

ENTERGY NEW ORLEANS, INC.
CITY OF NEW ORLEANS
Docket No. UD-17-03

Response of: Entergy New Orleans, Inc.
to the First Set of Data Requests
of Requesting Party: Advisors to the Council
of the City of New Orleans

Question No.: Advisors 1-4

Part No.:

Addendum:

Question:

For each sector (residential and commercial):

- a. Please provide the most current 12 month sales by month and by individual rate tariff, as well as corresponding numbers of customers, for electric sales (MWh) and peak load (MW) in native electronic format with all formulas and data sources in tact (i.e. Excel).
- b. Please provide a forecast of annual electric sales (MWh) by rate tariff, customer class, and sector, or in the greatest detail available, and peak load (MW) for the study period (2018-2037) in native electronic format with all formulas and data sources in tact (i.e. Excel).
- c. Please provide the portion of the forecast that is attributed to new construction.
 - i. If ENO's most current sales and forecast of annual sales do not include new construction, please provide all relevant data in native electronic format with all formulas and data sources in tact (i.e. Excel) that can be used to help make that determination.
- d. Please provide all available data regarding electric sales by building type and/or any other segmentation available (i.e. low-income vs. non low-income, small vs. Large, etc.). For residential, building types should include:
 - i. Low-income single family
 - ii. Low-income multi-family
 - iii. Single family
 - iv. Multi-family

For commercial, building types should include:

- i. Education
- ii. Grocery

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- iii. Health (hospital, nursing home)
 - iv. Lodging
 - v. Office
 - vi. Restaurant
 - vii. Retail
 - viii. Garage/Warehouse
 - ix. Other
- e. Please Provide a disaggregation of commercial 2016 and 2017 electric sales by major end use, for each building type, including but not limited to the following end uses:
- i. Interior lighting
 - ii. Exterior lighting
 - iii. Cooling
 - iv. Space Heating
 - v. Ventilation/Motors
 - vi. Water heating
 - vii. Refrigeration
 - viii. Office equipment/Plug loads
 - ix. Other
- f. If a disaggregation of commercial 2016 and 2017 electric sales by major end use is not available for each building type, please provide a disaggregation of commercial 2016 and 2017 electric sales by major end use for the sector as a whole, including but not limited to the following end uses:
- i. Interior lighting
 - ii. Exterior lighting
 - iii. Cooling
 - iv. Space Heating
 - v. Ventilation/Motors
 - vi. Water heating
 - vii. Refrigeration
 - viii. Office equipment/Plug loads
 - ix. Other
- g. Please describe in detail the methodology and specific software tools used in constructing the electric sales and load forecasts, including end use loads, Distributed Energy Resources (“DER”) projections, and all data provided by external sources.
- h. Please provide all documentation and workpapers on the methods and assumptions used to develop all electric sales and load forecasts in native electronic format withal all formulas and data sources in tact (i.e. Excel), including but not limited to:

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- i. Methods and assumptions regarding future codes and standards.
- ii. Methods and assumptions regarding “embedded” efficiency in the forecast due to past Energy Smart programs.
- iii. Methods and assumptions regarding customer-owned renewable generation.
- iv. Methods and assumptions regarding embedded transportation loads.
- v. Methods and assumptions regarding CoGen and other Behind-the-Meter customer-owned generation.

Response:

Information responsive to this request has been designated as Highly Sensitive Protected Material (“HSPM”) under the terms of the provisions of the Official Protective Order adopted pursuant to Council Resolution R-07-432 relative to the disclosure of Protected Material and is being provided in accordance with the same.

- a. See the HSPM attachment for the most current 12 months of residential and commercial sales, as well as corresponding numbers of customers. ENO historical peak loads are not broken out by customer class (residential and commercial), however monthly total peaks (MW) can be found in the publicly available 2016 FERC Form 1 on page 401b. The Company does not report monthly customer counts, sales or peak load by individual rate tariff.
- b. See the HSPM attachment for the requested annual sales forecast by customer class, and non-coincident peak load forecast for BP18-U. The Company does not forecast sales or peak load by rate tariff.
- c. The residential and commercial customer classes have compounded annual growth rates of 0.4% and 0.4% respectively of new customer growth over the forecast timeline of 2018-2037, which would include new construction.
- d. See the attached HSPM Excel workbook for electric usage data by residential premise type. The data in these workbooks is based on 2016 calendar year sales, the most recent complete 12 month period available. The Company does not track sales data by income level. The Company does not possess sales data by building type for commercial customers. Please see the Company’s response to subparts (e) and (f) below for available data pertaining to commercial customers.

- e., f. The Company does not track commercial electric usage data by major end use disaggregation. See the attached HSPM workbooks for commercial and industrial electric usage data by 2-digit SIC code and 4-digit SIC code. The data in these workbooks is based on 2016 calendar year sales, the most recent complete 12 month period available.

- g. The sales and load forecasts are produced by the Sales and Load Forecasting (“SLF”) department within Entergy Services, Inc. (“ESI”). SLF has consistently used the licensed Itron computer software to develop the sales and load forecasts for Entergy New Orleans. The MetrixND® and the MetrixLT® programs are used widely in the utility industry and are considered an industry standard for energy forecasting, weather normalization, and hourly load and peak load forecasting.

To develop the sales forecast, SLF gathers actual historical sales data for ENO, which is then input into Itron’s sales forecasting software program. ESI uses MetrixND® to perform econometric modeling to determine the relationship between historical sales and a number of variables. Through regression analysis, the program calculates the statistical relationship between input variables, “X,” and historical sales, “Y,” and SLF determines which variables have a statistically significant correlation with historical sales. Once the historical sales models are developed, SLF uses forecasted inputs for the modeled variables to develop weather-normalized monthly energy sales forecasts. The sales forecasts include key input assumptions on residential and commercial end-use statistics from the Energy Information Agency (“EIA”) at the census region level. The end-use statistics from EIA reflect the expectations for energy usage from appliances, HVAC, lighting, and other electricity-consuming devices.

To develop the load forecast, SLF allocates ENO’s retail energy forecast (by month) to each hour of a twenty year period. Starting with the BP18-U forecast, SLF began using hourly historical load data from the Inter-System Billing (“ISB”) system in place of the estimated hourly load data from Load Research in development of the forecasted peaks. Actual ISB data in combination with the Load Research data was also used in the development of the load shapes. This is expected to produce a more accurate forecast result in that it is using actual historical load as an input rather than an estimate of hourly historical load. The ISB system is the same source of peak load data that is reported on page 401 of the FERC Form 1. For this process, the ISB data is adjusted to remove line losses, as those are added back into the load during the calibration process. The forecasting process for developing the load shapes uses twenty year “typical weather” to convert historic load shapes into “typical load shapes” by customer class within Metrix ND. Once the forecasts of the energy and the shapes and the peaks are developed, those elements are combined within the MetrixLT™ software to calibrate those elements into

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a twenty year, hourly load forecast. The load forecast is then grossed up to include average transmission and distribution line losses.

- h.
 - i. See the HSPM attachments.
 - ii. See the HSPM attachment.
 - iii. See the HSPM attachment.
 - iv. ENO does not currently model any embedded transportation loads.
 - v. ENO does not currently model CoGen loads. For Behind-The-Meter customer-owned generation, see subpart (h)(iii) above.