Date Filed: September 22, 2026

Witness: Julia Frayer
Request from: Office of Consumer Counsel

Question:

(Total factor productivity) In Exhibit CLP-PBR-1, Page 32, LEI states that *"On the other hand, a longer term (e.g., more than 20 years) would also not capture significant changes in the industry such as widespread AMI deployment, distributed energy resources ("DERs"), increased cybersecurity requirements, resilience and climate adaptation investments, and modern vegetation management practices."*.

a. Please identify each formal statistical test for structural breaks or parameter instability performed by LEI across the 2005–2024 study period to evaluate the timing and statistical significance of the alleged structural breaks. If no such tests were conducted, please explain the empirical basis for LEI's assertion.

b. Please provide any empirical or quantitative analysis performed by LEI or the Company evaluating the specific impact of AMI deployment, automation, and DER integration on OM&A efficiency and labor productivity.

c. Given that large-scale AMI deployment, advanced DER integration, and heightened cybersecurity requirements emerged primarily within the last 5 to 10 years, please explain why a 20-year historical average (2005–2024)—which incorporates a decade of pre-AMI/pre-DER data—is more representative of forward-looking operating conditions than a 5- or 10-year period.

Response:

a. LEI did not perform a formal statistical test for structural breaks or parameter instability in selecting the 2005–2024 study period, as previously stated in the Company's response to information request OCC-538[i], in subpart d. The Industry TFP Study uses index-number techniques to measure changes in aggregate industry inputs and outputs over time; it does not estimate statistical relationships or coefficients whose stability would need to be tested.

The statement in Exhibit CLP-PBR-1, was not intended to assert that a discrete statistical structural break occurred in 2005, or in any other particular year. Rather, the cited developments-such as AMI deployment, DER integration, cybersecurity requirements, resilience and climate-adaptation investments, and modern vegetation-management

practices-were examples of material changes in industry operating conditions that have occurred over time.

As explained in the responses to OCC-534[ii] and OCC-538 and in Section 2.4 of Exhibit CLP-PBR-2, LEI selected the 2005-2024 period to balance the benefits of a sufficiently long period for measuring long-run industry productivity trends with the relevance of the historical period to current and prospective industry conditions. LEI also evaluated 10-, 15, and 20-year productivity trends as sensitivity periods.

b. LEI did not perform a causal or econometric analysis that separately quantified the effect of AMI deployment, distribution automation, or DER integration on OM&A efficiency or labor productivity. Based on information LEI has available, it would not be possible to pinpoint in time when these specific events and changes occurred for every individual EDC and therefore make it intractable to perform such a study. The Industry TFP Study was designed to measure the aggregate historical productivity trend of the electric distribution industry, rather than to attribute that trend to individual technologies or operational initiatives.

   OM&A includes both labor and non-labor costs, and the available FERC Form 1 data do not separately identify the labor and non-labor costs attributable to AMI, distribution automation, or DER integration. As a result, LEI could not isolate the effects of those individual initiatives on labor productivity.

c. LEI does not contend that every year from 2005 through 2024 is equally representative of each technology or operating practice expected during the PBMRP term. Rather, the purpose of the selected period is to estimate a representative long-run industry productivity trend. As explained in response to part (a) and in the Company's responses to OCC-534 and OCC-538, LEI selected the 20-year period to balance relevance to current industry conditions with the need to reduce sensitivity to short-term volatility and one-off events. For the overall TFP analysis, a longer period also reduces the influence of uneven capital-investment timing, while for OM&A productivity it reduces sensitivity to unusual expense years or unusual operating circumstances. The selected period remains recent enough to reflect evolving industry conditions while providing a broader basis for estimating the long-run productivity trend.

   A five-year period would contain only four annual year-over-year productivity observations, and a ten-year period would contain nine data points, making those estimates more sensitive to individual years and short-term conditions. In contrast, the selected 2005–2024 period contains 19 annual growth observations. LEI nevertheless presented shorter-period results as sensitivities rather than selecting among time periods after observing their results.

