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FILE

The Cleveland Electric Illuminating Company
Ohio Edison Company
The Toledo Edison Company
and
American Transmission Systems, Incorporated

2010 ELECTRIC

LONG-TERM FORECAST REPORT

TO THE

PUBLIC UTILITIES COMMISSION OF OHIO

CASE NO. 10-504-EL-FOR

CERTIFICATE OF SERVICE

I hereby certify that this 2010 Long-Term Forecast Report was filed by The Cleveland Electric Illuminating Company, Ohio Edison Company, The Toledo Edison Company and American Transmission Systems, Incorporated with the Public Utilities Commission of Ohio on April 15, 2010 and that:

1. Pursuant to Rule 4901:5-1-03(F), Ohio Administrative Code, a copy of the 2010 Long-Term Forecast Report has been delivered or mailed on the day of filing to the Office of the Ohio Consumers' Counsel;

2. Pursuant to Rule 4901:5-1-03(G), Ohio Administrative Code, within three days of filing with the Public Utilities Commission of Ohio, a letter stating that the Long-Term Forecast Report has been filed with the Public Utilities Commission of Ohio and that a copy of the Long-Term Forecast report is available for public inspection at the Public Utilities Commission offices located at 180 East Broad Street, Columbus, Ohio, will be sent by first class mail to the appropriate county libraries

3. Pursuant to Rule 4901:5-1-03(H), Ohio Administrative Code, the FirstEnergy Companies will keep at least one copy of its 2010 Long-Term Forecast Report at its principal business office for public inspection during business hours; and

4. Pursuant to Rule 4901:5-1-03(I), Ohio Administrative Code, the FirstEnergy Companies will provide a copy of its 2010 Long-Term Forecast Report to any person upon request at a cost to cover the expenses incurred.

William R. Ridmann

William R. Ridmann
Vice President, Rates & Regulatory Affairs
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ATTESTATION

This Long-Term Forecast Report filed by Ohio Edison Company, The Cleveland Electric Illuminating Company, The Toledo Edison Company and American Transmission Systems, Incorporated is true and correct to the best of my knowledge and belief.

William R. Ridmann
Vice President, Rates & Regulatory Affairs

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4901:5-5-01 Definitions

The terminology used in this chapter and throughout this report conforms to the definitions in section 4901:5-1-01 & 4901:5-5-01.

Other definitions used in this report include:

- "2005 Appliance Saturation Survey" – A residential appliance saturation survey conducted in 2005 by the FirstEnergy Operating Companies, in each company's given service territory. Randomly selected residential customers were requested to respond to a survey that asked about their appliance usage.
- "EE&PDR Portfolio Plan" - The FirstEnergy Operating Companies Program Portfolio and Initial Benchmark Report filing (PUCO Case 09-1947-EL-POR, et al.), which is currently pending with the Commission. This includes information from the Market Potential Study in Appendix D.
- "Large Industrial Survey" – A survey taken by the FirstEnergy Operating Companies in early 2010, in which industrial customers who had an annual usage of 50 GWh or higher in 2009 were asked to give their expected annual kWh and KW usage for 2010 to 2012.

State and Federal Legislation and Policies referred to in this filing include:

- "SB 221" - Amended Substitute Senate Bill Number 221
- "Federal Lighting Standards" - Energy Independence and Security Act of 2007, (Pub.L. 110-140, H.R. 6)

In addition, acronyms commonly used throughout this report include:

ATSI	American Transmission System, Incorporated
CEI	The Cleveland Electric Illuminating Company
LTFR	Long- Term Forecast Report
MISO	Midwest Independent Transmission System Operator, Incorporated
NERC	North American Electric Reliability Corporation
OEC	Ohio Edison Company
PJM	Pennsylvania New Jersey Maryland Interconnection, Limited Liability Company
PP	Pennsylvania Power Company
TE	The Toledo Edison Company

4901:5-5-02 Purpose & Scope

This report conforms to the requirements of Chapter 4901:5 of the Administrative Code. All forms in this report were downloaded from the commission's website as of January 13, 2010.

This LTFR is submitted by ATSI, CEI, OEC and TE, all of which are Ohio corporations (hereinafter referred to as "Applicants", or "FirstEnergy Companies"). CEI, OEC, and TE are hereinafter referred to as "FirstEnergy Operating Companies". PP is a wholly-owned subsidiary of OEC and a Pennsylvania corporation. PP's energy and load forecasts are combined with the energy and load forecasts of the FirstEnergy Operating Companies to arrive at a system total ("FirstEnergy System"). The transmission and distribution systems of all of the FirstEnergy Operating Companies and Penn Power are interconnected and fully integrated, and for planning and operating purposes are treated as a single electric system within the footprint of the MISO through May, 2011 and within the footprint of PJM. ATSI, a wholly-owned subsidiary of FirstEnergy Corp., owns and operates the transmission assets, including the system control center. Separate data are presented for the Applicants where required or where deemed appropriate because of the nature of the requirement to which a response is made.

The information on "existing substation and transmission facilities" reflects information regarding facilities that were in service prior to or on December 31, 2009. The peak demand and energy forecasts were developed in March 2010 and are based on the most recently available data from February 1990 through February 2010.

A letter stating that a copy of this report is available for public inspection at the Commission offices located at 180 E. Broad St, Columbus Ohio, is being mailed to all public libraries in Appendix A. This Appendix lists the designated libraries for each Ohio County in the FirstEnergy Operating Companies' service area, pursuant to Rule 4901:5-1-03(G) of the Ohio Administrative Code.

4901:5-5-03 Forecast report requirements for electric utilities and transmission owners

(A) SUMMARY OF THE LONG-TERM FORECAST REPORT

(1) Planning Objectives

The planning objective of the Long-Term Forecast Report is to present an estimate of future peak demand and energy consumption by the FirstEnergy Operating Companies service area customers, taking into account local and national business conditions, as well as historical usage patterns and future energy efficiency and peak demand reduction savings.

(2) A summary of its forecasts of energy and peak load demands and key assumptions or projections underlying these forecasts

This LTFR has been submitted by the FirstEnergy Companies in accordance with the Ohio Revised Code, Chapter 4935.

The 2010 Forecast of Energy ("2010 Energy Forecast") and 2010 Forecast of Peak Demands ("2010 Peak Demand Forecast") (collectively, the "2010 Forecasts") projects that total energy for OEC will reach 24,945 GWh by 2010 and 25,340 GWh by 2020, resulting in an effective growth rate of 0.15%. This compares to an average annual rate of 1.66% in the 2009 Forecast of Energy ("2009 Energy Forecast"). The 2010 Energy Forecast projects that total energy for CEI will reach 19,741 GWh by 2010 and 19,968 GWh by 2020, resulting in an effective growth rate of 0.11%. This compares to an average annual rate of 1.21% in the 2009 Energy Forecast. The 2010 Energy Forecast projects that total energy for TE will reach 11,577 GWh by 2010 and 10,715 GWh by 2020, resulting in an effective growth rate of 0.13%. This compares to an average annual rate of 1.61% in the 2009 Forecast. Forecasts for the FirstEnergy Operating Companies were developed independent of one another.

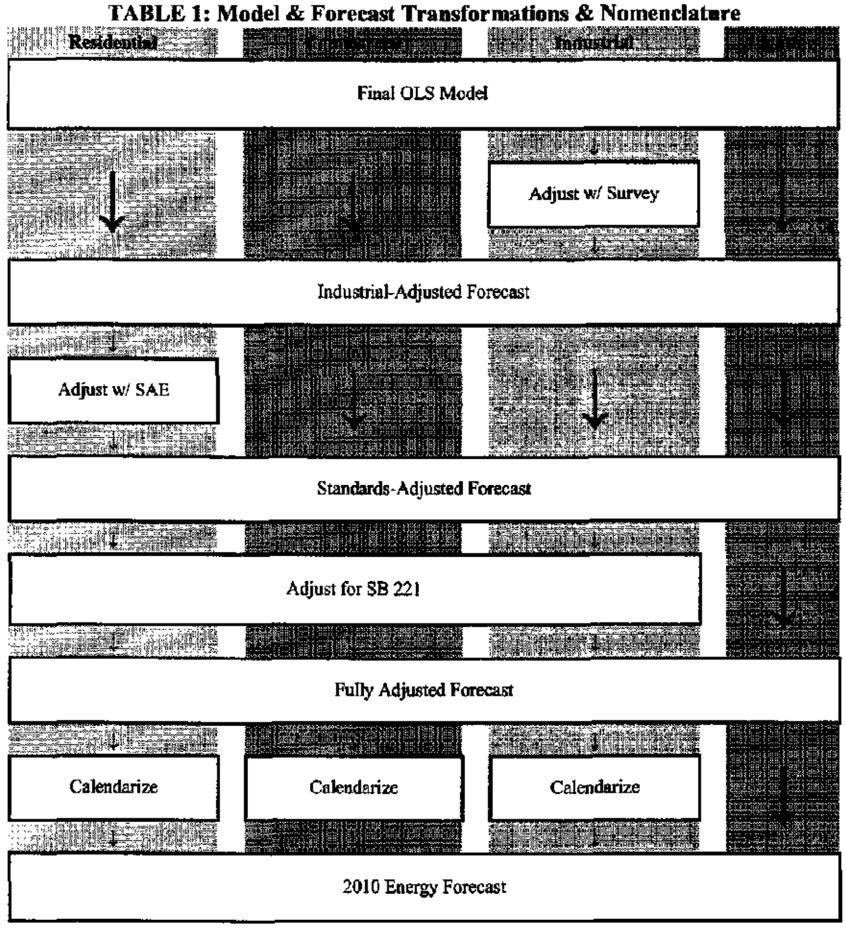
Annual internal peak demand for OEC is expected to grow at an average annual rate of 0.31% in the 2010 Peak Demand Forecast, compared to 0.91% in the 2009 Forecast of Peak Demands ("2009 Peak Demand Forecast"). Annual internal peak demand for CEI is expected to grow at an average annual rate of 0.12% in the 2010 Peak Demand Forecast, compared to 1.60% in the previous forecast. Annual internal peak demand for TE is expected to grow at an average annual rate of 0.61%, compared to 1.12% in the previous forecast.

The main driver of this change in growth rate in the 2010 Forecasts as compared to the 2009 Forecasts is the addition of the impacts of energy efficiency and peak demand reductions into the forecast and peak demand reductions, as well as the addition of the impact of the changing efficiency of residential appliances. In addition to that, the first year (2009) in the 2009 Forecasts was still in recession, whereas the first year (2010) in the 2010 Forecasts is in recovery.

There are several key assumptions for the 2010 Forecasts. First, it is assumed that the recent recession ended in July 2009, as reported by the Federal Reserve Bank of St. Louis. Second, it is assumed that the Federal Lighting Standards will go forward, and that the additional Energy Information Administration ("EIA") assumptions regarding the Federal Lighting Standards, as well as other assumptions about changing efficiencies of residential appliances, are accurate. Third, it is assumed that SB 221 will remain in place, including the energy efficiency savings and peak demand reduction requirements. Finally, it is assumed that the Large Industrial Survey of the FirstEnergy Operating Companies customers represents their future 2010 to 2012 usage, and that the results can be extrapolated to the rest of the industrial class.

(3) <u>A description of the process by which the energy and peak load forecasts were developed</u>

TABLE 1: Model & Forecast Transformations & Nomenclature



Historical data is collected as described in section 4901:5-5-03(C)(1)(c) and loaded into a software program called MetrixND, a statistical forecasting package. The forecasting analyst defines a group of independent variables that are then modeled through MetrixND and evaluated for best fit ("Theoretical Models"). Theoretical Models for both energy and peak demand are tested using ordinary least squares regression (OLS) and modified if appropriate based on the statistical results.

This process of testing continues until the forecasting analyst chooses the Theoretical Model with the best fit ("Final OLS Model"). This Final OLS Model is then used to forecast energy and peak demand. Tables in Appendix B contain statistical results for these models for each of the Companies and customer classes: Table B-1 defines variables and abbreviations; Tables B-2 through B-10 display results and descriptive statistics for Final OLS Models for energy; and Tables B-11 through B-13 display results and descriptive statistics for Final OLS Models for peak demand.

For the streetlighting customer class, an analytical process is used to create the forecast ("Lighting Forecast"), which will be discussed later in this section. The peak demand forecasting process will also be discussed later in this section.

Once the Final OLS Model is determined, the resulting forecasts are analyzed to determine if they are consistent with the local economic conditions, and for various forecast trends that are not well-reflected in the history. For example, it is difficult for the models to accurately forecast the impacts of the recession, as most of the historical period is unaffected or not affected to the same degree as the forecast period. It is also difficult for the models to accurately forecast the impacts from energy-efficiency savings and peak demand reductions, as there is very little information in the history for the model to use in the regression. Therefore, manual adjustments have been made outside of the OLS-modeling process for the impact of the recession on the industrial class, and for expected energy-efficiency savings and peak demand reductions.

To account for the impact of the recession on the industrial class, the Final OLS Model results for the first five years were manually adjusted based on the Large Customer Survey given to the FirstEnergy Operating Companies largest industrial customers. The surveyed customers' forecast usage for 2010, 2011 and 2012 was indexed to their respective 2008 levels. The Final OLS Model results for the entire industrial class were adjusted based on this index. The Final OLS Model results for the industrial class in 2010, 2011, and 2012 were only used to develop the monthly shape of the forecast, and then were gradually phased back in throughout 2013 and 2014. From 2015 forward, the Final OLS Model results were not adjusted. The set of forecasts, which includes the residential and commercial Final OLS Model results, the Lighting Forecast, and the aforementioned adjustments to the Final OLS Model for the industrial class (collectively referred to as the "Industrial-Adjusted Forecast").

Energy-efficiency impacts were determined using analytical techniques. There were two types of adjustments made to the long-term forecast for expected energy efficiency savings. The Industrial-Adjusted Forecast for the residential class was adjusted based on statistically-adjusted end-use ("SAE") modeling that compared existing appliance efficiencies to expected appliance efficiencies.

SAE models use OLS analysis to analyze the effect of residential appliance end-uses on historical electric sales, based on the regional data from the EIA for the East North Central region and the Companies' 2005 Appliance Saturation Survey. Heating and cooling energy variables were defined using expected efficiencies from either technological advances or Federal government-mandated efficiencies. The SAE model was first evaluated using original data from the EIA and the 2005 Appliance Saturation Survey, and then evaluated holding the efficiencies constant at 2009 levels. The Industrial-Adjusted Forecast was adjusted for this difference. The residential class with the aforementioned adjustments—together with the commercial, industrial and lighting components of the Industrial-Adjusted Forecast—shall hereinafter be collectively referred to as the "Standards-Adjusted Forecast".

The Standards-Adjusted Forecast was also adjusted for savings associated with achieving the benchmarks defined in SB 221. Cumulative savings associated with the plan years defined in the EE&PDR Portfolio Plan (2010 thru 2012) were assigned to customer classes and subtracted from the Industrial-Adjusted Model results. For subsequent years, expected savings by customer class as defined in the Market Potential Study were subtracted from the Standards-Adjusted Forecast, resulting in what shall hereinafter be collectively referred to as the "Fully Adjusted Forecast".

In Appendix B, Tables C1-C4, list actual GWh adjustments to the Final OLS Model results. Table C-1 shows the Large Industrial Survey adjustment for energy; Table C-2 shows the effect of Federal standards and technology-driven appliance efficiency standards, including the Federal Lighting Standards, on the residential class' energy consumption; and Tables C-3 and C-4 show the SB 221 impacts on the energy and peak demand forecasts, respectively.

The Lighting Forecast was estimated using an analytical process. The Lighting Forecast for the street lighting customer class was based on the nominal wattages and standard burning hours of the installed lighting fixtures at the time the forecast was developed, along with the recent history of traffic lighting use. The street lighting usage was trended downward assuming that, as mercury vapor lights failed, they would be replaced with sodium vapor lights. A 20-year life for mercury vapor lights and a 45 percent reduction in MWh when replaced by sodium vapor lighting was used to establish this downward trend. Other than for the month-to-month fluctuations, traffic lighting use was kept constant throughout the forecast period.

Forecast results in MetrixND were based on billing cycles. The Fully Adjusted Forecast was calendarized by assigning a percentage of each billing cycle month to each calendar month, resulting in the 2010 Energy Forecast. The 2010 Energy Forecast is the calendar view of the conversion of the Final OLS Model results described above. For a summary of all transformations leading from the Final OLS Model to the 2010 Energy Forecast, please see Table 1 above.

Peak demand is forecast using historical peaks as the dependent variable, with the Industrial-Adjusted Forecast and historic peak-day weather data as independent variables. Peak demand model results and descriptive statistics can be found in Appendix B, Tables B-11 through B-13.

Manual adjustments are made to the peak demands to account for the peak-demand reduction requirements of SB 221 as defined in the EE&PDR Portfolio Plan and the Market Potential Study, resulting in the final 2010 Peak Demand Forecast.

(B) GENERAL GUIDELINES

(1) The forecast must be based upon independent analysis by the reporting electric transmission owner or electric utility.

(2) The forecast may be based on those forecasting methods that yield the most useful results to the electric transmission owner or electric utility.

(3) Where the required data have not been calculated directly, relevant conversion factors shall be displayed.

Forecasting methodologies have been fully described in this filing and are consistent with these general guidelines.

(C) SPECIAL SUBJECT AREAS

(1) The following matters shall specifically be addressed:

(a) A description of the extent to which the reporting electric transmission owner or electric utility coordinates its load and resource forecasts with those of other systems such as affiliated systems in a holding company group, associated systems in an integrated operating system or other coordinating organizations, or other neighboring systems.

The FirstEnergy Operating Company forecasts in this filing are prepared independently from one another and are primarily used for internal planning and forecasting. The Regional Transmission Organizations (RTOs) prepare peak and energy forecasts for the total RTO to use for transmission resource planning purposes. Through May 2011, transmission planning for the FirstEnergy System occurs through MISO's Transmission Expansion Plan ("MTEP") process. When ATSI integrates into PJM, transmission planning for the FirstEnergy System will occur through the PJM Regional Transmission Expansion Plan ("RTEP") process.

(b) A description of the manner in which such forecasts are coordinated, and any problems experienced in efforts to coordinate forecasts.

Coordination efforts include providing forecast information to Reliability First Corporation (RFC) and the RTOs (through the NERC Multiregional Modeling Working Group process) to develop PJM and MISO coordinating planning models. This allows the RTOs to make sure that there are adequate resources for the expected energy requirements as required by NERC reliability standards.

(c) A brief description of any polls, surveys, or data-gathering activities used in preparation of the forecast.

Below is a list of surveys and data-gathering activities used in preparation of the forecast.

- Historical data for the period February 1990 through February 2010, which includes: cycle sales, number of customers, actual weather, average electric prices and streetlighting poles and fixtures
- 10 years of historic peak, and peak day weather
- Economic and energy price data from Moody's Analytics, Inc.
- 2005 Appliance Saturation Survey
- Thirty years of weather data (heating and cooling degree days) for the calculation of normal weather
- February, 2010 Large Customer Survey
- Sept 1, 2009 Market Potential Study
- EE&PDR Portfolio Plan

(2) No later than six months prior to the required date of submission of the forecast, the commission may supply the reporting electric transmission owner or electric utility:

(a) Copies of appropriate commission or other state documents or public statements that include the state energy policy for consideration in preparation of the forecast.

No documents were provided for this filing.

(b) Such current energy policy changes or deliberations, which, due to their immediate significance, the commission determines to be relevant for specific identification in the forecast (including but not limited to new legislation, regulations, or adjudicatory findings). The reporting person shall provide a discussion of the impacts of such factors and how it has taken these factors into account.

No documents were provided for this filing.

(3) Existing energy efficiency, demand reduction, and demand response programs and policies of the reporting person, which support energy conservation and load modification, shall be described along with an estimate of their impacts on energy and peak demand and supply resources.

The Companies plan to implement Energy Efficiency Programs and Peak Demand Reduction programs to meet the requirements of SB 221. For the years 2010 through 2012, the detailed plans are in the EE&PDR Portfolio Plan. A summary of the energy efficiency and peak demand reduction programs can be found on pages 17-21 of the EE&PDR Portfolio Plan. A summary of the impacts these programs will have on energy and peak demand can be found on page 10 of the EE&PDR Portfolio Plan.

Forecasts for years beyond year 2012 have been reduced by the amount of the statutory requirements of SB 221, as described above.

The reductions to the forecast as a result of energy efficiency savings will impact supply resources to the extent that the reduced energy consumption will reduce the purchased power requirements of the FirstEnergy Operating Companies.

