF OF THE PJM POWER PROVIDERS GROUP**

1. My name is Robert H. Uniszkievicz and I am a Construction Cost Estimating Manager employed by PSEG Services Corporation. I previously submitted an affidavit in this matter on October 16, 2014 (“October 16, 2014 Affidavit”) responding to a September 25, 2014 affidavit (“Initial Affidavit”) prepared by Dr. Paul Sotkiewicz on behalf of PJM Interconnection, L.L.C. (“PJM”). I am submitting this affidavit (“Responsive Affidavit”) in support of the reply to PJM that the PJM Power Providers Group¹ is supplying in this proceeding.

2. In this Responsive Affidavit, I respond to criticisms of comments made in my October 16, 2014 Affidavit concerning deficiencies I identified in an analysis performed by Dr. Sotkiewicz that purported to validate labor cost estimates included in the Cost of New Entry (“CONE”) value proposed for the combustion turbine (“CT”) reference unit by PJM. In brief, I identified three apparent flaws in Dr. Sotkiewicz’s analysis:
 - (i) That he appeared to assume a 40 hour work week, instead of a work week of at least 50 hours as is typical for a power plant construction project; as a result the level of wages assumed in his analysis appeared to be understated by 8% to 10% due to a failure to account for overtime;

 - (ii) That his assumption of 360,000 labor hours for construction of the CT reference unit (prior to the productivity adjustment) was not supported by any record evidence, was well below the level that could reasonably be expected based on recent peaker plant construction undertaken by PSEG Power affiliates and appeared to be significantly below the labor hours assumed by Sargent & Lundy (“S&L”) in its CT CONE calculation; and

¹ P3 is a non-profit organization dedicated to advancing federal, state and regional policies that promote properly designed and well-functioning electricity markets in the PJM region. P3 membership is comprised of energy providers that are members of PJM, conduct business in the PJM balancing authority area, and are signatories to various PJM agreements. Combined, P3 members own over 87,000 megawatts of generation assets and over 51,000 miles of transmission lines in the PJM region, serve nearly 12.2 million customers and employ over 55,000 people in the PJM region, representing 13 states and the District of Columbia. These comments do not necessarily reflect the specific views of any particular member of P3 with respect to any issue.

- (iii) That the labor productivity factor used in his analysis of 1.16 was too low based on my experience; a typical assumption for CONE Area 1 should have been at least 1.21.

Dr. Sotkiewicz responded to each of these criticisms in his November 5, 2014 Affidavit (“Answering Affidavit”) and I will respond in turn to each of those replies.

3. Dr. Sotkiewicz states in his Answering Affidavit that he did consider overtime because he based his analysis on data from the Census of Employment and Wages (“CEW”) published by the Bureau of Labor Statistics (“BLS”) for “Utility Construction Wages” as designated under the North American Industrial Classification (“NAIC”) which should include all remuneration, including overtime payments, for this work.² However, it still appears that his wage estimates are too low based upon my experience regarding wages for power plant construction in New Jersey.
4. Based upon the additional explanation supplied in his Answering Affidavit, the apparent flaw in his analysis seems to relate to the aggregated data he is using. The NAIC grouping upon which he is relying is not limited to just power plant construction projects or even to the construction of projects within the electric power industry. The NAIC definition of a “Utility” is as follows: “The Utilities sector comprises establishments engaged in the provision of the following utility services: electric power, natural gas, steam supply, water supply, and sewage removal.”³ This aggregated data can be expected to understate the wage rates for power plant construction workers because it apparently includes data about construction projects undertaken by workers with permanent full time employment arrangements with utility companies. Wages for these types of workers will typically be lower than wages paid to craft workers for power plant construction who move from job to job. Moreover, these workers will typically belong to different labor units than the craft workers for power plant construction and thus have different pay scales. In addition, permanent workers are less likely to work overtime on a continuous basis. Finally, the inclusion of data from industries other than the electric industry may also skew the results. Accordingly, I stand by my earlier conclusion that the wage rates are too low for CONE Area 1. Further, because the supporting BLS data for other areas would be aggregated as well, I would expect wages for power plant construction in those areas also to be understated in a similar fashion.
5. Dr. Sotkiewicz’s second criticism relates to the “base case” number of labor hours required to construct the CT reference unit. I define the “base case” labor hours to mean the number of required labor hours before making an adjustment for local productivity. Dr. Sotkiewicz used 360,000 labor hours as the base case in his analysis which was taken from a report prepared by Santec Consulting Services,

² Answering Affidavit, P 8.

³ BLM website, “Industries at a Glance,” (available at <http://www.bls.gov/iag/tgs/iag22.htm>.)

Inc. (“Stantec”) that was not part of PJM’s filing. My Initial Affidavit showed that the value taken from the Santec report was well below any reasonable estimate based upon the experience of PSEG Power affiliates in building new peakers. Further, the Santec value estimate appeared to be considerably less than the labor hours implied by construction cost values appearing in the S&L study.