Prior Referenced Response:

[i] OCC-538 Question:

Performance Based Ratemaking Panel Exhibit CLP-PBR-1

Please provide a sensitivity analysis showing the effect of unusually volatile pandemic-period observations on LEI's reported 2005–2024 average OM&A PFP growth rate of -0.03%. At a minimum, please provide:

a. The average OM&A PFP growth rate excluding the 2019–2020 observation;
b. The average OM&A PFP growth rate excluding both the 2019–2020 and 2020–2021 observations;
c. The median annual OM&A PFP growth rate over the 2005–2024 study period; and
d. An explanation of whether LEI performed any outlier, structural-break, or other sensitivity analysis to determine whether the long-run OM&A PFP result is representative of expected productivity during the Company's proposed PBMRP term.

OCC-538 Response:

a. Please refer to OCC-445[i]. As mentioned, "LEI does not consider excluding the 2019–2020 observation to be an appropriate sensitivity for purposes of estimating the industry OM&A PFP trend. The purpose of the TFP/PFP study is to measure industry productivity performance over time".
b. Please refer to the response to subpart (a).
c. The median annual OM&A PFP observation over the time horizon of 2005 to 2024 is approximately 0.02%. Please refer to Exhibit CLP-PBR-2A, TFP_Calc tab, cells BN16:BN34.
d. LEI did not perform a formal structural-break or outlier test for the TFP study. As explained in OCC-445, and OCC-446[ii], LEI does not consider selective exclusion of individual observations as an appropriate basis for estimating the long-run industry productivity trend.

[ii] OCC-534 Question:

Please explain the statement in Exhibit CLP-PBR-1, that the average OM&A PFP growth rate for 2015–2024 is -0.03% (page 64), with the results reported in Figure 5, LEI's Industry TFP results (2005-2024), which report an average OM&A PFP growth rate of -0.03% for 2005–2024, 0.30% for 2010–2024, and -0.35% for 2015–2024. In your response:

a. Identify the study period and OM&A PFP result actually relied upon to establish the proposed -0.03% X Factor;
b. Explain the basis for selecting that study period over the alternative periods presented in Exhibit CLP-PBR-1;
c. State whether the reference to 2015–2024 in Exhibit CLP-PBR-1, is an error and, if so, provide the corrected testimony; and
d. Explain whether selection of a different study period would change the Company's proposed X Factor and, if not, why not.
e. Please provide all calculations, workpapers, and supporting data used to derive the –0.03% X Factor in an Excel format.

OCC-534 Response:

a. The Company relied on the 20-calendar-year period from 2005 through 2024, which encompasses a total of 19 annual year-over-year growth observations. Please refer to Figure 22, on page 47, of Exhibit CLP-PBR-2.
b. As stated in Section 2.4, of Exhibit CLP-PBR 2, "the 20-year study period overcomes the high variability of year-on-year trends but is also not so long term as to capture "stale" industry trends that would not likely repeat themselves in the future." Further, as discussed in that section, the "last 20 years reflect the changing business circumstances in the electric distribution industry, which are also going to continue to drive productivity in the next several years." Please also refer to OCC-441.
c. Yes. The phrase "2015-2024" in the identified sentence contains a typographical error. The corrected sentence should read: "Based on LEI's Industry TFP Study, the average OM&A PFP growth rate for 2005-2024 is negative 0.03% (or -0.03%), which is the proposed X Factor." No numerical correction to the proposed X Factor is required.
d. A different study period would produce a different measured historical OM&A PFP rate, as shown in Figure 22, of Exhibit CLP-PBR-2. However, LEI would not recommend using a different study period for purposes of setting the X Factor. As discussed in response to part (b) and Section 2.4, of Exhibit CLP-PBR-2, LEI considers the 2005–2024 period appropriate because it is sufficiently long enough to reduce the influence of short-term volatility and one-off events, while remaining recent enough to reflect industry conditions relevant to the prospective PBR term. Accordingly, LEI continues to recommend a -0.03% value for the X factor that would be applied to the OM&A portion of revenue requirement.
e. Please refer to Exhibit CLP-PBR-2a, the native workpapers supporting the Industry TFP Study.