(4) Energy-price relationships:

(a) To the extent possible, identify the relationship between price and energy consumption and describe how such changes are accounted for in the forecast.

See part (c) of this part (4), below.

(b) To the extent possible, specify a demand function that will or can be used to identify the relationship between any dynamic retail prices and peak load, which captures the impact of price responsive demand.

FirstEnergy Operating Companies began offering experimental programs to customers in the commercial and industrial classes on February 1, 2010 which subject customers to dynamic real-time pricing as an incentive to reduce or shift consumption to non-peak periods. However, since no customers have elected to be in these programs to date, FirstEnergy Operating Companies have no data with which to develop a demand function that could be used to identify the relationship between dynamic retail prices and peak load, or which captures the impact of price-responsive demand.

If data were available to determine a demand function, then a model would be hypothesized of the form:

$$\text{PeakDemand} = \alpha + \beta_0\text{Price} + \boldsymbol{\beta}\mathbf{X} + \varepsilon \qquad (1)$$

Where PeakDemand is the peak demand

α is a constant term

Price is the dynamic retail price

β_0 is the coefficient of price

$\mathbf{X}$ is a vector of other independent variables

$\boldsymbol{\beta}$ is the vector of coefficients of $\mathbf{X}$

Various specifications of equation (1) would be tested, and the model that best fit the data would be determined. From this, β_0 could be used to determine the impact of a dynamic retail price on peak demand.

(c) A description of, and justification for, the methodologies employed for determining such energy-price relationships shall be included.

Customer retail electricity price ("electricity price") data was collected for the historical period and tested as a variable in the model. Real average retail electric prices for generation for each customer class were tested in the Theoretical Models for each customer class with each

FirstEnergy Operating Company. The nominal average retail generation prices were developed by dividing the monthly revenue for each customer class by the monthly sales. These prices were then adjusted using the Consumer Price Index; creating a real average retail electric price for each class.

It should be noted that when there are significant levels of shopping, it is difficult to know what electricity price was actually paid by the customers. However, electricity price was tested as a variable in the forecast. In all cases, electricity price either was not a significant variable, or the coefficient of price had a theoretically incorrect positive sign, and therefore was removed from the forecast models. Table B-14 in Appendix B shows what the statistics of the electricity price would be were it included in the energy models. Another fuel price—that of crude oil—was tested in industrial models and accepted in the Final OLS Model for CEI's industrial energy forecast.

(D) FORECAST DOCUMENTATION

(1) A description of the forecast methodology employed, including:

(a) Overall methodological framework chosen.

See response to 4901:5-5-03 above

(b) Specific analytical techniques used their purpose, and the forecast component to which they are applied.

See response to 4901:5-5-03 above

(c) The manner in which specific techniques are related in producing the forecast.

See response to 4901:5-5-03 above

(d) Where statistical techniques have been used:

i. All relevant equations and data.

ii. The size of the standard error of the estimate and the size of the forecasting error, associated with each relevant forecasting model equation, this information shall be included for each forecast at the bottom of forms FE-D1 to FE-D6.

iii. A description of the technique.

iv. The reason for choosing the technique.

v. Identification of significant computer software used.

See response to 4901:5-5-03

(e) An explanation of how controllable and interruptible loads are forecast and how they are treated in the total forecast.

The FirstEnergy Operating Companies forecast their interruptible loads using the load modifying resource capacity that is registered with MISO through Module E from January 2010 through May 2011. From June 2011 through December 2012 the interruptible loads are forecast as planned in the EE&PDR Portfolio Plan. The 2012 interruptible load forecast will be held constant through the end of the Electricity Security Plan period which is May 2014. The forecasted interruptible loads are subtracted from Internal load to determine Native Load on all peak demand schedules.

(f) An identification of load factors or other relevant conversion factors and a description of how they are used within the forecast.

The FirstEnergy Operating Companies use an estimated conversion factor to accumulate the FirstEnergy Operating Companies individual peak demand forecasts into the FirstEnergy System peak demand forecast in order to capture the effects of diversity (or difference in time of occurrence) between the peak demands of the individual operating companies. The conversion of the individual company peak demand forecasts into an overall FirstEnergy System diversified peak demand forecast is calculated in this manner:

$$\text{FirstEnergy System Peak} = (OEC + PP + CEI + TE) * D$$

where OEC is the monthly internal OEC peak demand, PP is the monthly internal PP peak demand, CEI is the monthly internal CEI peak demand, TE is the monthly TE peak demand, and D is a diversity factor needed to obtain the peak for the FirstEnergy System. The diversity factor is determined by dividing the coincident four-company peak demand by the sum of the four operating companies' non-coincident peaks. For this forecast, the diversity factor D varies by month. The diversity factor is .984 for summer peaks, .992 for winter peaks, and .985 for an average of all months throughout the forecast period.

The annual load factors imbedded in the energy forecast can be found in Appendix B, Table D-1.

(g) Where the methodology for any sector has changed significantly from the previous year, a discussion of the rationale for the change.

The 2010 Peak Demand Forecast includes adjustments as described above in section 5-5-03 (C)(1)(c). The 2009 Long-Term Forecast was adjusted for the effects of the recession on industrial customers, but was not adjusted for the effects of energy efficiency and peak demand reductions. This change was made to conform to Commission rules that went into effect December 10, 2009, as well as changing residential appliance efficiencies.

The 2010 Forecast also includes some less significant changes from the 2009 Forecast. The 2010 Energy Forecast includes ten years more history than the 2009 Forecast, now with history beginning in 1990. Also, the 2010 Forecast includes no exponential smoothing models; rather, it includes OLS based models for all customer count forecasts. The FirstEnergy Operating Companies changed from using a 20 year average of heating degree days and cooling degree days to a 30 year average.

(2) Assumptions and special information. The reporting person shall:

(a) For each significant assumption made in preparing the forecasts, include a discussion of the basis for the assumption and the impact it has on the forecast results. Give sources of the assumption if other than the reporting person.

(b) Identify special information bearing on the forecast (e.g., the existence of a major planned industrial expansion program in the area of service or other need determined on a regional basis).

For the FirstEnergy Operating Companies, the Theoretical Models for the customer and energy forecasts used a combination of economic data supplied by Moody's Analytics, Inc., and weather data supplied by Earth Sat and WeatherBank.

For the impact on the forecast of each of the variables described above—as well as a complete list of such variables used—please see section Appendix B, which contains the Final OLS Model results.

The 2010 Energy Forecast reflects customer expansion plans that were recently announced. V&M Star plans a $970 million expansion in Youngstown (*Youngstown Vindicator*, February 15, 2010, "V&M Star project moving forward"), in OEC's territory, which will add 400 workers to the mill's current staff of 450. General Motors ("GM") announced a third shift at its Lordstown facility (in OEC's territory) to support production of the Chevrolet Cruze automobile (General Motors' news release, February 23, 2010, "General Motors Bringing 1,200 Jobs To Lordstown Complex). This affects all FirstEnergy Operating Companies since it is expected that GM plants across Ohio will be supplying parts and other materials that support the Cruze's production. As noted in the Companies' stipulated ESP filing (PUCO Case No. 10-388-EL-SSO, § F, 2.), The Cleveland Clinic Foundation ("the Clinic") is undergoing a $1.4 billion expansion at its main campus that will add over 1,000 employees at the Clinic in addition to "hundreds of indirect and local construction jobs." The potential impact to the energy and peak demand forecasts is unknown at this time.

(3) Database documentation. The responsibilities of the reporting person with regard to its forecast database are as follows:

(a) The reporting person shall provide or cause to be provided:

i. A brief description of all data sets used in making the forecast, both internal and external, input and output, and a citation to the sources.

ii. The reasons for the selection of the specific database used.

iii. A clear identification of any significant adjustments made to raw data in order to adapt them for use in the forecast, including, to the extent practicable:

a. The nature of the adjustment made.

b. The basis for the adjustment made.

c. The magnitude of the adjustment

For details concerning the data sets used in making the forecast, see section 4901:5-5-03 (C)(1)(c). No significant adjustments have been made to raw data in order to adapt it for use in the forecast.

(b) If a hearing is to be held on the forecast in the current forecast year, the reporting person shall provide to the commission in electronic formats or other medium as the commission directs, all data series, input and output, raw and adjusted, and model equations used in the preparation of the forecast.

(c) The reporting person shall provide to the commission, on request:

i. Copies of all data sets used in making the forecasts, including both raw and adjusted data, input and output data, and complete descriptions of any mathematical, technical, statistical, or other model used in preparing the data.

ii. A narrative explaining the data sets and any adjustments made with the data to adapt it for use in the forecast.

The FirstEnergy Companies have supplied the commission with copies of all data sets used in making the forecasts.

4901:5-5-04 Forecasts for electric transmission owners.

(A) GENERAL GUIDELINES

(1) The forecast shall include data on all existing transmission lines and associated facilities of one hundred twenty-five kilovolts (kV) and above as defined by the commission, for year zero to year ten.

(2) The forecast shall include data on all planned transmission lines and associated facilities of one hundred twenty-five kilovolts (kV) and above as well as substantial planned additions to, and replacement of existing facilities, as defined by the commission for year zero to year ten.

(3) The reporting electric transmission owner shall be prepared to supply to the commission on demand, additional data and maps of transmission lines and facilities.

Rule 4901:5-5-04(A) specifies guidelines to be used in the preparation of the transmission owner's forecasts. These guidelines have been observed.

The forms provided for submission of project data do not facilitate entry of all projects which may be considered as substantial planned additions or replacement of existing facilities as defined by the commission. Where those forms are not practical, we have supplemented the submission with additional information.

(B) TRANSMISSION ENERGY DATA AND PEAK DEMAND FORECAST FORMS

Rule 4901:5-5-04(B) specifies transmission energy data and peak demand forecast forms that shall be completed and submitted by the electric transmission owner as prescribed by the commission. These forms can be found in Appendix C.

(C) THE EXISTING TRANSMISSION SYSTEM

(1) The reporting electric transmission owner shall provide or cause to be provided a brief narrative description of the existing electric transmission system and identify any transmission constraints and critical contingencies with and without the power transfers to the neighboring companies detailed in forms FE-T7 and FE-T8:

Form FE-T7 summarizes the characteristics of the existing transmission lines (125 kV and above) which were in service by December 31, 2009, within ATSI's network. Line numbers have been assigned in an arbitrary sequence. For purposes of completing Form FE-T7, lines originate from generating stations (origin) and terminate at substations (terminus), whereas lines between two substations generally have been assigned the designations "origin" and "terminus" alphabetically. Substations which are supplied by radial transmission lines have the supplying substation listed as the "origin."

Form FE-T8 provides a separate listing of substations in Ohio for each line included in the FE-T7 summary. This listing includes the substation name, type, voltages, and line association. A substation is considered to be an "origin" or "terminus" of a line on the basis of whether or not the substation has a circuit breaker associated with the line. A substation which does not have a circuit breaker associated with the line is listed under "Substation on the Line."

Rule 4901:5-5-04 Sections D, E & F include further discussion of critical contingencies identified within the assessment study process and any projects identified to mitigate such post-contingency conditions.

(2) Each reporting electric transmission owner shall provide or cause to be provided maps of its electric transmission system as follows:

Subsection (C)(2) specifies schematic and actual, physical routing maps which must be included with this filing. The schematic maps of ATSI include:

- ATSI HV Circuit Diagram Central, Eastern Conditions as of 12/09
- ATSI HV Circuit Diagram Central, Southern, Western Conditions as of 12/09
- ATSI HV Circuit Northern Region Conditions as of 12/09
- ATSI HV Circuit Western Region Conditions as of 12/09

The actual, physical routing map of ATSI is:

- FirstEnergy West Transmission Conditions as of 12/09

The above maps have been redacted from the filing and were provided to the Commission's Staff per 4901:1-5-04(G) of the Ohio Administrative Code.

(D) THE PLANNED TRANSMISSION SYSTEM

The reporting electric transmission owner shall provide or cause to be provided a detailed narrative description of the planned electric transmission and identify any transmission constraints and critical contingencies with and without the power transfers to the neighboring companies and a description of the plans for development of facilities for years zero through ten as follows:

The ten-year transmission plan for new electric transmission facilities with a design capability of 125 kV or more is indicated on Form FE-T9. Specifications for each of the planned new transmission lines and a brief explanation for each facility is part of that Form, including the purpose of the planned line. Form FE-T9 also includes two fields: 11 – "Purposed of Planned

Transmission Line" and 12 – Consequence of Line Construction Deferment or Termination" which provides information on the contingency or issue which the project is designed to address.

The MTEP studies provide an independent assessment of the performance of the planned MISO system, starting with the expansion plans of the MISO Transmission Owners and adding projects as may be needed to meet reliability standards. Form FE – T9 includes ATSI's projects per the guidelines in section 4901:5-5-04(A), as reported in the MTEP of years 2007 through 2009.[1] More specifically, as reported in Appendix A of MTEP07 & MTEP08 and Appendix A-C of MTEP09 projects. Appendix A projects have been approved by the MISO Board of Director and are an obligation of the Transmission owner to execute. Appendix B projects are those projects where a need has been identified, but the final business case assessment is not yet complete. Appendix C projects are proposed for study but have not yet been reviewed by MISO staff or are in conceptual stages of development. ATSI are also including six projects that will be submitted to the MTEP process this year. ATSI's intended move to PJM in 2011 should not affect the status of any of the approved projects.

Form FE-T10 provides a separate listing of proposed new substations in Ohio which ATSI anticipates placing in service in the next 10 years and which will have one or more voltages at 125 kV or higher. The listing includes the substation name, the voltages, the anticipated timing of installation, and line associations.

There are additional substations and transmission line projects included in the MTEP report that are also part the FirstEnergy Operating Companies expansion plans which the forms provided for submission of project data do not facilitate entry. These include projects primarily involving expansion of existing substation facilities or upgrades to existing transmission lines. Theses projects are included in the MTEP Appendices.[1]

Additional information regarding projects can be found in Subregional Planning Meeting ("SPM") presentations.[2]

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1 The approved Midwest ISO Expansion Plans can be found at:
<http://www.midwestiso.org/publish/Folder/193f68_1118e81057f_-7f900a48324a>

2 The Midwest ISO Subregional Planning Meeting (SPM) information can be found at:
<http://www.midwestiso.org/publish/Folder/2c41ee_1200f54a695_-fd90a48324a?rev=1>

MISO SPM presentations are intended to provide an open forum for input to and review of the results of the needs assessments and adequacy of plans proposed by the Transmission Owners, or by stakeholders to the planning process, or by the Transmission Provider, to best meet the needs of the sub-region.

Rule 4901:5-5-04 Sections E and F include further discussion of critical contingencies identified within the assessment study process and any projects identified to mitigate such post-contingency conditions.

Subsection (D)(3) specifies planned transmission system maps which must be included with this filing. The map, FirstEnergy West Future Transmission Projects Conditions as of 12/09, which contains the planned transmission system of ATSI, has been redacted from the filing and was provided to Commission's Staff per 4901:1-5-04(G) of the Ohio Administrative Code.

(E) SUBSTANTIATION OF THE PLANNED TRANSMISSION SYSTEM

The reporting electric transmission owner shall submit a substantiation of transmission development plans, including:

(1) <u>Description and transcription diagrams of the base case load flow studies of the transmission owner's transmission system in Ohio, one for the current year and one as projected either three or five years into the future, and provide base case load flow studies on computer disks in PSSE or PSLF format along with transcription diagrams for the base cases.</u>

Load flow cases and transcription diagrams for the current year and similar cases and diagrams for five years into the future have been provided. The base load flow cases studies for 2010 and 2015 have been redacted from the filing and were provided to the Commission Staff per 4901:1-5-04(G) of the Ohio Administrative Code.

The following transcription diagrams, which supplement the load flow studies, have been redacted from the filing and were provided to the Commission's Staff per 4901:1-5-04(G) of the Ohio Administrative Code.

- CEI East (2010)
- CEI West (2010)
- OE Central & Eastern (2010)
- OE Central & Southern (2010)
- TE (2010)
- CEI East (2015)
- CEI West (2015)
- OE Central & Eastern (2015)
- OE Central & Southern (2015)
- TE (2015)

The base case is the current summer model for load flow studies within the ATSI's system (125 kV and above). This case includes all lines planned to be in operation at the time of the current summer peak, and represents normal conditions and an assumed dispatch of area generation.

The second load flow model and transcription diagrams have been prepared for five years out for summer peak conditions. This case represents the load flow that would result if the projected peak occurs as predicted and the installation of facilities is completed as presently scheduled. The load flow represents normal conditions and an assumed dispatch of area generation.

The assessment practice used by ATSI in its transmission planning process includes a number of steps. The first step is the development of a load (power) flow "base case" that describes the area to be studied under projected peak load conditions. Also this base case represents the normal conditions of the study area, i.e., all transmission facilities (lines, transformers) are assumed in service, the output of all generating units is based on an assumed dispatch, and interchange schedules are based on conditions anticipated in the base case development.

This pattern of load and capacity is a forecasted snapshot of one possible set of events. Consideration of the scheduled outage of generating units and transmission facilities necessary to facilitate maintenance and construction activities is of greater concern in the evaluation of lighter load (Spring and Fall) periods as the majority of these outages are scheduled during these loading seasons.

The planning studies conducted by ATSI include seasonal, near-term, and long-term assessments. The seasonal studies - referred to as operational assessments - generally involve evaluating system performance for the approaching summer period. These studies identify contingency related transmission constraints that may be encountered, and formulate corrective measures to implement should constraints occur. Sensitivity studies are performed for these operational assessments to consider the impact of a particular generating unit outage or potential transfer through the ATSI transmission network. The near-term and long-term planning studies generally involve evaluation of the transmission system performance in a forecasted within five-year and beyond five-year horizon models. Transmission constraints are identified, for which operating measures cannot mitigate, and solutions such as facility additions are formulated and analyzed.

The computed power flows on each transmission facility and voltage levels at each substation bus are reviewed by comparison to the transmission planning criteria for normal system conditions. Any power flow or voltage that violates any part of the planning criteria is identified.

The second step of the planning process is to modify the load flow base case in order to simulate contingency conditions. These contingency conditions represent a deterministic transmission planning philosophy that represents NERC Category B, C and D contingencies. Additionally, more severe contingency conditions are also simulated consistent with NERC, RFC, and the MISO requirements. An initial screening analysis is conducted, consisting of simulating an extensive list of contingencies. The results of this screening analysis are compared against the transmission planning criteria to determine any violations of the criteria. Those contingencies that result in planning criteria violations are then used in more detailed studies to determine system reinforcement requirements.

Following the simulation of normal and contingency conditions using a particular base case study year from which violations of the planning criteria are determined, solutions to these violations are sought. The solution method is two fold. First, alternative solutions are formulated for evaluation. Solutions may include facility additions and/or upgrades (reinforcement alternatives) such as transmission line and transformer installations, or possibly variations of generation dispatch (generation redispatch alternatives considering the curtailment of non-firm transactions – any redispatch options would be discussed and coordinated with MISO). The reinforcement alternatives or generation redispatch alternatives are then modeled, and the contingency conditions that initially produced criteria violations are simulated again to test the effectiveness of each potential solution. For those alternatives deemed to be functionally equivalent solutions, estimates of costs to provide the system reinforcement are developed. A final recommendation is made considering the cost for each alternative and the identified system improvements and flexibility provided by the alternative.

There is no list of specific contingency conditions or description of critical facilities that can be uniformly considered critical to the bulk transmission system (138 kV and above) from one study year to the next. This is due in part to the extent of the ATSI transmission network as well as the number of the system's 138 kV and 345 kV interconnections with neighboring transmission owners. Currently, ATSI has 38 interconnections with adjacent transmission owners for its transmission system in the ATSI service territory.

(2) <u>A tabulation of and transcription diagrams for a representative number of contingency cases studied along with a brief statement concerning the results.</u>

The proposed lines and substations included in Form FE- T9 and FE T-10 include descriptions for the purpose of the planned facility and the consequence of its deferral or termination.

The reliability of a transmission system is dependent upon the network arrangement, the ability of equipment to function properly, and the system operating characteristics. Reliability is one of the criteria used in determining the adequacy of the existing system and is a measure of the quality of planned additions to the system. The operating limits of the transmission network include thermal loading limits, voltage limits, stability limits and control of cascading outages. Failure to meet any one of these criteria is justification for studying and potentially recommending modification of the network.

ATSI doesn't retain transcription diagrams from the planning process. The software tools provide the ability to generate system reports which provide summary data of system loadings and voltages. Transcription diagrams are typically used for targeted, specific area studies in which interactive area load flows are of interest. Form FE-T9 also includes two fields: 11 – "Purpose of Planned Transmission Line" and 12 – Consequence of Line Construction Deferment or Termination" which provides information on the contingency or issue which the project is designed to address. Form FE-T10 does not contain an entry field for purpose of planned facility or consequence of deferment or termination. This information is inherent in the entries in Form FE-T9 for the lines from the new substation.