6. In his Answering Affidavit, Dr. Sotkiewicz refers to other PJM witnesses employed by the Brattle Group who indicate that the base case value used by S&L for EMACC was 368,000 hours which is very close to the Santec value.⁴ In addition, the Brattle Group witnesses indicate that S&L used a 1.19 productivity factor for EMACC which results in 437,500 estimated labor hours for the project in that area.⁵ However, accepting the S&L reported values for labor hours results in inconsistencies between the wage rates calculated by Dr. Sotkiewicz in his Initial Affidavit and the implied wage rates derived from the S&L study. In the table below, I show a comparison of the implied wage rates derived from the S&L construction labor cost estimates in the study prepared for the Brattle Group and submitted by PJM as part of its September 25, 2014 filing and the wage rates calculated by Dr. Sotkiewicz in his Initial Affidavit. I calculated the implied wage rates for S&L by dividing the 437,500 estimated labor hours for the CT project reported by the Brattle Group into the “Construction Cost” values set forth in S&L’s study.⁶

Table 1: Implied Sargent & Lundy Wage Rates Compared with “Upper Bound” of Sotkiewicz Estimated Wage Rates

CONE AREA	CONE Area 1	CONE Area 2	CONE Area 3	CONE Area 4	CONE Area 5
S&L Implied Wages	\$163.89	\$126.63	\$126.40	\$124.57	\$110.17
Sotkiewicz “Upper Bound” Wages	\$98.88	\$62.43	\$74.62	\$84.58 \$	\$57.22

⁴ Answering Affidavit, P 9. Dr Sotkiewicz also refers to the study prepared by CH2M-Hill in PJM’s 2011 CONE review as support of its use of the 360,000 labor hours value. However, as noted in my October 16, 2014 Affidavit, the Commission suspended the CONE values in that proceeding for the maximum statutory period due to various elements of CH2M Hills presentation not having been shown to be just and reasonable, including labor costs. See *PJM Interconnection, L.L.C.*, 138 FERC, ¶ 61,062, P 41 (2012) (“Here, we find that intervenors have raised a number of material issues of disputed fact as to the proper calculation of the Gross CONE values, as summarized above. Intervenors argue, for example, that PJM has failed to include accurate electrical and gas interconnection costs, property tax estimates, location-specific adjustments, and costs for material, labor and equipment.”) .

⁵ November 6, 2014 Filing, Attachment B, Affidavit of Johannes P. Pfeifenberger and Bin Zhou, p. 23.

⁶ It appears that higher productivity factors may have been used in regions other than EMAAC. If so, the total required labor hours would be lower for those regions which would tend to raise the implied S&L wage values.

As can be seen in the chart, there is a significant difference in the values. Given that S&L reportedly was consulted about all three values used to derive the construction cost calculation, *i.e.*, the wage rates⁷, the “base case” labor hours⁸ and the productivity factor⁹, this large discrepancy between the wage rates should not be present. At a minimum, it calls the values used by Dr. Sotkiewicz in his validation computations into question and requires more study before the adjustment he proposes can be allowed.

7. Dr. Sotkiewicz also criticizes my Initial Affidavit based on the claim that that the labor hours per megawatt values that I calculated from peaker projects constructed by PSEG Power affiliates are “unreliable” because they do not consider economies of scale associated with building a larger plant such as the CT reference unit.¹⁰ However, based on my extensive experience with providing cost estimates for power plant projects which has included plants larger than the CT reference unit, I do not believe that there would be significant economies of scale realized (if any) in terms of labor hours per megawatt between the peakers discussed in my October 16, 2014 Affidavit and the CT reference unit.
8. Finally, Dr. Sotkiewicz also criticizes my claim that the assumed productivity factor for New Jersey of 1.16 is too low. He claims that “most importantly” the impact on the overall CONE estimate would be less than 0.5% which he characterizes as “not material.”¹¹ However, if my observations about the understated wage rate and the understated “base case” labor hours are accepted, this impact would be considerably larger.
9. This concludes my affidavit.

⁷ See PJM September 25, 2014 filing, Attachment C, Sotkiewicz Affidavit, P 42 (“Discussions with Sargent & Lundy indicated a range of fringe from 0.92 times the wage rate to 1.04 times the wage rate.”)

⁸ See November 6, 2014 Filing, Attachment B, Affidavit of Johannes P. Pfeifenberger and Bin Zhou, p. 23.

⁹ See PJM September 25, 2014 filing, Attachment C, Sotkiewicz Affidavit, P 43 (“Discussions with Sargent & Lundy indicate a range of productivity factors between 1.13 and 1.19.”)

¹⁰ Answering Affidavit, P 9.

¹¹ *Id.*, P 10.

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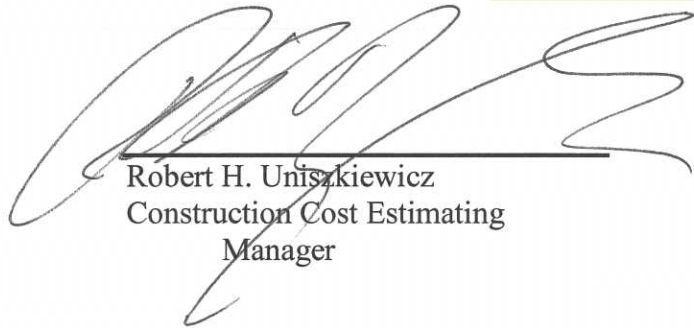
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VERIFICATION

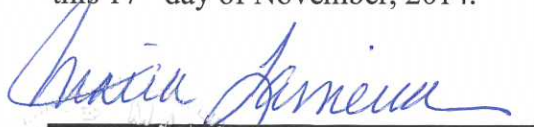
Essex County)
) ss:
New Jersey)

I, the undersigned, being duly sworn, depose and say that the foregoing is the “Responsive Affidavit of Robert H. Uniszkievicz on Behalf of the PJM Power Providers Group,” and that such Affidavit to the best of my knowledge, information and belief, is true, correct, accurate and complete, and I hereby adopt this Affidavit as if given by me in formal hearing, under oath.



Robert H. Uniszkievicz
Construction Cost Estimating
Manager

Subscribed and sworn to before me
this 17th day of November, 2014.



Notary Public

