

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS  
PUBLIC UTILITIES COMMISSION

IN RE: REVIEW OF THE NARRAGANSETT :  
ELECTRIC COMPANY d/b/a NATIONAL GRID : DOCKET NO. 4568  
RATE DESIGN PURSUANT TO R.I. GEN. LAWS § 39-26.6-24 :

COMMISSION'S THIRD SET OF DATA REQUESTS  
DIRECTED TO NATIONAL GRID (National Grid or Company)  
(Issued October 2, 2015)

3-1: Please describe the Company's understanding or definition of the following:

- a. P-value
- b. Level of significance
- c. Type I error
- d. Confidence Interval

3-2: Does the Company have standards for level of significance it uses in analyses of metering and billing?

3-3: Please complete the following table for Residential and Commercial customers using of all of the data available to National Grid for maximum hourly kW (annual) and maximum monthly kWh use, and at the minimum incorporating the data in Schedule NG-7 of Zschokke and Lloyd's prefiled testimony and schedules (Bates Stamp 131-132):

Sub-Population	Mean Max. Hourly kW (Annual)	Uncorrected Sample Standard Deviation	Corrected Sample Standard Deviation	Standard Error	Sample Size
Tier 1					
Tier 2					
Tier 3					
Tier 4					

3-4: Are the kW data in the Tiers described in COMM #-3 normally distributed? If not, which of the Tiers have non-normal distributions?

3-5: Are each of the samples in the data described in COMM #-3 independent? In other words, was each data point was measured from a unique ratepayer, and not, for example, from the same ratepayer in two different years or on two different accounts?

3-6: Please report the p-value for the following null hypotheses using all data available to National Grid, and at the minimum incorporating the data in Schedule NG-7 of Zschokke and Lloyd's prefiled testimony and schedules (Bates Stamp 131-132). Please explain if the Company has transformed or otherwise altered the data in performing the tests, and why. Please note that these are intended to be single-tailed tests.

- a. Residential customers with Tier 2 usage do not have a higher average maximum hourly kW (annual) usage than customers with Tier 1 usage.
- b. Residential customers with Tier 3 usage do not have a higher average maximum hourly kW (annual) usage than customers with Tier 2 usage.
- c. Residential customers with Tier 4 usage do not have a higher average maximum hourly kW (annual) usage than customers with Tier 3 usage.
- d. Commercial customers with Tier 2 usage do not have a higher average maximum hourly kW (annual) usage than customers with Tier 1 usage.
- e. Commercial customers with Tier 3 usage do not have a higher average maximum hourly kW (annual) usage than customers with Tier 2 usage.
- f. Commercial customers with Tier 4 usage do not have a higher average maximum hourly kW (annual) usage than customers with Tier 3 usage.

3-7: Does the Company have an opinion on whether or not the difference between average maximum hourly kW (annual) usage for Tiers is an appropriate test statistic for determining if significant differences in power use exist between Tiers, as tested in COMM #-6?

3-8: Please provide the raw data in Schedule NG-7 of Zschokke and Lloyd's prefiled testimony and schedules (Bates Stamp 131-132), and any other similar data relied on for responding to the data requests above. Please provide the data in a space- or tab-delimited text file, a CSV file, or a Microsoft Excel Workbook.