Additional review that results from subsequent peak load forecasts or other system changes may result in deferral of proposed facilities, cancellation of proposed facilities, or different system reinforcements than those initially proposed for the 5 to 10 year time period. In addition, new or different transmission system projects may be identified as part of the MISO transmission planning process. [2]

(3) Analysis of proposed solutions to problems identified in paragraph (E)(2) of this rule.

The solutions are proposed by Transmission Owner ("TO") and MISO engineers who are knowledgeable in transmission system performance. Proposed solutions are evaluated by stakeholders through the MTEP process.

The general process flow steps associated with MTEP projects from inception to approval is described below.

- Projects are developed by TOs as a potential solution to a local planning need and submitted to the MTEP planning process or by MISO staff in collaboration with TOs

[2] The Midwest ISO Subregional Planning Meeting (SPM) information can be found at:
< http://www.midwestiso.org/publish/Folder/2c41ee_1200f54a695_-fd90a48324a?rev=1>

and other stakeholders during the planning process as a potential solution for a need or as a value based economic project.

- MISO staff performs reliability and/or economic analyses to identify needs and verify effectiveness by testing against reliability and/or economic planning criteria.
- Stakeholders review results and provide input and solutions are modified as needed.
- MISO staff review cost estimates of identified alternatives with TOs and other stakeholders through the SPM process.
- MISO staff in collaboration with stakeholders evaluates projects against alternatives to determine the preferred solutions. The project justification process includes consideration of a variety of factors including urgency of need and comparison from amongst alternatives of operating performance, initial investment costs, robustness of the solution, longevity of the solution provided, and performance against other economic and non-economic metrics as developed with stakeholders.
- Stakeholder review of selected alternatives (SPM, PS, PAC)
- Use Issues Resolution process to address any issues with planning assumptions and criteria used
- Use Issues Resolution process to address any cost allocation issues
- MISO staff recommends projects for approval by MISO Board of Directors and for implementation by TOs.

The MTEP has three primary objectives. One objective is to perform a reliability assessment of the MISO integrated transmission system. A second objective is to review Transmission Owning members' transmission plans and make sure that appropriate projects are reviewed and recommended to MISO Board of Directors for Approval. The third objective is to develop transmission upgrades to improve market performance. MTEP 2009 and MTEP 2010 meetings and data exchange were in progress in 2009.

(4) Adequacy of the electric transmission owner's transmission system to withstand natural disasters and overload conditions.

The adequacy of a transmission system under multiple contingency conditions such as might occur during a major disaster is a function of many independent factors whose quantification is only known at the time of the incident. Should such an event occur (and depending upon the state of the variables), transmission line loadings in excess of the ratings, normally used for planning purposes, may occur and yet still be deemed adequate and acceptable under those conditions. For example, a tornado passing through portions of the ATSI service areas could result in the loss of some local load. While there may be a time during which all supply to a local area is lost, critical lines will be returned to service and power will be restored to that area as soon as possible.

(5) Analysis of the electric transmission owner's transmission system to permit power interchange with neighboring systems.

See Response to (E)(3)

(6) A diagram showing the electric transmission owner's import and export transfer capabilities and identifying the limiting element(s) during each season of the reporting period. In addition, the reporting electric transmission owner will provide a listing of transmission loading relief (TLR) procedures called during the last two seasons for which actual data are available. That listing may include only those TLRs called as a result of a transmission limit on the reporting electric transmission owner's transmission system. For each TLR event, the listing shall include the maximum level, and the duration at the maximum level, and the magnitude (in MW) of the power curtailments.

See Response to (E)(3). ATSI has not called TLR procedures in the past two seasons.

(7) A description of any studies regarding transmission system improvement, including, but not limited to, any studies of the potential for reducing line losses, thermal loading, and low voltage, and for improving access to alternative energy resources.

Studies of the transmission system are conducted on a continuing basis. Subsection E(1) provides a high level overview of the study process and evaluation of alternatives. These studies consider the various aspects of the transmission system to determine requirements for distinct areas within the system through the planning horizon. These studies focus on system reinforcements to resolve electrical needs, reliability improvements, and opportunities to enhance the performance of the system. Typical planning studies involve these and other aspects such as losses, voltage improvement, thermal loading and transfer capability improvement, in order that all relevant factors are considered when evaluating possible capital additions to the system.

(8) A switching diagram of the transmission network.

The following switching diagrams (see below) have been redacted from this filing and provided to the Commission's Staff per 4901:1-5-04(G) of the Ohio Administrative Code.

- ATSI HV Circuit Diagram Central, Eastern Conditions as of 12/09
- ATSI HV Circuit Diagram Central, Southern, Western Conditions as of 12/09
- ATSI HV Circuit Northern Region Conditions as of 12/09
- ATSI HV Circuit Western Region Conditions as of 12/09

(F) REGIONAL AND BULK POWER REQUIREMENTS

To avoid the inefficiencies associated with having each electric transmission owner report this data, the electric transmission owners may have the regional transmission system operator submit a single report on their behalf. This information shall be provided as soon as it becomes available. Data provided to the commission concerning the electric transmission owner's existing and planned bulk power transmission system (two hundred thirty kV and above) shall include the following:

The information requested in Subsection (F) is prepared by RFC, a regional reliability council. Rather than having each utility under the jurisdiction of the Public Utilities Commission of Ohio (PUCO) include this regional information in its individual filing, the data and other relevant material are compiled and submitted by RFC on behalf of each FirstEnergy Operating Company. This common filing for 2009 entitled, "Electric Utility Regional Report to the Public Utilities Commission of Ohio, Utilities Department – Division of Forecasting and Siting," has been provided to the PUCO.

(G) CRITICAL ENERGY INFRASTRUCTURE

All critical energy infrastructure maps and diagram shave been redacted from the filing and were provided to the Commission's Staff per 4901:1-5-04(G) of the Ohio Administrative Code.

4901:5-5-05 Energy and demand forecasts for electric utilities

(A) GENERAL GUIDELINES

General guidelines provided for in the rules for Section 4901:5-3 and Section 4901:5-5 have been observed in the preparation of this filing. For this report, all Rural Electric Cooperative (REC) sales and loads in the FirstEnergy System have been excluded from the FirstEnergy System's distribution data. Additionally, the FirstEnergy System provides wholesale service to municipal customers located within its service territories. For the historical period and projected period, energy and the associated peak demand delivered to municipal customers have been excluded from the distribution data contained in this report. However, energy and peak demands associated with the REC municipal resale are included within the transmission data reported within this document.

(B) DISTRIBUTION ENERGY DATA AND PEAK DEMAND FORECAST FORMS

All required forms are included in Appendix D.

(C) SUBSTANTIATION OF THE PLANNED DISTRIBUTION SYSTEM

The reporting electric utility shall submit a substantiation of distribution development plans, including:

(1) Load flow or other system analysis by voltage class of the electric utility's distribution system performance in Ohio, that identifies and considers each of the following:

(a) Any thermal overloading of distribution circuits and equipment.

Each of the FirstEnergy Operating Companies performs distribution planning for their own service area. Distribution circuits range from 2,400 volts to 34,500 volts depending upon the area. These distribution class circuits are all analyzed using similar techniques. Historically several methods were used to collect and analyze information concerning loading on circuits including reading substation meters and aggregating customer load data. The FirstEnergy Operating Companies' distribution systems are operated as radial systems. Planning for the sub-transmission systems (11.5kV, 23kV, 34.5kV and 46kV) is provided by local regional engineering groups in collaboration with transmission system planners. The FirstEnergy Operating Companies also have 22.86 kV and 34.5kV radial four-wire systems that are operated and planned as distribution facilities.

The FirstEnergy Operating Companies provide the individual operating company personnel with the ability to forecast loads, by feeder and substation transformer, and in this process the program compares the forecast load against the thermal ratings of the equipment. Any overloads are indicated on the output reports from standard load forecasting and circuit analyses tools. This provides the fundamental way in which thermal overloads on distribution circuits and equipment are identified.

A load flow program, CYMDST, has been made available to the individual operating companies and regional planners that will extract data from its automated mapping system. The regional planner uses this load flow program for detailed studies of individual circuits that are approaching loading limits. Detailed studies are also performed with this program to analyze the system in response to customer voltage complaints and placing capacitors for reactive and voltage support. CYMTCC is used for distribution circuit protection studies.

(b) Any voltage variations on distribution circuits that do not comply with the current version of the American National Standard Institute (ANSI) standard C84.1, electric power systems and equipment voltage ratings or standard as later amended.

Rule 4901:1-10-04 requires each electric utility to file with the PUCO nominal service voltage information as part of the tariff. Distribution circuits are operated within acceptable ranges to provide proper service voltage to the customer as stated in the companies' tariffs. For secondary service voltage less than 600 volts, the FirstEnergy Operating Companies comply with American National Standards Institute (ANSI) C84.1. For primary voltage service greater than 600 volts, the specified operating range is other than that stated in ANSI C84.1

(2) Analysis and consideration of proposed solutions to problems identified in paragraph (C)(1) of this rule.

When a planner reviews the load forecast and determines that an overload condition may occur in the future, the specific device or conductor that may experience overload is identified. The solution to prevent the overload depends upon the item. For instance, if it were an overhead conductor, replacing the existing conductor with a larger one may provide the required relief. At other times the solution may be to transfer load through a tie to another circuit. In still other instances it may be necessary to add a new circuit and/or substation in the area. Certain issues may also be addressed by working with the customer to develop a solution on the customer side of the meter. The planner will typically develop several alternative solutions and estimate the costs for each of those solutions. The costs will be compared using normal economic analytical techniques and the solution providing the most economical benefit will be chosen, absent technical constraints and operating concerns.

The analysis for a potential overload of a substation transformer will generally follow the same concepts employed for circuits. Replacement of existing units with larger capacity units or the addition of transformers or substations will be considered. The costs will again be estimated and analyzed using the same economic analysis techniques

(3) Adequacy of the electric utility distribution system to withstand natural disasters and overload conditions.

Rule 4901:1-10-06 requires utilities to comply with the National Electrical Safety Code. These rules require utilities to design, install, and maintain lines and equipment to meet basic requirements. For example, distribution structures are designed to withstand both wind and ice loading. In the event that distribution outages occur, the FirstEnergy Operating Companies have regional dispatching offices that operate around the clock that will respond to system or customer problems.

The distribution system components are, as designed, able to withstand marginal overload conditions. The design of equipment and lines has a temperature component that is incorporated into the rating of the equipment. When an overload occurs, the temperature may exceed its base value. However, there is some margin in the design that can accommodate such events. Distribution systems have also been historically designed to allow for future growth and to allow the flexibility of transferring loads. While the FirstEnergy Operating Companies' distribution systems are projected to experience moderate to average load growth, in the future some areas may experience higher growth rates and/or large bulk load additions. Areas that are identified as having potential overloads are managed as described in Sections 1 and 3 above. In addition, load growth and overload conditions may also be addressed through alternative approaches. As an example, OEC CEI, and TE are in the contracting process of being awarded federal funds available under the Economic Recovery Act to be used for smart grid investment, as proposed in Case No. 09-1820-EL-ATA.

(4) Analysis and consideration of any studies regarding distribution system improvement, including, but not limited to, any studies of the potential for reducing line losses, thermal loading and low voltage or any other problems, and for improving access to alternative resources.

There are guidelines used to select the size of the conductor to use for constructing new distribution circuits. These guidelines were developed by analyzing the losses for a given conductor type and the cost for using that conductor. The recommended size is based on assuring that the savings in losses will cover the increase in cost for the conductor.

The addition of capacitor banks on the distribution system is one of the alternatives that may be considered for reducing thermal loading. Personnel will periodically review distribution circuits to determine the power factor and recommend additional capacitors as necessary. By maintaining a high average power factor on the distribution system, losses are reduced and the system can be loaded close to its thermal capability most efficiently. Capacitor banks also help to improve the overall voltage profile of a system.

Distribution line regulators are another tool used to extend the reach of existing substation capacity. The regulators boost and re-regulate the distribution line voltage where the distance to the customers is such that service voltage violations could occur.

(5) A switching diagram of circuits less than one hundred twenty-five kV that are not radial.

The following switching diagrams of less than one hundred twenty-five kV that are not radial (see below) have been redacted from this filing and provided to the commission's staff per 4901:5-5-04(G) of the Ohio Administrative Code.

- Akron & Kent 23 kV Transmission Schematic
- Marion 34.5 kV Circuits
- Massillon 23 kV Transmission Schematic
- Ohio Bay Area Transmission Schematic
- Port Clinton West 35 kV Distribution
- Toledo Edison 23 and 34.5 kV System
- Warren 23 kV Transmission Schematic
- Youngstown 23 kV Transmission Schematic

4901:5-5-06 Resource plans

(A) RESOURCE PLAN

As part of the long-term forecast report filed pursuant to rule 4901:5-3-01 of the Administrative Code, an electric utility shall include a resource plan as defined in rule 4901:5-5-01 of the Administrative Code, which shall contain a narrative discussion and analysis of the following:

(1) <u>Anticipated technological changes which may be expected to influence the reporting person's generation mix, use of energy efficiency and peak-demand reduction programs, availability of fuels, type of generation, use of alternative energy resources pursuant to section 4928.64 of the Revised Code or techniques used to store energy for peak use.</u>

As described in the EE&PDR Portfolio Plans, a number of energy efficiency and peak demand reduction programs are proposed to be implemented for the *2010 – 2012* time period. In 2013 and every third year thereafter, updated program plans will be submitted in accordance with the rule 4901:1-39-04.

The FirstEnergy Operating Companies are developing a project through United States Department of Energy (DOE) funding to install smart meters at select meter sites (Ohio Site Deployment) in the CEI service area. The Ohio Site Deployment is part of the Smart Grid Modernization Initiative (SGMI), which has been awarded funding by the Department of Energy. The intent of the Smart Grid Modernization Initiative ("SGMI") is to produce an integrated system of protection, performance, efficiency and economy that extends across the energy delivery system for multiple stakeholder benefits. The initial deployment will allow CEI to conduct a controlled random test of approaches to Critical Peak Pricing and customer demand reduction. Customers will be given the choice of enabling technologies to manage their participation.

The DOE's approach to Smart Grid Investments is to identify the metrics and benefits to be measured prior to the implementation of the technologies, and evaluate and quantify (with actual operational data) potential benefits which cannot be quantified with certainty in advance of project execution. The overall Cost-Benefit Analysis ("CBA") framework is established by the DOE for all Smart Grid Investment Grant awardees. The Companies have engaged the Electric Power Research Institute ("EPRI") to develop a data collection plan based on what will be the CBA framework. The DOE has indicated that it plans to be very prescriptive in determining what the CBA framework will include so that an oranges-to-oranges comparison may be drawn from project to project in order to ensure consistent reporting, quantification and monetization of benefits.

The FirstEnergy Operating Companies do not own or operate generation facilities, nor intend to, for the duration of this forecast. The FirstEnergy Operating Companies currently, and in the future, plan to procure supply to provide standard service offer electric generation service through competitive solicitations.

(2) The availability and potential development of alternative energy resources pursuant to section 4928.64 of the Revised Code for generating electricity.

The FirstEnergy Operating Companies have no plans to build any alternative energy resources or develop any energy storage capabilities.

The FirstEnergy Operating Companies support the development of alternative energy resources through the implementation of competitive solicitation programs for RECs. These programs solicit RECs from PUCO approved sources and provide the alternative energy resource owner with an income stream that is based upon the competitive determined price of the REC (or PUCO approved contingency price). Currently, the FirstEnergy Operating Companies have two REC programs to support the development of alternative energy resources - a wholesale REC-only RFP that targets large-scale alternative energy resource owners and a residential REC-only that solicits RECs from smaller scale residential customers of the Companies. The Companies plan to continue purchasing REC's through 2010 to fulfill SB 221 requirements.

(3) Research, development, and demonstration efforts relating to alternative energy resources, including expenditure information and description of specific investigations, and the nature and timing of anticipated results of these investigations.

See response to (A)(1) and (2) above.

(4) The impact of environmental regulations on generating capacity, cost, and reliability, including precise quantitative estimates and/or historical data pursuant to division (B)(2)(b) and/or (B)(2)(c) of section 4928.143 of the Revised Code.

See response to (A)(1) and 2) above.

(5) Textual material not specifically required but of importance to the resource forecast of the reporting utility may be included in the appropriate section.

None.

(6) Electricity resource forecast forms. In addition to the foregoing discussion and analysis, an electric utility shall include the following forms as published by the commission:

See Appendix E.

4901:5-5-06(B) and beyond is not applicable. None of the companies are filing for an allowance under section 4928.143(B)(2)(b) & (c) of the Ohio Revised Code.

APPENDIX A

LIBRARIES

Ashland County
Ashland County District Library
224 Claremont Avenue
Ashland, OH 44805

Ashtabula County
Ashtabula Public Library
335 West 44th Street
Ashtabula, OH 44004

Carroll County
Carroll County District Library
70 Second St NE
Carrollton, OH 44615

Champaign County
Champaign County Library
1060 Scioto Street
Urbana, OH 43078

Clark County
Clark County Public Library
201 S. Fountain Avenue – PO Box 1080
Springfield, OH 45506

Columbiana County
Carnegie Public Library
219 E. Fourth Street
East Liverpool, OH 43920

Lepper Library
303 E. Lincoln Way
Lisbon, OH 44432-1400

Crawford County
Bucyrus Public Library
200 E. Mansfield
Bucyrus, OH 44820

Cuyahoga County
Cleveland Public Library
Reference Division
325 Superior Avenue, N.E.
Cleveland, OH 44114

Defiance County
Defiance Public Library
320 Fort Street
Defiance, OH 43512

Delaware County
Delaware County District Library
84 E. Winter Street
Delaware, OH 43015

Erie County
Sandusky Library
114 W. Adams Street
Sandusky, OH 44870

Huron Public Library
333 Williams Street
Huron, OH 44839

Fayette County
Carnegie Public Library
127 S. North Street
Washington C.H., OH 43160

Franklin County
Columbus Metropolitan Library
Attn: N. Friday, Biography,
History & Travel Division
96 S. Grant Avenue
Columbus, OH 43215-478

Fulton County
Delta Public Library
402 Main Street
Delta, OH 43515

Geauga County
Geauga County Public Library
12701 Ravenwood Drive
Chardon, OH 44024

Greene County
Hallie Q. Brown Memorial Library
Central State University
1400 Brush Row Road, Box # 1006
Wilberforce, OH 45384

Greene County District Library
76 East Market Street, POB 520
Xenia, OH 45385

Henry County
Napoleon Public Library
310 W. Clinton Street
Napoleon, OH 43545

Holmes County
Holmes County District Public Library
3102 Glen Drive
Millersburg, OH 44654

Huron County
Willard Memorial Library
6 W. Emerald Street
Willard, OH 44890

Knox County
Mt. Vernon Public Library
201 N. Mulberry Street
Mt. Vernon, OH 43050

Lake County
Morley Library
184 Phelps Street
Painesville, OH 44077

Lorain County
Lorain Public Library
351 Sixth Street
Lorain, OH 44052

Oberlin College Library
Reference Division
148 W. College Street
Oberlin, OH 44074-1545

Elyria Public Library
320 Washington Avenue
Elyria, OH 44035

Lucas County
Toledo-Lucas County Public Library
Reference Division
325 Michigan Street
Toledo, OH 43604

William S. Carlson Library
University of Toledo
Reference Division
2801 West Bancroft Street
Toledo, OH 43606-3390

Madison County
London Public Library
20 E. First Street
London, OH 43140

Hurt/Battelle Memorial Library
270 Lilly Chapel Road
West Jefferson, OH 43162

Mahoning County
Public Library of Youngstown
Reference Division
305 Wick Avenue
Youngstown, OH 44503

Marion County
Marion Public Library
445 E. Church Street
Marion, OH 43302-4290

Medina County
Medina County District Library
210 S. Broadway
Medina, OH 44256

Miami County
Troy- Miami Public Library
416 W Main St
Troy, OH 45373

Morrow County
Mount Gilead Public Library
41 E. High Street
Mt. Gilead, OH 43338

Ottawa County
Ida Rupp Public Library
310 Madison Street
Port Clinton, OH 43452

Portage County
Portage County District Library
10482 South Street
Garrettsville, OH 44231

Kent State University Library
Serials Department
1 Eastway Drive, P.O. Box 5190
Kent, OH 44242-0001

