BEFORE THE WASHINGTON

UTILITIES & TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

Complainant,

v.

PUGET SOUND ENERGY,

Respondent.

DOCKET UG-230968

**CROSS-ANSWERING TESTIMONY OF DR. ROBERT L. EARLE
ON BEHALF OF THE
WASHINGTON STATE OFFICE OF THE ATTORNEY GENERAL
PUBLIC COUNSEL UNIT**

EXHIBIT RLE-5

PSE's Response to Public Counsel Data Request No. 3

September 12, 2024

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

Docket UG-230968
Puget Sound Energy
2023 Climate Commitment Act

PUBLIC COUNSEL DATA REQUEST NO. 003:

Re: Statistical Analysis. Direct Testimony of Christopher T. Mickelson, Exh. CTM-1CT at 10:9–12:14.

   a. Is PSE claiming that the allowance prices are distributed normally?
   b. If the answer to subpart a. is yes, please provide evidence that allowance prices are distributed normally including any relevant calculations and data in Excel format, along with the results of any statistical tests for normality performed.
   c. If the answer to subpart a. is no, why is it reasonable to use the z-scores from the normal distribution?

Response:

   a. No, Puget Sound Energy ("PSE") is not claiming that allowance prices are distributed normally. The allowance prices are expected to exhibit variability influenced by market dynamics. However, with a sufficiently large dataset, such as a 4-year compliance period with daily prices, then the distribution of allowance prices can begin to approximate a normal distribution. This approximation allows for the use of certain statistical tools, such as z-scores, to analyze price variations and establish cost-sharing thresholds.

   b. Not applicable, as PSE does not claim that allowance prices are distributed normally. However, with a sufficiently large sample size, the sample distribution will approximate a normal distribution, and the sample mean will approach the population mean.

   c. Although PSE does not assume a normal distribution for allowance prices, z-scores are used as a standard statistical tool to determine deviations from the mean. This method provides a consistent framework for identifying significant variations in allowance prices and establishing cost-sharing thresholds.

PSE's Response to Public Counsel Data Request No. 003   Page 1
Date of Response: July 03, 2024
Person who Prepared the Response: Christopher T. Mickelson
Witness Knowledgeable About the Response: Christopher T. Mickelson