Putnam County
Putnam County District Library
124 Putnam Parkway
Educational Service Center
Ottawa, OH 45875-0308

Richland County
Mansfield/Richland Public Library
43 W. Third Street
Mansfield, OH 44902

Sandusky County
Birchard Public Library
423 Croghan Street
Fremont, OH 43420

Seneca County
Tiffin-Seneca Public Library
77 Jefferson Street
Tiffin, OH 44883-2399

Stark County
Stark County District Library
715 Market Ave., N.
Canton, OH 44702

Summit County
Akron-Summit County Public Library
60 South High Street
Akron, OH 44326

Trumbull County
Warren-Trumbull County Public Library
444 Mahoning Avenue, N.W.
Warren, OH 44483

Tuscarawas County
Tuscarawas County Public Library
121 Fair Avenue, N.W.
New Philadelphia, OH 44663

Union County
Marysville Public Library
231 S. Plum Street
Marysville, OH 43040

Wayne County
Wayne County Public Library
304 N. Market Street
Wooster, OH 44691

Williams County
Williams County Public Library
107 E. High Street
Bryan, OH 43506

Wood County
Wood County District Public Library
251 N. Main Street
Bowling Green, OH 43402

William T. Jerome Library
Bowling Green State University
Documents Librarian
Bowling Green, OH 43403-0001

Wyandot County
Upper Sandusky Community Library
301 N. Sandusky Avenue
Upper Sandusky, OH 43351

APPENDIX B

FORECAST DOCUMENTATION

TABLE B-1: Variable & Statistical Definitions

Definitions of variables used in at least one final OLS model

Variable	Description	Variable	Description
After01Reclass	Binary variable for years following & including 2001, when a reclassification took place	**Jul**	Monthly binary variable for July
After03Reclass	Binary variable for years following & including 2003, when a reclassification took place	**Jun**	Monthly binary variable for June
After200501	Binary variable for all months following January 2005, when a reclassification took place	**LaborForce**	Labor force
Apr	Monthly binary variable for April	**LagDep(*t*)**	Lagged dependent, where *t* refers to the number of lags
AR(*p*)	Autoregressive error term, where *p* refers to the number of lags	**ManEmp**	Manufacturing employment
Aug	Monthly binary variable for August	**Mar**	Monthly binary variable for March
CDD[F]	Cooling Degree Days, where [F] is the base temperature in degrees Fahrenheit	**May**	Monthly binary variable for May
CDD65_PeakDay	Cooling Degree Days for the peak day based on 65° F	**Nov**	Monthly binary variable for Nov
ComPrice	Commercial price of electricity	**Oct**	Monthly binary variable for Oct
Customers	Number of customers as determined from the appropriate customer forecast	**OilPrice**	Oil price
DisposableInc	Disposable income	**Pop**	Population
Feb	Monthly binary variable for February	**Pop_x_After03Reclass**	Interaction term between *Pop* & *After03Reclass* variables
GDP	Local contribution to Gross Domestic Product	**RecessionL2000s**	Binary variable for the late-2000s recession, per the National Bureau of Economic Research & the Federal Reserve Bank of St. Louis
HDD[F]	Heating Degree Days, where [F] is the base temperature in degrees Fahrenheit	**ResPrice**	Residential price of electricity
HDD65_PeakDay	Heating Degree Days for the peak day based on 65° F	**RetailSales**	Retail sales
HousingStock	Housing stock	**Sep**	Monthly binary variable for Sep
IndPrice	Industrial price of electricity	**SteelPrice**	Steel price
Jan	Monthly binary variable for January	**Trend**	Linear trend

Definitions of abbreviations used for regression statistics

Regression Statistic	Term	Regression Statistic	Term
n	Number of observations	**D-W**	Durbin-Watson Statistic
v	Degrees of freedom for error	$\sum\varepsilon^2$	Sum of squared errors
R^2	R-squared	$SE_{regression}$	Standard error of the regression
Adj. R^2	Adjusted R-squared		

TABLE B-2: Ohio Edison Company
Residential Energy Model

Model Results				
Variable	**Coefficient**	**Standard Error**	***t*-stat**	***p*-value**
Constant	238,401,889.030	20,208,084.205	11.797	0.00%
HDD65	162,219.191	16,638.398	9.750	0.00%
CDD65	703,507.520	55,327.915	12.715	0.00%
RetailSales	11,687.426	453.005	25.800	0.00%
Jan	89,956,055.317	8,274,749.869	10.871	0.00%
Feb	1,608,088.904	10,702,251.828	0.150	88.07%
Mar	-8,193,508.198	9,123,801.371	-0.898	37.01%
Apr	-49,512,208.622	9,598,624.899	-5.158	0.00%
May	-87,426,550.181	12,799,974.639	-6.830	0.00%
Jun	-62,201,076.520	15,425,316.745	-4.032	0.01%
Jul	4,593,734.843	19,091,375.412	0.241	81.01%
Aug	7,479,627.710	19,932,751.283	0.375	70.78%
Sep	5,568,612.288	17,504,048.868	0.318	75.07%
Oct	-69,085,318.379	13,196,596.064	-5.235	0.00%
Nov	-88,932,756.326	8,583,957.202	-10.360	0.00%
AR(1)	0.382	0.062	6.154	0.00%

Regression Statistics	
n	239
ν	223
R^2	0.953
Adj. R^2	0.95
D-W	1.851
$\sum\varepsilon^2$	1.64E+17
$SE_{regression}$	27,142,233

TABLE B-3: Ohio Edison Company
Commercial Energy Model

Model Results				
Variable	**Coefficient**	**Standard Error**	***t*-stat**	***p*-value**
Constant	82,080,249.987	18,105,031.428	4.534	0.00%
Customers	807.399	348.439	2.317	2.14%
GDP	4,914.992	418.923	11.732	0.00%
HDD50	50,289.286	10,059.540	4.999	0.00%
CDD55	183,547.890	21,211.331	8.653	0.00%
Jan	25,622,252.887	4,537,899.543	5.646	0.00%
Feb	8,343,125.451	5,837,029.680	1.429	15.43%
Mar	1,779,821.562	4,932,137.774	0.361	71.86%
Apr	-8,985,418.927	5,118,298.865	-1.756	8.06%
May	-21,839,769.429	6,483,969.185	-3.368	0.09%
Jun	-5,723,930.827	8,560,877.979	-0.669	50.44%
Jul	11,815,753.437	11,783,106.308	1.003	31.71%
Aug	5,585,919.834	12,591,097.586	0.444	65.77%
Sep	21,539,619.706	10,721,617.038	2.009	4.57%
Oct	-736,374.423	6,647,989.760	-0.111	91.19%
Nov	-20,957,493.181	4,624,400.736	-4.532	0.00%
AR(1)	0.351	0.063	5.598	0.00%

Regression Statistics	
n	239
ν	222
R^2	0.942
Adj. R^2	0.937
D-W	2.086
$\sum\varepsilon^2$	4.75E+16
$SE_{regression}$	14,623,971

TABLE B-4: Ohio Edison Company
Industrial Energy Model

Model Results				
Variable	**Coefficient**	**Standard Error**	***t*-stat**	***p*-value**
Constant	-1,090,454,195.006	526,041,105.091	-2.073	3.93%
RecessionL2000s	-27,489,983.434	15,039,176.207	-1.828	6.89%
SteelPrice	107,360.321	41,478.593	2.588	1.03%
GDP	7,202.587	2,287.613	3.149	0.19%
ManEmp	611,421.151	76,273.619	8.016	0.00%
Jan	-29,762,010.350	8,113,683.591	-3.668	0.03%
Feb	19,919,530.435	8,334,277.918	2.390	1.77%
Mar	20,620,240.767	9,320,030.026	2.212	2.80%
Apr	17,636,445.099	9,454,554.002	1.865	6.35%
May	441,173.095	9,697,371.399	0.045	96.37%
Jun	28,376,392.309	9,739,676.637	2.913	0.39%
Jul	7,319,803.498	9,725,121.569	0.753	45.24%
Aug	30,013,574.522	9,518,216.747	3.153	0.19%
Sep	52,016,766.027	9,237,427.471	5.631	0.00%
Oct	9,077,742.116	8,215,212.282	1.105	27.04%
Nov	-3,186,935.039	8,137,633.640	-0.392	69.57%
LaborForce	555,776.911	461,260.351	1.205	22.95%
AR(1)	0.287	0.065	4.407	0.00%
AR(2)	0.264	0.065	4.044	0.01%

Regression Statistics	
n	238
v	219
R^2	0.837
Adj. R^2	0.824
D-W	2.108
$\sum\varepsilon^2$	1.89E+17
$SE_{regression}$	29,365,271

TABLE B-5: The Cleveland Electric Illuminating Company
Residential Energy Model

Model Results				
Variable	**Coefficient**	**Standard Error**	***t*-stat**	***p*-value**
Constant	253,945,810.066	13,632,800.993	18.628	0.00%
DisposableInc	2,529.028	199.129	12.700	0.00%
HDD65	83,773.668	10,622.376	7.887	0.00%
CDD65	570,704.972	39,063.753	14.610	0.00%
Jan	78,625,201.080	5,968,501.277	13.173	0.00%
Feb	9,732,734.752	7,379,430.797	1.319	18.86%
Mar	-5,079,203.486	6,518,758.223	-0.779	43.67%
Apr	-38,493,186.669	6,569,109.455	-5.860	0.00%
May	-65,036,907.135	8,241,226.761	-7.892	0.00%
Jun	-61,407,396.892	10,075,812.330	-6.095	0.00%
Jul	-29,445,807.889	13,014,484.176	-2.263	2.46%
Aug	-30,741,739.255	13,825,524.270	-2.224	2.72%
Sep	-38,270,713.609	11,890,303.257	-3.219	0.15%
Oct	-51,766,391.398	8,872,644.073	-5.834	0.00%
Nov	-51,908,924.075	6,367,497.289	-8.152	0.00%
AR(1)	0.247	0.062	3.985	0.01%

Regression Statistics	
n	240
ν	224
R^2	0.921
Adj. R^2	0.915
D-W	1.909
$\sum\varepsilon^2$	8.83E+16
$SE_{regression}$	19,851,318

TABLE B-6: The Cleveland Electric Illuminating Company
Commercial Energy Model

Model Results				
Variable	**Coefficient**	**Standard Error**	***t*-stat**	***p*-value**
Constant	162,740,580.088	23,961,639.021	6.792	0.00%
LagDep(1)	0.495	0.068	7.235	0.00%
RetailSales	4,529.137	847.408	5.345	0.00%
After01Reclass	-84,498,402.135	12,392,386.933	-6.819	0.00%
Jan	52,129,306.766	11,705,616.913	4.453	0.00%
Feb	-132,077.971	10,622,172.231	-0.012	99.01%
Mar	5,727,336.263	10,718,721.297	0.534	59.37%
Apr	-11,047,296.377	10,369,194.419	-1.065	28.78%
May	-8,821,564.499	10,178,931.690	-0.867	38.71%
Jun	15,819,547.325	10,081,701.036	1.569	11.80%
Jul	60,553,750.085	10,344,846.970	5.854	0.00%
Aug	31,577,038.215	11,698,542.547	2.699	0.75%
Sep	30,294,959.769	11,863,771.268	2.554	1.13%
Oct	-27,563,275.421	11,110,235.143	-2.481	1.38%
Nov	-24,195,081.141	11,773,495.272	-2.055	4.10%
AR(1)	-0.339	0.083	-4.062	0.01%

Regression Statistics	
n	240
v	224
R^2	0.813
Adj. R^2	0.801
D-W	2.055
$\sum\varepsilon^2$	2.03E+17
$SE_{regression}$	30,070,834

TABLE B-7: The Cleveland Electric Illuminating Company
Industrial Energy Model

Model Results				
Variable	**Coefficient**	**Standard Error**	***t*-stat**	***p*-value**
OilPrice	432,704.034	116,966.582	3.699	0.03%
LaborForce	208,748.364	40,694.551	5.130	0.00%
RecessionL2000s	-33,052,254.060	9,821,586.802	-3.365	0.09%
LagDep(1)	0.675	0.051	13.117	0.00%
Jan	48,786,971.486	21,287,293.065	2.292	2.28%
Feb	43,053,429.208	14,871,715.010	2.895	0.42%
Mar	34,444,862.010	18,462,256.928	1.866	6.34%
Apr	32,656,707.081	16,733,855.781	1.952	5.22%
May	13,358,253.082	17,764,411.060	0.752	45.29%
Jun	55,116,459.677	17,032,272.719	3.236	0.14%
Jul	25,237,060.533	17,808,721.686	1.417	15.78%
Aug	56,704,316.965	16,694,260.339	3.397	0.08%
Sep	41,213,122.436	18,649,008.472	2.210	2.81%
Oct	8,027,413.133	14,992,684.258	0.535	59.29%
Nov	14,565,855.573	21,342,370.812	0.682	49.56%
AR(1)	-0.520	0.063	-8.217	0.00%

Regression Statistics	
n	240
ν	224
R^2	0.427
Adj. R^2	0.389
D-W	2.089
$\sum\varepsilon^2$	5.02E+17
$SE_{regression}$	47,334,551

TABLE B-8: The Toledo Edison Company
Residential Energy Model

Model Results				
Variable	**Coefficient**	**Standard Error**	***t*-stat**	***p*-value**
Constant	74,876,873.258	7,374,387.102	10.154	0.00%
RetailSales	8,130.278	491.781	16.532	0.00%
CDD65	218,944.007	17,914.957	12.221	0.00%
HDD65	55,404.031	6,081.132	9.111	0.00%
Jan	15,947,191.882	3,025,901.364	5.270	0.00%
Feb	-5,692,002.359	3,770,681.530	-1.510	13.26%
Mar	-5,876,038.257	3,139,484.677	-1.872	6.26%
Apr	-16,706,720.347	3,322,500.049	-5.028	0.00%
May	-22,636,018.132	4,609,672.697	-4.911	0.00%
Jun	-15,117,601.341	5,683,106.203	-2.660	0.84%
Jul	3,998,008.096	7,062,410.596	0.566	57.19%
Aug	5,409,531.890	7,280,220.364	0.743	45.82%
Sep	-3,176,031.058	6,456,088.759	-0.492	62.33%
Oct	-18,167,533.502	4,839,348.278	-3.754	0.02%
Nov	-20,617,340.975	3,205,717.320	-6.431	0.00%
AR(1)	0.311	0.064	4.850	0.00%

Regression Statistics	
n	239
ν	223
R^2	0.921
Adj. R^2	0.916
D-W	1.995
$\sum\varepsilon^2$	2.01E+16
$SE_{regression}$	9,484,925

TABLE B-9: The Toledo Edison Company
Commercial Energy Model

Model Results				
Variable	**Coefficient**	**Standard Error**	***t*-stat**	***p*-value**
Constant	-41,818,077.412	10,968,427.182	-3.813	0.02%
Customers	4,803.333	371.067	12.945	0.00%
GDP	2,822.035	581.257	4.855	0.00%
HDD50	28,843.206	10,037.931	2.873	0.45%
CDD55	83,792.129	18,739.245	4.471	0.00%
Jan	-889,778.593	5,040,216.746	-0.177	86.00%
Feb	-3,187,300.339	5,509,137.960	-0.579	56.35%
Mar	7,951.480	4,552,219.951	0.002	99.86%
Apr	-4,061,107.210	4,777,206.179	-0.850	39.62%
May	-8,296,947.687	6,201,542.747	-1.338	18.23%
Jun	-9,174,146.635	8,287,614.061	-1.107	26.95%
Jul	-7,688,547.399	11,344,498.861	-0.678	49.86%
Aug	-4,923,771.721	11,897,342.491	-0.414	67.94%
Sep	-5,862,311.467	10,301,395.860	-0.569	56.99%
Oct	112,039.448	6,583,368.292	0.017	98.64%
Nov	-8,895,937.642	5,178,590.723	-1.718	8.72%

Regression Statistics	
n	240
ν	224
R^2	0.812
Adj. R^2	0.8
D-W	1.805
$\sum\varepsilon^2$	4.46E+16
$SE_{regression}$	14,110,465

TABLE B-10: The Toledo Edison Company
Industrial Energy Model

Model Results				
Variable	**Coefficient**	**Standard Error**	***t*-stat**	***p*-value**
Constant	-286,210,987.755	26,127,179.963	-10.955	0.00%
Customers	20,541.547	2,768.601	7.419	0.00%
GDP	24,513.511	892.998	27.451	0.00%
Jan	-3,017,477.285	9,184,153.746	-0.329	74.28%
Feb	14,049,188.680	9,183,016.893	1.530	12.74%
Mar	1,895,786.834	9,182,939.915	0.206	83.66%
Apr	12,918,551.316	9,182,766.836	1.407	16.09%
May	11,720,162.716	9,182,652.558	1.276	20.32%
Jun	25,116,205.144	9,182,560.908	2.735	0.67%
Jul	9,552,327.164	9,182,472.928	1.040	29.93%
Aug	20,691,405.726	9,182,400.653	2.253	2.52%
Sep	46,463,447.139	9,182,348.306	5.060	0.00%
Oct	3,017,366.486	9,182,314.765	0.329	74.28%
Nov	23,436,411.519	9,182,275.450	2.552	1.14%

Regression Statistics	
n	240
v	226
R^2	0.794
Adj. R^2	0.783
D-W	2.028
$\sum\varepsilon^2$	1.91E+17
$SE_{regression}$	29,036,861

TABLE B-11: Ohio Edison Company
Peak Model

Model Results				
Variable	**Coefficient**	**Standard Error**	***t*-stat**	***p*-value**
Constant	260.011	323.310	0.804	42.34%
Customers	1.585	0.177	8.953	0.00%
HDD65_PeakDay	7.568	1.897	3.989	0.01%
HDD65_PeakDay	94.480	7.240	13.050	0.00%

Regression Statistics	
n	94
v	90
R^2	0.914
Adj. R^2	0.911
D-W	1.784
$\sum \varepsilon^2$	3.12E+06
$SE_{regression}$	186

TABLE B-12: The Cleveland Electric Illuminating Company
Peak Model

Model Results				
Variable	**Coefficient**	**Standard Error**	***t*-stat**	***p*-value**
Constant	524.832	212.611	2.469	1.55%
Customers	1.462	0.149	9.841	0.00%
HDD65_PeakDay	3.815	1.124	3.395	0.10%
CDD65_PeakDay	58.198	3.725	15.624	0.00%

Regression Statistics	
n	94
v	90
R^2	0.93
Adj. R^2	0.928
D-W	2.094
$\sum \varepsilon^2$	1.37E+06
$SE_{regression}$	123

TABLE B-13: The Toledo Edison Company
Peak Model

Model Results				
Variable	**Coefficient**	**Standard Error**	***t*-stat**	***p*-value**
Constant	-1,118.676	528.258	-2.118	3.70%
Customers	0.951	0.226	4.214	0.01%
HDD65_PeakDay	3.970	0.745	5.330	0.00%
CDD65_PeakDay	28.061	2.669	10.514	0.00%
Trend	0.044	0.012	3.847	0.02%

Regression Statistics	
n	94
v	89
R^2	0.793
Adj. R^2	0.784
D-W	1.957
$\sum \varepsilon^2$	6.87E+05
$SE_{regression}$	88

TABLE B-14: Impact of Electricity Price on Model Results

Ohio Edison Company					
Class	**Variable**	**Coefficient**	**Standard Error**	***t*-stat**	***p*-value**
Residential	ResPrice	86,766.663	116,535.342	0.745	45.73%
Commercial	ComPrice	68,266.346	60,733.889	1.124	26.22%
Industrial	IndPrice	186,390.883	314,685.358	0.592	55.43%
The Cleveland Electric Illuminating Company					
Class	**Variable**	**Coefficient**	**Standard Error**	***t*-stat**	***p*-value**
Residential	ResPrice	73,164.641	71,567.950	1.022	30.77%
Commercial	ComPrice	39,086.010	82,120.553	0.476	63.46%
Industrial	IndPrice	116,212.488	96,641.300	1.203	23.04%
The Toledo Edison Company					
Class	**Variable**	**Coefficient**	**Standard Error**	***t*-stat**	***p*-value**
Residential	ResPrice	27,590.382	35,735.324	0.772	44.09%
Commercial	ComPrice	152,962.334	32,128.088	4.761	0.00%
Industrial	IndPrice	360,303.614	143,373.904	2.513	1.27%

TABLE C-1: Impact of Industrial Survey Adjustment on Energy Model Results (GWh)

	Ohio Edison Company	The Cleveland Electric Illuminating Company	The Toledo Edison Company
2010	(557)	(1,245)	323
2011	(17)	(1,456)	192
2012	(174)	(1,457)	(156)
2013	(132)	(1,061)	(120)
2014	(34)	(274)	(32)

TABLE C-2: Impact of Federal Energy-Efficiency Standards (including Pub.L. 110-140) on Residential Energy Model Results (GWh)

	Ohio Edison Company	The Cleveland Electric Illuminating Company	The Toledo Edison Company
2010	(24)	(17)	(6)
2011	(81)	(53)	(18)
2012	(133)	(87)	(28)
2013	(316)	(203)	(58)
2014	(392)	(251)	(71)
2015	(440)	(281)	(80)
2016	(468)	(298)	(86)
2017	(501)	(318)	(92)
2018	(519)	(328)	(95)
2019	(531)	(334)	(98)
2020	(566)	(355)	(104)

TABLE C-3: Impact of Am. Sub. SB221 on Energy Model Results (GWh)

Residential	Ohio Edison Company	The Cleveland Electric Illuminating Company	The Toledo Edison Company
2010	(57)	(41)	(16)
2011	(207)	(148)	(54)
2012	(305)	(214)	(86)
2013	(245)	(151)	(63)
2014	(315)	(201)	(86)
2015	(394)	(257)	(112)
2016	(487)	(324)	(144)
2017	(587)	(396)	(178)
2018	(695)	(474)	(216)
2019	(891)	(616)	(285)
2020	(1,054)	(763)	(356)
Commercial	**Ohio Edison Company**	**The Cleveland Electric Illuminating Company**	**The Toledo Edison Company**
2010	(12)	(12)	(2)
2011	(57)	(53)	(12)
2012	(98)	(84)	(29)
2013	(625)	(414)	(206)
2014	(786)	(541)	(274)
2015	(940)	(660)	(341)
2016	(1,079)	(769)	(404)
2017	(1,211)	(872)	(465)
2018	(1,336)	(969)	(523)
2019	(1,602)	(1,174)	(644)
2020	(1,894)	(1,371)	(761)

TABLE C-3, cont'd

Industrial	Ohio Edison Company	The Cleveland Electric Illuminating Company	The Toledo Edison Company
2010	(128)	(90)	(60)
2011	(207)	(124)	(78)
2012	(305)	(145)	(97)
2013	(65)	(67)	(39)
2014	(82)	(87)	(52)
2015	(98)	(107)	(65)
2016	(112)	(125)	(76)
2017	(125)	(142)	(87)
2018	(138)	(158)	(98)
2019	(164)	(192)	(120)
2020	(194)	(225)	(141)

TABLE C-4: 12-Month Average Impact of Am. Sub. SB221 on Peak Demand Models (MW)

	Ohio Edison Company	The Cleveland Electric Illuminating Company	The Toledo Edison Company
2010	(25)	(19)	(8)
2011	(88)	(71)	(31)
2012	(129)	(101)	(48)
2013	(200)	(164)	(78)
2014	(238)	(192)	(93)
2015	(277)	(221)	(108)
2016	(316)	(252)	(124)
2017	(356)	(282)	(139)
2018	(397)	(313)	(156)
2019	(415)	(328)	(163)
2020	(415)	(328)	(163)

TABLE D-1: Annual Distribution Load Factors

Year	Ohio Edison Company	The Cleveland Electric Illuminating Company	The Toledo Edison Company	FirstEnergy System*
2005	61.59%	58.30%	65.36%	61.24%
2006	57.03%	55.26%	60.43%	57.86%
2007	59.10%	59.02%	63.91%	60.33%
2008	61.51%	59.94%	66.48%	61.22%
2009	59.78%	57.35%	60.42%	59.60%
2010	58.89%	58.70%	62.17%	60.52%
2011	59.28%	58.95%	62.51%	60.84%
2012	59.62%	59.13%	62.63%	60.94%
2013	59.88%	59.57%	63.36%	61.64%
2014	60.07%	60.36%	63.71%	61.92%
2015	60.05%	60.58%	63.56%	62.03%
2016	60.02%	60.52%	63.23%	61.79%
2017	59.83%	60.32%	62.70%	61.88%
2018	59.96%	60.45%	62.43%	61.79%
2019	59.12%	59.62%	61.11%	60.93%
2020	58.09%	58.58%	59.63%	59.73%

*includes Pennsylvania Power

APPENDIX C
TRANSMISSION FORECAST FORMS

4901:5-5-04(B)(1)
PUCO FORM FE-T1: **TRANSMISSION ENERGY DELIVERY FORECAST**
(Megawatt Hours/Year)[a][b]

FirstEnergy System

	Year	(1) Energy Receipts from Generation Sources Connected To The Owner's System Inside Ohio	(2) Energy Receipts from Generation Sources Connected To The System Outside Ohio	(3) Total Energy Receipts From Generation Sources 1 + 2	(4) Energy Receipts At Interconnections With Other Transmission Companies Inside Ohio	(5) Energy Receipts At Interconnections With Other Transmission Companies Outside Ohio	(6) Total Energy Receipts At Interconnections 4 + 5	(7) Total Energy Receipts 3 + 6	(8) Energy Deliveries At Interconnections With Other Transmission Companies Inside Ohio	(9) Energy Deliveries At Interconnections With Other Transmission Companies Outside Ohio	(10) Total Energy Deliveries At Interconnections 8 + 9	(11) Total Energy Deliveries For Load Connected To The System[c] 7 - 10	(12) Energy Deliveries For Loads Connected To The System Inside Ohio	(13) Energy Deliveries For Loads Connected To The System Outside Ohio
			-											
-5	2005	71,416,378	-	71,416,378	15,052,274	11,099,104	26,151,378	97,567,756	5,253,317	20,791,933	26,045,250	72,111,090	66,883,313	5,227,777
-4	2006	74,525,108	-	74,525,108	13,291,252	10,267,471	23,558,723	98,083,831	6,165,742	21,738,981	27,904,723	70,221,832	65,067,202	5,154,630
-3	2007	71,213,372	-	71,213,372	13,215,136	13,425,474	26,640,610	97,853,982	7,078,940	18,972,838	26,051,778	71,852,782	66,187,876	5,664,906
-2	2008	71,818,247	-	71,818,247	11,763,919	14,994,644	26,758,563	98,576,810	7,323,180	21,450,812	28,773,992	69,844,635	64,353,926	5,490,709
-1	2009	68,299,926	-	68,299,926	11,187,614	14,260,068	25,447,682	93,747,608	6,964,423	20,399,953	27,364,376	66,423,000	61,380,000	5,043,000
0	2010	67,876,284	-	67,876,284	11,118,221	14,171,617	25,289,838	93,166,122	6,921,225	20,273,419	27,194,644	66,011,000	61,151,000	4,860,000
1	2011	68,660,845	-	68,660,845	11,246,733	14,335,423	25,582,155	94,243,000	7,001,225	20,507,753	27,508,978	66,774,000	61,937,000	4,837,000
2	2012	69,490,648	-	69,490,648	11,382,655	14,508,674	25,891,329	95,381,978	7,085,839	20,755,600	27,841,439	67,581,000	62,660,000	4,921,000
3	2013	70,550,781	-	70,550,781	11,556,307	14,730,015	26,286,321	96,837,103	7,193,939	21,072,243	28,266,182	68,612,000	63,506,000	5,106,000
4	2014	71,864,894	-	71,864,894	11,771,560	15,004,383	26,775,943	98,640,837	7,327,937	21,464,745	28,792,681	69,890,000	64,484,000	5,406,000
5	2015	72,155,891	-	72,155,891	11,819,225	15,065,139	26,884,365	99,040,256	7,357,609	21,551,660	28,909,269	70,173,000	64,636,000	5,537,000
6	2016	72,036,613	-	72,036,613	11,799,688	15,040,236	26,839,923	98,876,536	7,345,446	21,516,034	28,861,480	70,057,000	64,453,000	5,604,000
7	2017	71,950,239	-	71,950,239	11,785,539	15,022,202	26,807,742	98,757,981	7,336,639	21,490,236	28,826,875	69,973,000	64,300,000	5,673,000
8	2018	71,779,549	-	71,779,549	11,757,580	14,986,564	26,744,144	98,523,693	7,319,234	21,439,253	28,758,487	69,807,000	64,064,000	5,743,000
9	2019	70,999,101	-	70,999,101	11,629,742	14,823,618	26,453,360	97,452,461	7,239,653	21,206,148	28,445,801	69,048,000	63,238,000	5,810,000
10	2020	70,161,072	-	70,161,072	11,492,472	14,648,649	26,141,121	96,302,192	7,154,201	20,955,844	28,110,044	68,233,000	62,381,000	5,872,000

[a] To be filled out by electric transmission owners operating in Ohio.
[b] Data excludes firm off-system power sales.
[c] These data include energy for Pennsylvania Power as well as the 3 Ohio companies.

4901:5-5:04(B)(3)(a)

PUCO Form FE-T3: Electric Transmission Owner's Total Monthly Energy Forecast (Megawatt-Hours/Month) d

FirstEnergy System

	Ohio Portion [a]	Total Service Area [b]	Total System [c e]
Year 0-2010			
January*	5,559,000	6,031,000	6,031,000
February*	5,068,000	5,512,000	5,512,000
March	5,130,000	5,550,000	5,550,000
April	4,701,000	5,076,000	5,076,000
May	4,772,000	5,143,000	5,143,000
June	5,159,000	5,570,000	5,570,000
July	5,592,000	6,013,000	6,013,000
August	5,495,000	5,908,000	5,908,000
September	4,861,000	5,226,000	5,226,000
October	4,771,000	5,134,000	5,134,000
November	4,733,000	5,117,000	5,117,000
December	5,311,000	5,733,000	5,733,000
Year 1-2011			
January	5,464,000	5,924,000	5,924,000
February	5,087,000	5,508,000	5,508,000
March	5,216,000	5,636,000	5,636,000
April	4,768,000	5,143,000	5,143,000
May	4,833,000	5,204,000	5,204,000
June	5,215,000	5,626,000	5,626,000
July	5,643,000	6,064,000	6,064,000
August	5,552,000	5,966,000	5,966,000
September	4,941,000	5,307,000	5,307,000
October	4,896,000	5,262,000	5,262,000
November	4,952,000	5,338,000	5,338,000
December	5,371,000	5,795,000	5,795,000

[a] Electric transmission owner shall provide or cause to be provided data for the Ohio portion of its service area in this column.

[b] Electric transmission owner operating across Ohio boundries shall provide or cause to be provided data for the total service area in this column.

[c] Electric transmission owner operating as a part of an integrated operating system shall provide for the total system in this column.

[d] Actual data shall be indicated with an asterisk (*).

[e] These data include load for Pennsylvania Power as well as the 3 Ohio companies

4901:5-5:04(B)(2)

PUCO Form FE-T2: **Electric Transmission Owner's System Seasonal Peak Load Demand Forecast (Megawatts)[a, e, f, g]**

FirstEnergy System

		Native Load[b]		Internal Load[c]	
	Year	Summer	Winter[d]	Summer	Winter[d]
-5	2005	13,100	10,473	13,578	10,951
-4	2006	13,326	10,717	13,804	11,195
-3	2007	13,058	10,184	13,536	10,662
-2	2008	12,494	9,985	12,972	10,463
-1	2009	12,052	10,429	12,310	10,687
0	2010	12,192	10,095	12,450	10,353
1	2011	12,449	10,339	12,528	10,418
2	2012	12,545	10,390	12,624	10,469
3	2013	12,628	10,574	12,707	10,653
4	2014	12,884	10,776	12,884	10,776
5	2015	12,913	10,771	12,913	10,771
6	2016	12,908	10,769	12,908	10,769
7	2017	12,908	10,763	12,908	10,763
8	2018	12,896	10,754	12,896	10,754
9	2019	12,936	10,821	12,936	10,821
10	2020	13,004	10,890	13,004	10,890

[a] To be filled out by electric transmission owners in Ohio.

[b] Excludes interruptible load.

[c] Native Load is Internal Load less Interruptible Capability.

[d] Winter load reference is to peak loads which follow the summer peak load.

[e] All loads exclude firm off-system power sales.

[f] These data include load for Pennsylvania Power as well as the 3 Ohio companies.

4901:5-5:04(B)(3)(b)

PUCO Form FE-T4: **Electric Transmission Owner's Monthly Internal Peak Load Forecast (Megawatts)** [d]

FirstEnergy System

	Ohio Portion [a]	Total Service Area [b]	Total System [c e]
Year 0-2010			
January*	9,279	10,031	10,031
February*	8,947	9,796	9,796
March	8,803	9,580	9,580
April	8,381	9,114	9,114
May	9,197	9,975	9,975
June	10,877	11,752	11,752
July	11,363	12,280	12,280
August	11,531	12,450	12,450
September	9,771	10,583	10,583
October	8,451	9,177	9,177
November	8,474	9,222	9,222
December	9,311	10,130	10,130
Year 1-2011			
January	9,513	10,353	10,353
February	9,292	10,105	10,105
March	8,901	9,671	9,671
April	8,451	9,178	9,178
May	9,263	10,034	10,034
June	10,944	11,813	11,813
July	11,437	12,346	12,346
August	11,615	12,528	12,528
September	9,867	10,675	10,675
October	8,558	9,281	9,281
November	8,600	9,347	9,347
December	9,413	10,231	10,231

[a] Electric transmission owner shall provide or cause to be provided data for the Ohio portion of its service area in this column.

[b] Electric transmission owner operating across Ohio boundries shall provide or cause to be provided data for the total service area in this column.

[c] Electric transmission owner operating as a part of an integrated operating system shall provide for the total system in this column.

[d] Actual data shall be indicated with an asterisk (*).

[e] These data include load for Pennsylvania Power as well as the 3 Ohio companies

4901:5-5-04(B)(3)(c)(i)

PUCO FORM FE-T5: Monthly Hourly Transactions (Megawatt- Hour/Month)
For the Most Recent Year

FirstEnergy System

PART A: SOURCES OF ENERGY

Reporting Month: January 2009

1. Energy Receipts from all sources by type: (MWh)

	Firm Transmission Service	Non-Firm Transmission Service	Total
Energy Receipts from Power Plants directly connected to the Electric Transmission Owner's transmission system	6,123,875	-	6,123,875
Energy Receipts from other sources	2,681,825	-	2,681,825
Total Energy Receipts	8,805,700	-	8,805,700

4901:5-5-04(B)(3)(c)(i)

PUCO FORM FE-T5: Monthly Hourly Transactions (Megawatt- Hour/Month)
For the Most Recent Year

FirstEnergy System

PART A: SOURCES OF ENERGY

Reporting Month: February 2009

1. Energy Receipts from all sources by type: (MWh)

	Firm Transmission Service	Non-Firm Transmission Service	Total
Energy Receipts from Power Plants directly connected to the Electric Transmission Owner's transmission system	4,633,060	-	4,633,060
Energy Receipts from other sources	2,416,555	-	2,416,555
Total Energy Receipts	7,049,615	-	7,049,615

4901:5-5-04(B)(3)(c)(i)

PUCO FORM FE-T5: Monthly Hourly Transactions (Megawatt- Hour/Month)
For the Most Recent Year

FirstEnergy System

PART A: SOURCES OF ENERGY

Reporting Month: March 2009

1. Energy Receipts from all sources by type: (MWh)

	Firm Transmission Service	Non-Firm Transmission Service	Total
Energy Receipts from Power Plants directly connected to the Electric Transmission Owner's transmission system	4,169,062	-	4,169,062
Energy Receipts from other sources	2,810,459	-	2,810,459
Total Energy Receipts	6,979,521	-	6,979,521

4901:5-5-04(B)(3)(c)(i)

PUCO FORM FE-T5: Monthly Hourly Transactions (Megawatt- Hour/Month)
For the Most Recent Year

FirstEnergy System

PART A: SOURCES OF ENERGY

Reporting Month: April 2009

1. Energy Receipts from all sources by type: (MWh)

	Firm Transmission Service	Non-Firm Transmission Service	Total
Energy Receipts from Power Plants directly connected to the Electric Transmission Owner's transmission system	3,666,019	-	3,666,019
Energy Receipts from other sources	2,486,602	-	2,486,602
Total Energy Receipts	6,152,621	-	6,152,621

4901:5-5-04(B)(3)(c)(i)

PUCO FORM FE-T5: Monthly Hourly Transactions (Megawatt- Hour/Month)
For the Most Recent Year

FirstEnergy System

PART A: SOURCES OF ENERGY

Reporting Month: May 2009

1. Energy Receipts from all sources by type: (MWh)

	Firm Transmission Service	Non-Firm Transmission Service	Total
Energy Receipts from Power Plants directly connected to the Electric Transmission Owner's transmission system	4,381,673	-	4,381,673
Energy Receipts from other sources	2,009,957	-	2,009,957
Total Energy Receipts	6,391,630	-	6,391,630

4901:5-5-04(B)(3)(c)(i)

PUCO FORM FE-T5: Monthly Hourly Transactions (Megawatt- Hour/Month)
For the Most Recent Year

FirstEnergy System

PART A: SOURCES OF ENERGY

Reporting Month: June 2009

1. Energy Receipts from all sources by type: (MWh)

	Firm Transmission Service	Non-Firm Transmission Service	Total
Energy Receipts from Power Plants directly connected to the Electric Transmission Owner's transmission system	4,333,996	-	4,333,996
Energy Receipts from other sources	2,569,041	-	2,569,041
Total Energy Receipts	6,903,037	-	6,903,037

4901:5-5-04(B)(3)(c)(I)

PUCO FORM FE-T5: Monthly Hourly Transactions (Megawatt- Hour/Month)
For the Most Recent Year

FirstEnergy System

PART A: SOURCES OF ENERGY

Reporting Month: July 2009

1. Energy Receipts from all sources by type: (MWh)

	Firm Transmission Service	Non-Firm Transmission Service	Total
Energy Receipts from Power Plants directly connected to the Electric Transmission Owner's transmission system	4,835,665	-	4,835,665
Energy Receipts from other sources	2,675,882	-	2,675,882
Total Energy Receipts	7,511,547	-	7,511,547

4901:5-5-04(B)(3)(c)(i)

PUCO FORM FE-T5: Monthly Hourly Transactions (Megawatt- Hour/Month)
For the Most Recent Year

FirstEnergy System

PART A: SOURCES OF ENERGY

Reporting Month: August 2009

1. Energy Receipts from all sources by type: (MWh)

	Firm Transmission Service	Non-Firm Transmission Service	Total
Energy Receipts from Power Plants directly connected to the Electric Transmission Owner's transmission system	5,206,283	-	5,206,283
Energy Receipts from other sources	2,518,655	-	2,518,655
Total Energy Receipts	7,724,938	-	7,724,938

4901:5-5-04(B)(3)(c)(i)

PUCO FORM FE-T5: Monthly Hourly Transactions (Megawatt- Hour/Month)
For the Most Recent Year

FirstEnergy System

PART A: SOURCES OF ENERGY

Reporting Month: September 2009

1. Energy Receipts from all sources by type: (MWh)

	Firm Transmission Service	Non-Firm Transmission Service	Total
Energy Receipts from Power Plants directly connected to the Electric Transmission Owner's transmission system	4,201,870	-	4,201,870
Energy Receipts from other sources	2,441,148	-	2,441,148
Total Energy Receipts	6,643,018	-	6,643,018

4901:5-5-04(B)(3)(c)(i)

PUCO FORM FE-T5: Monthly Hourly Transactions (Megawatt- Hour/Month)
For the Most Recent Year

FirstEnergy System

PART A: SOURCES OF ENERGY

Reporting Month: October 2009

1. Energy Receipts from all sources by type: (MWh)

	Firm Transmission Service	Non-Firm Transmission Service	Total
Energy Receipts from Power Plants directly connected to the Electric Transmission Owner's transmission system	4,399,506	-	4,399,506
Energy Receipts from other sources	2,161,668	-	2,161,668
Total Energy Receipts	6,561,174	-	6,561,174

4901:5-5-04(B)(3)(c)(i)

PUCO FORM FE-T5: Monthly Hourly Transactions (Megawatt- Hour/Month)
For the Most Recent Year

FirstEnergy System

PART A: SOURCES OF ENERGY

Reporting Month: November 2009

1. Energy Receipts from all sources by type: (MWh)

	Firm Transmission Service	Non-Firm Transmission Service	Total
Energy Receipts from Power Plants directly connected to the Electric Transmission Owner's transmission system	4,298,261	-	4,298,261
Energy Receipts from other sources	2,249,987	-	2,249,987
Total Energy Receipts	6,548,248	-	6,548,248

4901:5-5-04(B)(3)(c)(i)

PUCO FORM FE-T5: Monthly Hourly Transactions (Megawatt- Hour/Month)
For the Most Recent Year

FirstEnergy System

PART A: SOURCES OF ENERGY

Reporting Month: December 2009

1. Energy Receipts from all sources by type: (MWh)

	Firm Transmission Service	Non-Firm Transmission Service	Total
Energy Receipts from Power Plants directly connected to the Electric Transmission Owner's transmission system	5,051,738	-	5,051,738
Energy Receipts from other sources	2,920,509	-	2,920,509
Total Energy Receipts	7,972,247	-	7,972,247

4901:5-5-04(B)(3)(c)(ii)
PUCO FORM FE-T5: Monthly Hourly Transactions (Megawatt- Hour/Month)
For the Most Recent Year

FirstEnergy System

PART B: DELIVERY OF ENERGY

Reporting Month: January 2009

1. Energy Deliveries to all points connected to the Electric Transmission Owner's System (MWh)

	Firm Transmission Service	Non-Firm Transmission Service	Total
For Distribution Service:			
Affiliated Electric Utility Companies	5,367,145	-	5,367,145
Other Investor-Owned Electric Utilities	2,575,170	-	2,575,170
Coorperative-Owned Electric System	117,680	-	117,680
Municipal-Owned Electric Systems	454,625	-	454,625
Federal and State Electric Agencies	292,758	-	292,758
Other end user service	-	-	-
For Non Distribution service (transmission to transmission service	-	-	-
Total Energy Delivery	8,807,378	-	8,807,378

Reporting Month: January 2009

2. Energy Deliveries to all points connected to the Electric Transmission Owner's System located in Ohio (MWh)

	Firm Transmission Service	Non-Firm Transmission Service	Total
For Distribution Service:			
Affiliated Electric Utility Companies	4,880,012	-	4,880,012
Other Investor-Owned Electric Utilities	-	-	-
Coorperative-Owned Electric System	117,680	-	117,680
Municipal-Owned Electric Systems	436,885	-	436,885
Federal and State Electric Agencies	292,758	-	292,758
Other end user service	-	-	-
For Non Distribution service (transmission to transmission service	-	-	-
Total Energy Delivery	5,727,335	-	5,727,335

4901:5-5-04(B)(3)(c)(ii)

PUCO FORM FE-T5: Monthly Hourly Transactions (Megawatt- Hour/Month)
For the Most Recent Year

FirstEnergy System

PART B: DELIVERY OF ENERGY

Reporting Month: February 2009

1. Energy Deliveries to all points connected to the Electric Transmission Owner's System (MWh)

	Firm Transmission Service	Non-Firm Transmission Service	Total
For Distribution Service:			
Affiliated Electric Utility Companies	4,567,111	-	4,567,111
Other Investor-Owned Electric Utilities	1,747,081	-	1,747,081
Coorperative-Owned Electric System	92,402	-	92,402
Municipal-Owned Electric Systems	394,854	-	394,854
Federal and State Electric Agencies	249,858	-	249,858
Other end user service	-	-	-
For Non Distribution service (transmission to transmission service	-	-	-
Total Energy Delivery	7,051,306	-	7,051,306

Reporting Month: February 2009

2. Energy Deliveries to all points connected to the Electric Transmission Owner's System located in Ohio (MWh)

	Firm Transmission Service	Non-Firm Transmission Service	Total
For Distribution Service:			
Affiliated Electric Utility Companies	4,175,543	-	4,175,543
Other Investor-Owned Electric Utilities	-	-	-
Coorperative-Owned Electric System	92,402	-	92,402
Municipal-Owned Electric Systems	379,648	-	379,648
Federal and State Electric Agencies	249,858	-	249,858
Other end user service	-	-	-
For Non Distribution service (transmission to transmission service	-	-	-
Total Energy Delivery	4,897,451	-	4,897,451

4901:5-5-04(B)(3)(c)(ii)
PUCO FORM FE-T5: Monthly Hourly Transactions (Megawatt- Hour/Month)
For the Most Recent Year

FirstEnergy System

PART B: DELIVERY OF ENERGY

Reporting Month: March 2009

1. Energy Deliveries to all points connected to the Electric Transmission Owner's System (MWh)

	Firm Transmission Service	Non-Firm Transmission Service	Total
For Distribution Service:			
Affiliated Electric Utility Companies	4,559,446	-	4,559,446
Other Investor-Owned Electric Utilities	1,676,332	-	1,676,332
Coorperative-Owned Electric System	87,803	-	87,803
Municipal-Owned Electric Systems	402,265	-	402,265
Federal and State Electric Agencies	256,854	-	256,854
Other end user service	-	-	-
For Non Distribution service (transmission to transmission service	-	-	-
Total Energy Delivery	6,982,700	-	6,982,700

Reporting Month: March 2009

2. Energy Deliveries to all points connected to the Electric Transmission Owner's System located in Ohio (MWh)

	Firm Transmission Service	Non-Firm Transmission Service	Total
For Distribution Service:			
Affiliated Electric Utility Companies	4,185,797	-	4,185,797
Other Investor-Owned Electric Utilities	-	-	-
Coorperative-Owned Electric System	87,803	-	87,803
Municipal-Owned Electric Systems	387,030	-	387,030
Federal and State Electric Agencies	256,854	-	256,854
Other end user service	-	-	-
For Non Distribution service (transmission to transmission service	-	-	-
Total Energy Delivery	4,917,484	-	4,917,484

4901:5-5-04(B)(3)(c)(ii)
PUCO FORM FE-T5: Monthly Hourly Transactions (Megawatt- Hour/Month)
For the Most Recent Year

FirstEnergy System

PART B: DELIVERY OF ENERGY

Reporting Month: April 2009

1. Energy Deliveries to all points connected to the Electric Transmission Owner's System (MWh)

	Firm Transmission Service	Non-Firm Transmission Service	Total
For Distribution Service:			
Affiliated Electric Utility Companies	4,119,321	-	4,119,321
Other Investor-Owned Electric Utilities	1,322,734	-	1,322,734
Coorperative-Owned Electric System	77,949	-	77,949
Municipal-Owned Electric Systems	376,438	-	376,438
Federal and State Electric Agencies	253,136	-	253,136
Other end user service	-	-	-
For Non Distribution service (transmission to transmission service	-	-	-
Total Energy Delivery	6,149,578	-	6,149,578

Reporting Month: April 2009

2. Energy Deliveries to all points connected to the Electric Transmission Owner's System located in Ohio (MWh)

	Firm Transmission Service	Non-Firm Transmission Service	Total
For Distribution Service:			
Affiliated Electric Utility Companies	3,791,496	-	3,791,496
Other Investor-Owned Electric Utilities	-	-	-
Coorperative-Owned Electric System	77,949	-	77,949
Municipal-Owned Electric Systems	362,656	-	362,656
Federal and State Electric Agencies	253,136	-	253,136
Other end user service	-	-	-
For Non Distribution service (transmission to transmission service	-	-	-
Total Energy Delivery	4,485,237	-	4,485,237

4901:5-5-04(B)(3)(c)(ii)
PUCO FORM FE-T5: **Monthly Hourly Transactions (Megawatt- Hour/Month)**
For the Most Recent Year

FirstEnergy System

PART B: DELIVERY OF ENERGY

Reporting Month: May 2009

1. Energy Deliveries to all points connected to the Electric Transmission Owner's System (MWh)

	Firm Transmission Service	Non-Firm Transmission Service	Total
For Distribution Service:			
Affiliated Electric Utility Companies	4,181,815	-	4,181,815
Other Investor-Owned Electric Utilities	1,623,945	-	1,623,945
Coorperative-Owned Electric System	73,275	-	73,275
Municipal-Owned Electric Systems	377,832	-	377,832
Federal and State Electric Agencies	131,300	-	131,300
Other end user service	-	-	-
For Non Distribution service (transmission to transmission service	-	-	-
Total Energy Delivery	6,388,167	-	6,388,167

Reporting Month: May 2009

2. Energy Deliveries to all points connected to the Electric Transmission Owner's System located in Ohio (MWh)

	Firm Transmission Service	Non-Firm Transmission Service	Total
For Distribution Service:			
Affiliated Electric Utility Companies	3,855,233	-	3,855,233
Other Investor-Owned Electric Utilities	-	-	-
Coorperative-Owned Electric System	73,275	-	73,275
Municipal-Owned Electric Systems	364,253	-	364,253
Federal and State Electric Agencies	131,300	-	131,300
Other end user service	-	-	-
For Non Distribution service (transmission to transmission service	-	-	-
Total Energy Delivery	4,424,061	-	4,424,061

4901:5-5-04(B)(3)(c)(ii)
PUCO FORM FE-T5: **Monthly Hourly Transactions (Megawatt- Hour/Month)**
For the Most Recent Year

FirstEnergy System

PART B: DELIVERY OF ENERGY

Reporting Month: June 2009

1. Energy Deliveries to all points connected to the Electric Transmission Owner's System (MWh)

	Firm Transmission Service	Non-Firm Transmission Service	Total
For Distribution Service:			
Affiliated Electric Utility Companies	4,520,566	-	4,520,566
Other Investor-Owned Electric Utilities	1,780,202	-	1,780,202
Coorperative-Owned Electric System	78,190	-	78,190
Municipal-Owned Electric Systems	401,523	-	401,523
Federal and State Electric Agencies	120,770	-	120,770
Other end user service	-	-	-
For Non Distribution service (transmission to transmission service	-	-	-
Total Energy Delivery	6,901,251	-	6,901,251

Reporting Month: June 2009

2. Energy Deliveries to all points connected to the Electric Transmission Owner's System located in Ohio (MWh)

	Firm Transmission Service	Non-Firm Transmission Service	Total
For Distribution Service:			
Affiliated Electric Utility Companies	4,171,900	-	4,171,900
Other Investor-Owned Electric Utilities	-	-	-
Coorperative-Owned Electric System	78,190	-	78,190
Municipal-Owned Electric Systems	387,205	-	387,205
Federal and State Electric Agencies	120,770	-	120,770
Other end user service	-	-	-
For Non Distribution service (transmission to transmission service	-	-	-
Total Energy Delivery	4,758,065	-	4,758,065

4901:5-5-04(B)(3)(c)(ii)
PUCO FORM FE-T5: Monthly Hourly Transactions (Megawatt- Hour/Month)
For the Most Recent Year

FirstEnergy System

PART B: DELIVERY OF ENERGY

Reporting Month: July 2009

1. Energy Deliveries to all points connected to the Electric Transmission Owner's System (MWh)

	Firm Transmission Service	Non-Firm Transmission Service	Total
For Distribution Service:			
Affiliated Electric Utility Companies	4,671,333	-	4,671,333
Other Investor-Owned Electric Utilities	2,203,013	-	2,203,013
Coorperative-Owned Electric System	80,600	-	80,600
Municipal-Owned Electric Systems	425,878	-	425,878
Federal and State Electric Agencies	128,523	-	128,523
Other end user service	-	-	-
For Non Distribution service (transmission to transmission service	-	-	-
Total Energy Delivery	7,509,347	-	7,509,347

Reporting Month: July 2009

2. Energy Deliveries to all points connected to the Electric Transmission Owner's System located in Ohio (MWh)

	Firm Transmission Service	Non-Firm Transmission Service	Total
For Distribution Service:			
Affiliated Electric Utility Companies	4,304,003	-	4,304,003
Other Investor-Owned Electric Utilities	-	-	-
Coorperative-Owned Electric System	80,600	-	80,600
Municipal-Owned Electric Systems	410,891	-	410,891
Federal and State Electric Agencies	128,523	-	128,523
Other end user service	-	-	-
For Non Distribution service (transmission to transmission service	-	-	-
Total Energy Delivery	4,924,017	-	4,924,017

4901:5-5-04(B)(3)(c)(ii)
PUCO FORM FE-T5: Monthly Hourly Transactions (Megawatt- Hour/Month)
For the Most Recent Year

FirstEnergy System

PART B: DELIVERY OF ENERGY

Reporting Month: August 2009

1. Energy Deliveries to all points connected to the Electric Transmission Owner's System (MWh)

	Firm Transmission Service	Non-Firm Transmission Service	Total
For Distribution Service:			
Affiliated Electric Utility Companies	5,122,032	-	5,122,032
Other Investor-Owned Electric Utilities	1,911,328	-	1,911,328
Coorperative-Owned Electric System	86,993	-	86,993
Municipal-Owned Electric Systems	460,936	-	460,936
Federal and State Electric Agencies	140,606	-	140,606
Other end user service	-	-	-
For Non Distribution service (transmission to transmission service	-	-	-
Total Energy Delivery	7,721,895	-	7,721,895

Reporting Month: August 2009

2. Energy Deliveries to all points connected to the Electric Transmission Owner's System located in Ohio (MWh)

	Firm Transmission Service	Non-Firm Transmission Service	Total
For Distribution Service:			
Affiliated Electric Utility Companies	4,739,549	-	4,739,549
Other Investor-Owned Electric Utilities	-	-	-
Coorperative-Owned Electric System	86,993	-	86,993
Municipal-Owned Electric Systems	444,049	-	444,049
Federal and State Electric Agencies	140,606	-	140,606
Other end user service	-	-	-
For Non Distribution service (transmission to transmission service	-	-	-
Total Energy Delivery	5,411,197	-	5,411,197

4901:5-5-04(B)(3)(c)(ii)
PUCO FORM FE-T5: Monthly Hourly Transactions (Megawatt- Hour/Month)
For the Most Recent Year

FirstEnergy System

PART B: DELIVERY OF ENERGY

Reporting Month: September 2009

1. Energy Deliveries to all points connected to the Electric Transmission Owner's System (MWh)

	Firm Transmission Service	Non-Firm Transmission Service	Total
For Distribution Service:			
Affiliated Electric Utility Companies	4,459,957	-	4,459,957
Other Investor-Owned Electric Utilities	1,616,985	-	1,616,985
Coorperative-Owned Electric System	71,725	-	71,725
Municipal-Owned Electric Systems	393,955	-	393,955
Federal and State Electric Agencies	98,438	-	98,438
Other end user service	-	-	-
For Non Distribution service (transmission to transmission service	-	-	-
Total Energy Delivery	6,641,060	-	6,641,060

Reporting Month: September 2009

2. Energy Deliveries to all points connected to the Electric Transmission Owner's System located in Ohio (MWh)

	Firm Transmission Service	Non-Firm Transmission Service	Total
For Distribution Service:			
Affiliated Electric Utility Companies	4,111,593	-	4,111,593
Other Investor-Owned Electric Utilities	-	-	-
Coorperative-Owned Electric System	71,725	-	71,725
Municipal-Owned Electric Systems	379,711	-	379,711
Federal and State Electric Agencies	98,438	-	98,438
Other end user service	-	-	-
For Non Distribution service (transmission to transmission service	-	-	-
Total Energy Delivery	4,661,467	-	4,661,467

4901:5-5-04(B)(3)(c)(ii)
PUCO FORM FE-T5: **Monthly Hourly Transactions (Megawatt- Hour/Month)**
For the Most Recent Year

FirstEnergy System

PART B: DELIVERY OF ENERGY

Reporting Month: October 2009

1. Energy Deliveries to all points connected to the Electric Transmission Owner's System (MWh)

	Firm Transmission Service	Non-Firm Transmission Service	Total
For Distribution Service:			
Affiliated Electric Utility Companies	4,480,727	-	4,480,727
Other Investor-Owned Electric Utilities	1,486,296	-	1,486,296
Coorperative-Owned Electric System	79,099	-	79,099
Municipal-Owned Electric Systems	384,426	-	384,426
Federal and State Electric Agencies	127,986	-	127,986
Other end user service	-	-	-
For Non Distribution service (transmission to transmission service	-	-	-
Total Energy Delivery	6,558,534	-	6,558,534

Reporting Month: October 2009

2. Energy Deliveries to all points connected to the Electric Transmission Owner's System located in Ohio (MWh)

	Firm Transmission Service	Non-Firm Transmission Service	Total
For Distribution Service:			
Affiliated Electric Utility Companies	4,111,192	-	4,111,192
Other Investor-Owned Electric Utilities	-	-	-
Coorperative-Owned Electric System	79,099	-	79,099
Municipal-Owned Electric Systems	370,032	-	370,032
Federal and State Electric Agencies	127,986	-	127,986
Other end user service	-	-	-
For Non Distribution service (transmission to transmission service	-	-	-
Total Energy Delivery	4,688,309	-	4,688,309

4901:5-5-04(B)(3)(c)(ii)

PUCO FORM FE-T5: Monthly Hourly Transactions (Megawatt- Hour/Month)
For the Most Recent Year

FirstEnergy System

PART B: DELIVERY OF ENERGY

Reporting Month: November 2009

1. Energy Deliveries to all points connected to the Electric Transmission Owner's System (MWh)

	Firm Transmission Service	Non-Firm Transmission Service	Total
For Distribution Service:			
Affiliated Electric Utility Companies	4,414,430	-	4,414,430
Other Investor-Owned Electric Utilities	1,523,281	-	1,523,281
Coorperative-Owned Electric System	83,841	-	83,841
Municipal-Owned Electric Systems	376,753	-	376,753
Federal and State Electric Agencies	142,311	-	142,311
Other end user service	-	-	-
For Non Distribution service (transmission to transmission service	-	-	-
Total Energy Delivery	6,540,616	-	6,540,616

Reporting Month: November 2009

2. Energy Deliveries to all points connected to the Electric Transmission Owner's System located in Ohio (MWh)

	Firm Transmission Service	Non-Firm Transmission Service	Total
For Distribution Service:			
Affiliated Electric Utility Companies	4,028,029	-	4,028,029
Other Investor-Owned Electric Utilities	-	-	-
Coorperative-Owned Electric System	83,841	-	83,841
Municipal-Owned Electric Systems	362,633	-	362,633
Federal and State Electric Agencies	142,311	-	142,311
Other end user service	-	-	-
For Non Distribution service (transmission to transmission service	-	-	-
Total Energy Delivery	4,616,814	-	4,616,814

4901:5-5-04(B)(3)(c)(ii)
PUCO FORM FE-T5: Monthly Hourly Transactions (Megawatt- Hour/Month)
For the Most Recent Year

FirstEnergy System

PART B: DELIVERY OF ENERGY

Reporting Month: December 2009

1. Energy Deliveries to all points connected to the Electric Transmission Owner's System (MWh)

	Firm Transmission Service	Non-Firm Transmission Service	Total
For Distribution Service:			
Affiliated Electric Utility Companies	5,199,299	-	5,199,299
Other Investor-Owned Electric Utilities	2,058,607	-	2,058,607
Coorperative-Owned Electric System	106,849	-	106,849
Municipal-Owned Electric Systems	437,177	-	437,177
Federal and State Electric Agencies	168,177	-	168,177
Other end user service	-	-	-
For Non Distribution service (transmission to transmission service	-	-	-
Total Energy Delivery	7,970,109	-	7,970,109

Reporting Month: December 2009

2. Energy Deliveries to all points connected to the Electric Transmission Owner's System located in Ohio (MWh)

	Firm Transmission Service	Non-Firm Transmission Service	Total
For Distribution Service:			
Affiliated Electric Utility Companies	4,737,118	-	4,737,118
Other Investor-Owned Electric Utilities	-	-	-
Coorperative-Owned Electric System	106,849	-	106,849
Municipal-Owned Electric Systems	420,132	-	420,132
Federal and State Electric Agencies	168,177	-	168,177
Other end user service	-	-	-
For Non Distribution service (transmission to transmission service	-	-	-
Total Energy Delivery	5,432,276	-	5,432,276

4901:5-5-04(B)(3)(c)(iii)
PUCO FORM FE-T5: **Monthly Hourly Transactions (Megawatt- Hour/Month)**
For the Most Recent Year

FirstEnergy System

PART C: LOSSES AND UNACCOUNTED FOR (MWh)

		Firm Transmission Service	Non-Firm Transmission Service	Total
Sources minus Delivery (a)				
January	2009	(1,678)	-	(1,678)
February	2009	(1,691)	-	(1,691)
March	2009	(3,179)	-	(3,179)
April	2009	3,043	-	3,043
May	2009	3,463	-	3,463
June	2009	1,786	-	1,786
July	2009	2,200	-	2,200
August	2009	3,043	-	3,043
September	2009	1,958	-	1,958
October	2009	2,640	-	2,640
November	2009	7,632	-	7,632
December	2009	2,138	-	2,138

(a) FE2-T5: Part A minus Part B (1)

4901:5-5-04(B)(4)

PUCO Form FE-:T6 Conditions at Time of Monthly Peak (Megawatts)

Date Mo/Day/Yr	Time Hr/Min	Peak MWs	Scheduled Transmission Outages (Y/N)	Unscheduled Transmission Outages (Y/N)	Emergency Operating Procedures
01/15/09	7:00:00 PM	10,463	N	Y	None
02/05/09	8:00:00 AM	10,215	N	N	None
03/02/09	8:00:00 PM	9,882	Y	N	None
04/07/09	10:00:00 AM	8,627	N	N	None
05/28/09	1:00:00 PM	8,858	N	Y	None
06/25/09	2:00:00 PM	11,887	N	Y	None
07/28/09	4:00:00 PM	10,327	N	N	None
08/10/09	2:00:00 PM	12,310	N	Y	None
09/23/09	2:00:00 PM	9,179	Y	N	None
10/15/09	7:00:00 PM	8,285	N	N	None
11/30/09	7:00:00 PM	8,979	N	N	None
12/10/09	7:00:00 PM	10,687	N	Y	None

4901:5-5-04(C)(1)(a)
PUCO FORM FE3-T7: **Characteristics Of Transmission Owner'S Existing Transmission Lines**

ATSI-Ohio Edison Company Area

Transmission Line Name and Number (a)	Point of Origin and Terminus	Summer Capability (MVA)		Winter Capability (MVA)		Operating Voltage (kV)	Design Voltage (kV)	Right-of-Way		Type of Supporting Structure	Number of Circuits		Substations On the Line
List each Transmission Line of 125 kV or more.	Indicate location of line's beginning and terminus.	Normal Rating	Emergency Rating	Normal Rating	Emergency Rating			Length (Miles)	Width (Feet)	Steel Towers, Wood Poles, or Underground, Etc. and number of mile of the line of each structure	Design	Installed	Substation Name
1. Avon-Beaver #1	Point of interconnection with CEI (O) Beaver (T)	977	1030	1116	1153	345	345	9.74	150	Steel Tower	1	1	
2. Beaver-Carlisle	Beaver (O) Carlisle (T)	977	1030	1116	1153	345	345	17.80	150	Steel Tower & 1 Steel Pole	1	1	
3. Beaver Valley-Sammis	Beaver Valley (DL) (O) Sammis (T)	1505	1792	1700	1792	345	345	0.21 0.17	130 150	Wood "H" Frame Steel Tower	1	1	
4. Canton Central-Hanna	Canton Central (OP) (Hanna (T)	1266	1553	1553	1553	345	345	0.07	150	Steel Tower	1	1	
5. Hanna-Highland	Hanna (O) Highland (T)	1505	1553	1553	1553	345	345	23.76 0.70	130 150	Wood "H" Frame Steel Tower	1	1	
6. Hanna-Juniper	Hanna (O) Point of interconnection with CEI(T)	1553	1553	1553	1553	345	345	0.97	150	Steel Tower	1	1	
7. Juniper-Star	Point of interconnection with CEI(O) Star (T)	1377	1377	1377	1377	345	345	18.16	150	Steel Tower	1	1	
8. South Canton-Star	South Canton (OP) (O) Star (T)	1000	1382	1272	1553	345	345	33.42	150	Steel Tower	1	1	
9. Sammis-Highland	Sammis (O) Highland (T)	979	979	979	979	345	345	49.52	150	Steel Tower	1	1	
10. Sammis-South Canton	Sammis (O) South Canton (OP) (T)	1406	1433	1433	1433	345	345	46.69	150	Steel Tower	1	1	

4901:5-5-04(C)(1)(e)
PUCO FORM FE3-T7: Characteristics Of Transmission Owner'S Existing Transmission Lines

ATSI-Ohio Edison Company Area

Transmission Line Name and Number (e)	Point of Origin and Terminus	Summer Capability (MVA)		Winter Capability (MVA)		Operating Voltage (kV)	Design Voltage (kV)	Right-of-Way		Type of Supporting Structure	Number of Circuits		Substations On the Line
List each Transmission Line of 125 kV or more.	Indicate location of line's beginning and terminus.	Normal Rating	Emergency Rating	Normal Rating	Emergency Rating			Length (Miles)	Width (Feet)	Steel Towers, Wood Poles, or Underground, Etc. and number of mile of the line of each structure	Design	Installed	Substation Name
11. Sammis- Star	Sammis (O) Star (T)	1434	1553	1553	1553	345	345	66.86 1.87	150 130	Steel Tower Wood "H" Frame	1	1	
12. Sammis- Wylie Ridge	Sammie (O) Wylie Ridge (MP) (T)	1211	1483	1673	1718	345	345	4.39	150	Steel Tower	1	1	
30. Chamberlin- Harding	Chamberlin Point of interconnection with CEI (T)	1408	1408	1408	1408	345	345	7.40	150 120	Steel Tower Steel Pole	1	1	
31. Beaver Valley- Hanna	Beaver Valley (DL) (O) Hanna (T)	1194	1194	1194	1194	345	345	2.10 50.60	130 150	Wood "H" Frame Steel Tower & 1-Steel Pole	1	1	
32. Mansfield- Highland	Mansfield (O) Highland (T)	1380	1553	1553	1553	345	345	40.77	150	Steel Tower & 1-Steel Pole	1	1	
33. Highland- Shenango	Highland (O) Shenango (T)	1503	1553	1553	1553	345	345	19.32	120 120 150	Wood Pole Steel Pole & Steel Tower	1	1	
36. Hyatt- Tangy	Hyatt (OP) (O) Tangy (T)	1000	1437	1272	1609	345	345	3.10	150	Steel Tower	1	1	
37. Marysville- Tangy	Marysville (OP) (O) Tangy (T)	923	1324	1174	1484	345	345	3.10	150	Steel Tower	1	1	
38. Chamberlin- Mansfield	Chamberlin (O) Mansfield (T)	1380	1646	1697	1792	345	345	78.25	150 120 130	Steel Tower Steel Pole & Wood "H" Frame	1	1	
40. Beaver- Davis-Besse	Beaver (O) OE Boundary to TE (T)	1434	1741	1746	1988	345	345	44.23	150 120	Steel Tower & Steel Pole	1	1	

ATSI-Ohio Edison Company Area

Transmission Line Name and Number (a)	Point of Origin and Terminus	Summer Capability (MVA)		Winter Capability (MVA)		Operating Voltage (kV)	Design Voltage (kV)	Right-of-Way		Type of Supporting Structure	Number of Circuits		Substations On the Line
List each Transmission Line of 125 kV or more.	Indicate location of line's beginning and terimus.	Normal Rating	Emergency Rating	Normal Rating	Emergency Rating			Length (Miles)	Width (Feet)	Steel Towers, Wood Poles, or Underground. Etc. and number of mile of the line of each structure	Design	Installed	Substation Name
43. Avon- Beaver #2	Point of Interconnection with CEI (O) Beaver (T) #2	977	1030	1116	1153	345	345	11.01 1.60	150 120	Steel Tower Steel Pole	1	1	
47 Carlisle- North Medina	Carlisle (O) North Medina(T)	1245	1462	1462	1462	345	345	16.64	150	Steel Tower	1 1	1 1	
48 North Medina- Star	North Medina (O) Star (T)	1505	1841	1700	2161	345	345	20.56	150	Steel Tower	1	1	
200. West Akron- Aetna	West Akron (O) Aetna (T)	86	86	86	86	138	138	8.45	110	Steel Tower	1	1	
201. Evergreen- Highland #3	Evergreen (O) Highland (T) #3	157	192	186	228	138	138	4.43 0.76 1.88	100 110 60	Wood "H" Frame Steel tower Single Wood	1	1	Reactive Metals, Buston
202. Bluebell- American Steel	Bluebell (O) American Steel	43	43	43	43	138	138	0.86	60	Single Wood Pole	1	1	
203. Barberton- Babcox & Wilcox	Barberton (O) Babcox and Wilcox (T)	57	57	57	57	138	138	0.29 0.48	100 110	Wood "H" Frame Steel Tower	1	1	
204. Barberton- Cloverdale	Barberton (O) Cloverdale (T)	166	206	221	230	138	138	23.56 0.19	110 60	Steel Tower Steel Pole	1	1	
205. Barberton- Star North	Barberton (O) Star (T) North	175	206	210	210	138	138	3.64 1.22	110 100	Steel Tower Wood "H" Frame	1	1	
206. Barberton- Star South	Barberton (O) Star (T) South	207	210	210	210	138	138	2.55 1.46 1.74	100 60 110	Wood "H" Frame Steel Pole Steel Tower	1	1	

ATSI-Ohio Edison Company Area

Transmission Line Name and Number (a)	Point of Origin and Terminus	Summer Capability (MVA)		Winter Capability (MVA)		Operating Voltage (kV)	Design Voltage (kV)	Right-of-Way		Type of Supporting Structure	Number of Circuits		Substations On the Line
List each Transmission Line of 125 kV or more.	Indicate location of line's beginning and terminus.	Normal Rating	Emergency Rating	Normal Rating	Emergency Rating			Length (Miles)	Width (Feet)	Steel Towers, Wood Poles, or Underground, Etc. and number of mile of the line of each structure	Design	Installed	Substation Name
207. Barberton- West Akron	Barberton (O) West Akron (T)	225	281	262	286	138	138	9.72	110	Steel Tower	1	1	
208. E. Springfield- London	East Springfield (O) London (T)	200	216	215	215	138	138	18.37	110	Steel Tower	1	1	Tech Park
209. Beaver- Brookside	Beaver (O) Brookside (T)	105	135	147	190	138	138	38.73 0.12	100 60	Steel Tower Single Wood Pole	1	1	Camden
210. Beaver- Ford	Beaver (O) Ford (T)	200	241	226	286	138	138	0.89	110	Steel Tower	1	1	
211. Beaver- Johnson	Beaver (O) Johnson (T)	232	281	250	305	138	138	13.10	100 100	Steel Tower Wood "H" Frame	1	1	
212. Beaver- NASA	Beaver (O) NASA (T)	160	192	180	210	138	138	28.27 0.18	110 60	Steel Tower Single Wood Pole	1	1	
213. Bluebell- Canton Central	Bluebell (O) Canton Central (OP) (T)	261	293	293	293	138	138	17.88	110	Steel Tower	1	1	
214. Bluebell- Highland	Bluebell (O) Highland (T)	102	132	146	163	138	138	22.69	110	Steel Tower	1	1	Commerce, Republic Metals
215. Boardman- Riverbend	Boardman (O) Riverbend (T)	223	223	223	223	138	138	10.52 0.13	100 60	Steel Tower & Wood Pole	1	1	Wickliffe
216. Boardman- Shenango	Boardman (O) Shenango (PP) (T)	129	167	182	186	138	138	11.68 4.43 1.78	110 100 60	Steel Tower Wood "H" Frame Steel Pole	1	1	LTV Steel

4901:5-5-04(C)(1)(e)
PUCO FORM FE3-T7: Characteristics Of Transmission Owner'S Existing Transmission Lines

ATSI-Ohio Edison Company Area

Transmission Line Name and Number (s)	Point of Origin and Terminus	Summer Capability (MVA)		Winter Capability (MVA)		Operating Voltage (kV)	Design Voltage (kV)	Right-of-Way		Type of Supporting Structure	Number of Circuits		Substations On the Line
List each Transmission Line of 125 kV or more.	Indicate location of line's beginning and terminus.	Normal Rating	Emergency Rating	Normal Rating	Emergency Rating			Length (Miles)	Width (Feet)	Steel Towers, Wood Poles, or Underground. Etc. and number of mile of the line of each structure	Design	Installed	Substation Name
217. Brookside- Cloverdale	Brookside (O) Cloverdale (T)	151	179	181	186	138	138	42.09	110	Steel Tower	1	1	Ross
218. Cloverdale- East Wooster	Cloverdale (O) East Wooster (OP) (T)	161	193	181	229	138	138	20.19	100	Steel Tower	1	1	
219. Brookside- Leaside	Brookside (O) Leaside (T)	151	179	181	205	138	138	24.54	110	Steel Tower	1	1	Milliron
220. Brookside- Howard	Brookside (O) Howard (OP) (T)	132	173	177	206	138	138	13.74	110	Steel Tower	1	1	
221. Brookside- Longview East	Brookside (O) Longview (T) (East Line)	135	157	157	157	138	138	13.83	110	Steel Tower	1	1	
222. Brookside- Longview West	Brookside (O) Longview (T) (West Line)	135	157	157	157	138	138	13.84	110	Steel Tower	1	1	Madison
223. Burger- Knox	Burger (O) Knox (T)	127	157	157	157	138	138	68.57	100	Wood "H" Frame & Steel Tower	1	1	Washington EBC
224. Burger- Brookside	Burger (O) Brookside (T)	97	103	111	115	138	138	107.54	110	Steel Tower	1	1	
225. Burger- Cloverdale #1	Burger (O) Cloverdale (T) (#1 Line)	127	146	146	146	138	138	2.17 72.46	110 100	Steel Tower Wood "H" Frame			
226. Burger- Cloverdale #2	Burger (O) Cloverdale (T) (#2 Line)	155	155	155	155	138	138	74.36 0.23	110 100	Steel Tower Wood "H" Frame	1	1	
227. Burger- Cloverdale #3	Burger (O) Cloverdale (T) (#3 Line)	155	155	155	155	138	138	74.34 0.24	110 100	Steel Tower Wood "H" Frame	1	1	

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PUCO FORM FE3-T7: **Characteristics Of Transmission Owner'S Existing Transmission Lines**

ATSI-Ohio Edison Company Area

Transmission Line Name and Number (s)	Point of Origin and Terminus	Summer Capability (MVA)		Winter Capability (MVA)		Operating Voltage (kV)	Design Voltage (kV)	Right-of-Way		Type of Supporting Structure	Number of Circuits		Substations On the Line
List each Transmission Line of 125 kV or more.	Indicate location of line's beginning and terminus.	Normal Rating	Emergency Rating	Normal Rating	Emergency Rating			Length (Miles)	Width (Feet)	Steel Towers, Wood Poles, or Underground, Etc. and number of mile of the line of each structure	Design	Installed	Substation Name
228. Burger- Longview	Burger (O) Longview (T)	133	133	133	133	138	138	16.41 102.03	100 110	Wood "H" Frame Steel Tower	1	1	Reedsburg (96)
229. Canton Central- Cloverdale	Canton Central (OP) (Cloverdale (T)	161	193	181	210	138	138	12.19	110	Steel Tower	1	1	
230. Johnson- Lorain	Johnson (O) Lorain SW ST (CEI) (T)	181	193	181	229	138	138	3.48	110	Steel Tower	1	1	
231. Cloverdale- Star	Cloverdale (O) Star (T)	168	206	221	230	138	138	23.57	110	Steel Tower	1	1	
232. Cloverdale- Torrey	Cloverdale (O) Torrey (OP) (T)	185	241	226	286	138	138	6.85	110	Steel Tower	1	1	
233. Delaware- Tangy	Delaware (CSOE) (O) Tangy (T)	220	262	262	262	138	138	0.97	100	Wood "H" Frame	1	1	
234. E. Akron- Gilchrist	East Akron (O) Gilchrist (T)	186	191	210	210	138	138	3.89	110	Steel Tower	1	1	
235. E. Akron- W. Ravenna	East Akron (O) West Ravenna (T)	178	225	228	229	138	138	7.95 3.75	100 110	Wood "H" Frame Steel Tower	1	1	
236. Clark- E. Springfield	Clark (O) East Springfield (T)	200	241	226	286	138	138	2.22 3.79 6.93	100 110 60	Wood "H" Frame Steel Tower Wood Pole	1	1	Airpark
237. E. Springfield- Tangy	East Springfield (O) Tangy (T)	161	179	186	205	138	138	3.99 41.24	110 100	Steel Tower Wood "H" Frame	1	1	Mill Creek Belepoint
238. Edgewater- Beaver	Edgewater (O) Beaver (T)	164	208	216	230	138	138	0.19 12.15	100 110	Wood "H" Frame Steel Tower			
239. Edgewater- USS/Kobe	Edgewater (O) USS/Kobe Steel (T)	157	157	157	157	138	138	3.00	110	Steel Tower	1	1	
240. Longview- Empire Steel	Longview (O) Emprie Steel (T)	160	192	180	228	138	138	0.12 2.15	110 100	Steel Tower Wood "H" Frame	1	1	

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PUCO FORM FE3-T7: **Characteristics Of Transmission Owner'S Existing Transmission Lines**

ATSI-Ohio Edison Company Area

Transmission Line Name and Number (a)	Point of Origin and Terminus	Summer Capability (MVA)		Winter Capability (MVA)		Operating Voltage (kV)	Design Voltage (kV)	Right-of-Way		Type of Supporting Structure	Number of Circuits		Substations On the Line
List each Transmission Line of 125 kV or more.	Indicate location of line's beginning and terminus.	Normal Rating	Emergency Rating	Normal Rating	Emergency Rating			Length (Miles)	Width (Feet)	Steel Towers, Wood Poles, or Underground, Etc. and number of mile of the line of each structure	Design	Installed	Substation Name
241. Evergreen- Ivanhoe	Evergreen (O) Ivanhoe (T)	200	241	226	248	138	138	2.79 6.53	110 100	Steel Tower Wood "H" Frrame	1	1	Copperweld Specialty Steel, Bridge
242. Evergreen- Highland #2	Evergreen (O) Highland (T) (#2 Line)	200	241	226	286	138	138	0.17 2.50	100 110	Wood "H" Frame Steel Tower	1	1	
243. Evergreen- Highland #1	Evergreen (O) Highland (T) (#1 Line)	200	241	226	286	138	138	2.68	110	Steel Tower	1	1	
244. Greenfield- Ford	Greenfield (O) Ford (T)	57	57	57	57	138	138	0.76 1.18	110 100	Steel Tower Wood "H" Frame	1	1	
245. Galion- Roberts North	Galion (O) Roberts (T) (North Line)	161	183	181	215	138	138	22.20	110	Steel Towe	1	1	
246. Galion- Roberts South	Galion (O) Roberts (T) (South Line)	163	208	205	230	138	138	22.14 0.07	110 60	Steel Tower Single Wood Pole	1	1	Dual Rail Hamilton
247. Carlisle- Shinrock	Carlisle (O) Shinrock (T)	219	248	248	248	138	138	13.04 9.13 7.92	100 110 60	Wood "H" Frame Steel Tower Single Wood Pole	1	1	
248. General Motors- Highland	General Motors (O) Highland (T)	264	313	314	356	138	138	1.95 2.96	110 100	Steel Tower Wood "H" Frame	1	1	Ted
249. Gates- Johnson	Gates (O) Johnson (T)	195	206	210	210	138	138	0.10 5.05	100 110	Wood "H" Frame Steel Tower	1	1	Murray
250. General Motors- Newton falls	Generql Motors (O) Newton Falls (T)	266	309	314	315	138	138	1.52 5.68	110 100	Steel Tower Wood "H" Frame	1	1	
251. Gilchrist- S. Akron	Gilchrist (O) South Akron (T)	145	151	182	182	138	138	19.27 0.61	110 60	Steel Tower Wood Pole	1	1	Lakemore Claybca
252. Babb- E. Akron	Babb (O) East Akron (T)	199	223	223	223	138	138	9.17	110	Single Tower Single Wood	1	1	Goodyear Evans Haya Lemmerz

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PUCO FORM FE3-T7: **Characteristics Of Transmission Owner'S Existing Transmission Lines**

ATSI-Ohio Edison Company Area

Transmission Line Name and Number (s)	Point of Origin and Terminus	Summer Capability (MVA)		Winter Capability (MVA)		Operating Voltage (kV)	Design Voltage (kV)	Right-of-Way		Type of Supporting Structure	Number of Circuits		Substations On the Line
List each Transmission Line of 125 kV or more.	Indicate location of line's beginning and terminus.	Normal Rating	Emergency Rating	Normal Rating	Emergency Rating			Length (Miles)	Width (Feet)	Steel Towers, Wood Poles, or Underground, Etc. and number of mile of the line of each structure	Design	Installed	Substation Name
253. Greenfield-Lakeview	Greenfield (O) Lakeview (T)	183	242	281	380	138	138	13.17 1.16	110 100	Steel Tower Wood "H" Frame	1	1	
254. Greenfield-NASA	Greenfield (O) NASA (T)	151	176	180	205	138	138	4.66	110	Steel Tower	1	1	
255. Hanna-Newton Falls	Hanna (O) Newton Falls (T)	168	206	205	230	138	138	1.60 18.82	110 100	Steel Tower Wood "H" Frame	1	1	
256. Hanna-W. Ravenna #1	Hanna (O) West Ravenna (T) (#1 Line)	232	281	262	333	138	138	4.83	110	Steel Tower & Steel Poles	1	1	
257. Highland-Salt Springs	Highland (O) Salt Springs (T)	264	313	314	358	138	138	6.77	110	Steel Tower	1	1	
258. Ivanhoe-Packard	Ivanhoe (O) Packard (T)	195	206	210	210	138	138	0.69 2.60	110 100	Steel Tower Wood "H" Frame	1	1	
259. Johnson-USS/Kobe	Johnson (O) USS/Kobe Steel (T)	232	281	262	315	138	138	3.30 1.60	100 110	Wood "H" Frame Steel Tower	1	1	
260. Lakeview-Ottawa	Lakeview (O) Ottawa (T)	278	338	315	401	138	138	7.75	110	Steel Tower	1	1	
261. Lincoln Park-Lowellville	Lincoln Park (O) Lowellville (T)	155	155	155	155	138	138	8.62	110	Steel Tower	1	1	
262. Lincoln Park-Masury	Lincoln Park (O) Masury (T)	127	165	165	165	138	138	10.34 0.28 1.43	110 110 60	Steel Tower Wood "H" Frame 1 Wood Pole	1	1	Ellwood Engr. Cast.
263. Galion-General Motors	Galion (O) General Motors (T)	190	225	226	258	138	138	13.76 2.72	110 100	Steel Tower Wood "H" Frame & 2 Steel Poles	1	1	
264. Masury-Salt Springs	Masury (O) Salt Springs (T)	175	188	207	207	138	138	12.47	110	Steel Tower	1	1	
265. Masury-Crossland	Masury (O) Crossland (T)	176	225	226	258	138	138	0.80	110	Steel Tower	1	1	

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PUCO FORM FE3-T7: Characteristics Of Transmission Owner'S Existing Transmission Lines

ATSI-Ohio Edison Company Area

Transmission Line Name and Number (a)	Point of Origin and Terminus	Summer Capability (MVA)		Winter Capability (MVA)		Operating Voltage (kV)	Design Voltage (kV)	Right-of-Way		Type of Supporting Structure	Number of Circuits		Substations On the Line
List each Transmission Line of 125 kV or more.	Indicate location of line's beginning and terimus.	Normal Rating	Emergency Rating	Normal Rating	Emergency Rating			Length (Miles)	Width (Feet)	Steel Towers, Wood Poles, or Underground, Etc. and number of mile of the line of each structure	Design	Installed	Substation Name
266. Masury-Shenango	Masury (O) Shenango (T)	127	165	182	204	138	138	6.93	110	Steel Tower	1	1	
267. Crossland-Caparo	Crossland (O) Caparo (T)	200	200	200	200	138	138	1.33	100	Wood "H" Frame	1	1	
268. Niles-Bluebell	Niles (O) Bluebell (T)	102	132	146	163	138	138	25.99 0.25	110 100	Steel Tower Wood "H" Frame	1	1	
269. Niles-Evergreen	Niles (O) Evergreen (T)	151	179	181	206	138	138	7.03	110	Steel Tower	1	1	
270. Niles Central-Packard	Central (O) Packard (T)	157	192	180	210	138	138	3.84 5.05 3.46	110 100 60	Steel Tower Wood "H" Frame Wood Pole	1	1	Garden, Elm with Cortland via Tap
271. Niles-Salt Springs	Niles (O) Salt Springs (T)	240	309	316	345	138	138	3.16	110	Steel Tower	1	1	
272. Pleasant Valley-W. Akron East	Pleasant Valley (O) West Akron (T) (East Line)	153	198	215	215	138	138	9.39	110	Steel Tower	1	1	
273. Pleasant Valley-W. Akron West	Pleasant Valley (O) West Akron (T) (West Line)	143	143	143	143	138	138	9.39	110	Steel Tower	1	1	
275. Crissinger-Roberts	Crissinger (O) Roberts (T)	186	186	186	186	138	138	4.38	60	Single Wood Pole	1	1	G.P. Properties Marion Steel LTV Marion
276. Sammis-Pidgeon	Sammis (O) Pidgeon (T)	216	248	248	248	138	138	29.79	110	Steel Tower	2	1	
277. Sammis-Boardman	Sammis (O) Boardman (T)	164	206	216	247	138	138	35.73 1.44	110 100	Steel Tower Wood "H" Frame Wood Pole	1	1	
278. Sammis-Lowellville	Sammis (O) Lowellville (T)	141	182	201	207	138	138	1.40 49.33	100 110	Wood "H" Frame Steel Tower Wood Pole	1	1	Cedar Street (PP) Dobbins
279. Boardman-Nevada	Boardman (O) Nevada (T)	127	165	182	183	138	138	1.47 0.06	110 60	Steel Tower Wood Pole	1	1	

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PUCO FORM FE3-T7: Characteristics Of Transmission Owner'S Existing Transmission Lines

ATSI-Ohio Edison Company Area

Transmission Line Name and Number (a)	Point of Origin and Terminus	Summer Capability (MVA)		Winter Capability (MVA)		Operating Voltage (kV)	Design Voltage (kV)	Right-of-Way		Type of Supporting Structure	Number of Circuits		Substations On the Line
List each Transmission Line of 125 kV or more.	Indicate location of line's beginning and terminus.	Normal Rating	Emergency Rating	Normal Rating	Emergency Rating			Length (Miles)	Width (Feet)	Steel Towers, Wood Poles, or Underground, Etc. and number of miles of the line of each structure	Design	Installed	Substation Name
280. Kirby-Roberts	Kirby (O) Roberts (T)	160	192	160	228	138	138	14.48	60	Wood Pole	1	1	
281. Firestone-S. Akron	Firestone (O) South Akron (T)	157	157	157	157	138	138	2.90	110	Steel Tower Single Wood Pole Steel Pole	1	1	
282. Dale-S. Akron	Dale (O) South Akron (T)	163	208	205	246	138	138	9.17	110	Steel Tower	1	1	Moore
283. Wadsworth-W. Akron #1	Star (O) West Akron (T) (#1 Line)	176	206	223	231	138	138	2.09 17.60	60 110	Steel Pole Steel Tower	1	1	Pine, Rosemont
284. Sammis-E. Akron	Sammis (O) East Akron (T)	184	188	207	207	138	138	68.32	110	Steel Tower	1	1	
285. Dale-W. Canton	Dale (O) W. Canton (OP) (T)	208	281	246	286	138	138	4.96	60	Wood Pole	1	1	
286. Kirby-Tangy	Kirby (O) Tangy (T)	264	286	286	286	138	138	21.84	60	Wood Pole	1	1	
287. Brookside-Wellington	Brookside (O) Wellington (T)	86	86	86	86	138	138	4.22 20.06	100 110	Wood "H" Frame Steel Tower	1	1	
288. Babb-W. Akron	Babb (O) West Akron (T)	190	206	223	223	138	138	6.51		Steel Tower	1	1	
289. E. Akron-Hanna	East Akron (O) Hanna (T)	185	206	223	230	138	138	15.42	110	Steel Towers	1	1	
291. Clark-Greene	Clark (O) Greene (DPL) (T)	230	279	281	332	138	138	1.14 18.32 6.93	110 100 60	Steel Tower Wood "H" Frame Wood Pole	1	1	
292. Crissinger-Tangy	Crissinger (O) Tangy (T)	160	192	160	228	138	138	3.39 21.41	110 100	Steel Tower Wood "H" Frame	1	1	South Scioto REC (06)

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PUCO FORM FE3-T7: Characteristics Of Transmission Owner'S Existing Transmission Lines

ATSI-Ohio Edison Company Area

Transmission Line Name and Number (a)	Point of Origin and Terminus	Summer Capability (MVA)		Winter Capability (MVA)		Operating Voltage (kV)	Design Voltage (kV)	Right-of-Way		Type of Supporting Structure	Number of Circuits		Substations On the Line
List each Transmission Line of 125 kV or more.	Indicate location of line's beginning and terminus.	Normal Rating	Emergency Rating	Normal Rating	Emergency Rating			Length (Miles)	Width (Feet)	Steel Towers, Wood Poles, or Underground, Etc. and number of mile of the line of each structure	Design	Installed	Substation Name
293. Chamberlin-Theiss	Chamberlin (O) Theiss (T)	200	241	226	286	138	138	15.25	100	Wood "H" Frame	1	1	
310 Theiss Valley	Theiss (O) Valley (C.F.) (T)	200	241	226	286	138	138	1.35	100	Wood "H" Frame			
294. Darrow-Hanna	Darrow (O) Hanna (T)	190	225	226	248	138	138	18.45	110 100	Steel Tower Wood "H" Frame	1	1	
295. Avery-Greenfield	Avery (O) Greenfield (T)	149	194	212	276	138	138	10.45	100	Wood "H" Frame	1	1	Brady
296. Bluebell-Pidgeon	Bluebell (O) Pidgeon (T)	177	206	223	230	138	138	15.11	110	Steel Tower	1	1	
297. Riverbend-Salt Springs	Riverbend (O) Salt Springs (T)	223	223	223	223	138	138	4.80	110 60	Steel Tower Steel Pole	1	1	
298. Chamberlin-Hudson East	Chamberlin (O) Hudson East (T)	190	225	226	248	138	138	8.25	100	Wood "H" Frame	1	1	Chrysler
299. Babb-Valley	Babb (O) Valley (C.F.) (T)	200	223	223	223	138	138	1.96	100 110	Wood "H" Frame Steel Tower	1	1	
300. Masury-Maysville	Masury (O) Maysville (T)	110	110	110	110	138	138	9.86	110 60	Steel Tower Wood Pole	1	1	
301. Salt Springs-North Star Steel	Salt Springs (O) North Star Steel (T)	175	228	229	229	138	138	1.99	110 60	Steel Tower Wood Pole	1	1	
302. Ivanhoe-Mahoningside	Ivanhoe (O) Mahoningside (T)	195	208	223	230	138	138	1.69	60	Wood Pole	1	1	
303. Highland-Mahoningside	Highland (O) Mahoningside (T)	200	241	226	286	138	138	4.97	110 60	Steel Tower & Wood Pole	1	1	
304. Beatty-London	Beatty Rd (CSOE) (O) London (T)	200	241	226	286	138	138	17.45 2.85	100 110	Wood "H" Frame Steel Tower	1	1	
305. Niles Central-Niles	Central (O) Niles (T)	195	206	223	230	138	138	3.09 0.35	110 60	Steel Tower Wood Pole	2	1	McDonald Steel

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PUCO FORM FE3-T7: **Characteristics Of Transmission Owner'S Existing Transmission Lines**

ATSI-Ohio Edison Company Area

Transmission Line Name and Number (a)	Point of Origin and Terminus	Summer Capability (MVA)		Winter Capability (MVA)		Operating Voltage (kV)	Design Voltage (kV)	Right-of-Way		Type of Supporting Structure	Number of Circuits		Substations On the Line
List each Transmission Line of 125 kV or more.	Indicate location of line's beginning and terminus.	Normal Rating	Emergency Rating	Normal Rating	Emergency Rating			Length (Miles)	Width (Feet)	Steel Towers, Wood Poles, or Underground. Etc. and number of mile of the line of each structure	Design	Installed	Substation Name
306. General Motors- Longview	General Motors (O) Longview (T)	163	208	205	215	138	138	8.39	100 110	Wood "H" Frame Steel Tower	1	1	Cairns,Ontario
308. Darrow- Hudson East	Darrow (O) Hudson East (T)	163	206	205	215	138	138	7.67	100	Wood "H" Frame	1	1	
316. Bluebell- Knox	Bluebell (O) Knox (T)	153	198	216	230	138	138	8.95	100	Wood "H" Frame	1	1	
319. Greenfield- New Departure	Greenfield (O) New Departure (T)	200	241	226	286	138	138	0.02 0.26	110 60	Steel Tower Single Wood Pole	1	1	
320. Avery- Shinrock	Avery (O) Shinrock (T)	149	194	221	248	138	138	7.47	100	Wood "H" Frame	1	1	
322. Chamberlin- W. Akron	Chamberlin (O) West Akron (T)	200	241	226	286	138	138	17.87	60 110	Steel Pole Steel Tower	1	1	Ira Nordonia
328. Hanna- W. Ravenna #2	Hanna (O) West Ravenna (T) (#2 Line)	232	281	262	315	138	138	0.72 4.12	60 110	Steel Pole Steel Tower	1	1	
329. Firestone- Urban	Firestone (O) Urban (T)	223	223	223	223	138	138	2.95	110 60	Steel Tower & Steel Pole	1	1	
330. Star- Urban	Star (O) Urban (T)	193	229	238	282	138	138	13.38 2.27	110 60	Steel Tower Steel Pole	1	1	Tusc
341. Carlisle- Lorain	Carlisle (O) Lorain (CEI) (T)	235	281	262	286	138	138	12.81	80 80	Steel Poles Wood Poles	1	1	National Bronze
343. Carlisle- Gates	Carlisle (O) Gates (T)	195	206	210	210	138	138	0.08 7.92	110 60	Steel Tower Single Wood Pole	1	1	
344. Seville W. Medina	Seville (O) West Medina (T)	232	281	262	286	138	138	11.59	60	Wood Pole	1	1	Ryan, Seville
345 Seville- Star	Seville (O) Star (T)	232	281	262	286	138	138	15.34	60	Wood Pole			
347 North Medina West Akron	North Medina (O) West Akron (T)	282	261	262	333	138	139	25.94	60	Wood Pole	1	1	Granger, Brunswick

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PUCO FORM FE3-T7: **Characteristics Of Transmission Owner'S Existing Transmission Lines**

ATSI-Ohio Edison Company Area

Transmission Line Name and Number (a)	Point of Origin and Terminus	Summer Capability (MVA)		Winter Capability (MVA)		Operating Voltage (kV)	Design Voltage (kV)	Right-of-Way		Type of Supporting Structure	Number of Circuits		Substations On the Line
List each Transmission Line of 125 kV or more.	Indicate location of line's beginning and terimus.	Normal Rating	Emergency Rating	Normal Rating	Emergency Rating			Length (Miles)	Width (Feet)	Steel Towers, Wood Poles, or Underground, Etc. and number of mile of the line of each structure	Design	Installed	Substation Name
348 North Medina W. Medina	North Medina (O) West Medina (T)	232	281	262	333	138	138	2.50	60	Wood Pole	1	1	
350. Galion-Leaside	Galion (O) Leaside (T)	161	193	181	229	138	138	8.50	110	Steel Tower	1	1	
351. Galion-Cardington	Galion (O) Cardington (T)	148	160	160	160	138	138	17.12	60	Wood Pole	1	1	
356. Carlisle-Johnson	Carlisle (O) Johnson (T)	225	281	262	315	138	138	14.17	60 60	Steel Poles Wood Poles	1	1	
360. Clark-Urbana	Clark (O) Urbana (DPL) (T)	276	309	312	345	138	138	8.60	60	Wood Pole	1	1	
365. Blue Jacket-Kirby	Blue Jacket (DPL) (O) Kirby (T)	276	309	312	345	138	138	6.00	60	Wood Pole	1	1	
366. Ford-New Departure	Ford (O) New Departure (T)	189	230	218	275	138	138	17.12	60	Wood Pole	1	1	
369 Hanna Shalersville	Hanna (O) Shalersville (T)	259	309	308	358	138	138	14.0	185	Wood Pole	1	1	
370 Beaver Greenfield	Beaver (O) Greenfield (T)	278	338	315	401	138	138	25	60	Steel Tower	1	1	

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PUCO FORM FE3-T7: **Characteristics Of Transmission Owner'S Existing Transmission Lines**

ATSI-Toledo Edison Company Area

Transmission Line Name and Number (a)	Point of Origin and Terminus	Summer Capability (MVA)		Winter Capability (MVA)		Operating Voltage (kV)	Design Voltage (kV)	Right-of-Way		Type of Supporting Structure	Number of Circuits		Substations On the Line
List each Transmission Line of 125 kV or more.	Indicate location of line's beginning and terminus.	Normal Rating	Emergency Rating	Normal Rating	Emergency Rating			Length (Miles)	Width (Feet)	Steel Towers, Wood Poles, or Underground. Etc. and number of mile of the line of each structure	Design	Installed	Substation Name
1. Lemoyne-Midway	Lemoyne Transmission Substation - Midway Transmission Substation	1380	1646	1697	1792	345	345	24.1	150	Steel Tower	2	1	
2. Allen Junction-Lulu	Allen Junction Transmission Substation - Lulu (to T.E. Boundary - MECS)	1233	1233	1233	1233	345	345	0.1	150	Steel Tower	2	1	
3. Davis-Besse-Lemoyne	Davis-Besse Generating Station - Lemoyne Transmission Substation	1410	1683	1735	1925	345	345	21.0	150	Steel Tower	2	1	
4. Bay Shore-Davis-Besse	Davis-Besse Generating Station - Bay Shore Generating Station	1542	1878	1746	2161	345	345	21.0	150	Steel Tower	2	1	
5. Beaver-Davis-Besse	Davis-Besse Generating Station - Beaver (to T.E. Boundary - O.E.)	1434	1741	1746	1988	345	345	17.0	150	Steel Tower	2	1	
6. Fostoria Central-Lemoyne	Lemoyne Transmission Substation - Fostoria (to T.E. Boundary - O.P.)	1438	1597	1691	1793	345	345	4.6	150	Steel Tower	2	2	
7. Lemoyne-Majestic	Lemoyne Transmission Substation - Monroe (to T.E. Boundary - MECS)	956	956	956	956	345	345	19.3	150	Steel Tower	2	2	
8. Bay Shore-Monroe	Bay Shore Generating Station - Monroe (to T.E. Boundary - MECS)	1262	1544	1427	1793	345	345	8.4	150	Steel Tower	2	2	

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PUCO FORM FE3-T7: Characteristics Of Transmission Owner'S Existing Transmission Lines

ATSI-Toledo Edison Company Area

Transmission Line Name and Number (s)	Point of Origin and Terminus	Summer Capability (MVA)		Winter Capability (MVA)		Operating Voltage (kV)	Design Voltage (kV)	Right-of-Way		Type of Supporting Structure	Number of Circuits		Substations On the Line
List each Transmission Line of 125 kV or more.	Indicate location of line's beginning and terminus.	Normal Rating	Emergency Rating	Normal Rating	Emergency Rating			Length (Miles)	Width (Feet)	Steel Towers, Wood Poles, or Underground. Etc. and number of mile of the line of each structure	Design	Installed	Substation Name
9. Bay Shore-Fostoria Central	Bay Shore Generating Station - Fostoria (to T.E. Boundary - O.P.)	1438	1597	1691	1793	345	345	20.5	150	Steel Tower	2	2	
10. North Star Steel Supply	Point on Midway-Allen Junction Line-North Star Steel	725	865	892	989	345	345	9.7	120	Steel Pole	1	1	
11. Allen Junction-Midway	Midway Transmission Substation - Allen Junction Transmission Substation	1370	1646	1697	1792	345	345	23.5	150	Steel Tower	2	1	North Star Steel
201. Bay Shore-Jackman	Bay Shore Generating Station - Jackman Transmission Substation	229	272	272	311	138	138	11.6	110	Steel Tower	2	2	Fort Industry, Sterling Pipe, General Mills
202. Bay Shore-Ironville	Bay Shore Generating Station - Ironville Transmission Substation	215	264	252	304	138	138	3.4	110	Steel Tower	2	2	
203. Bay Shore-Maclean-Lemoyne No 2	Bay Shore Generating Station - Maclean and Lemoyne Transmission Substation 3-terminal line	241	266	266	286	138	138	12.1	110	Steel Tower	2	2	Oregon
247 Bay Shore-Maclean-Lemoyne No 1	Bay Shore Generating Station - Maclean and Lemoyne Transmission Substation 3-terminal line	241	266	266	266	138	138	12.1	110	Steel Tower	2	2	Frey
204. Bay Shore-Ottawa-Toussaint	Bay Shore Generating Station - Ottawa Transmission Substation	234	287	275	345	138	138	23.1	110	Steel Tower	2	2	Decant, Toussaint
205. Jackman-Allen Junction	Jackman Transmission Substation - Allen Junction Transmission Substation	157	190	178	225	138 138 138	138 138 138	6.5 2.6 0.5	110 60 60	Steel Tower Steel Pole Wood Pole	2 2 2	1 2 1	

ATSI-Toledo Edison Company Area

Transmission Line Name and Number (a)	Point of Origin and Terminus	Summer Capability (MVA)		Winter Capability (MVA)		Operating Voltage (kV)	Design Voltage (kV)	Right-of-Way		Type of Supporting Structure	Number of Circuits		Substations On the Line
List each Transmission Line of 125 kV or more.	Indicate location of line's beginning and terminus.	Normal Rating	Emergency Rating	Normal Rating	Emergency Rating			Length (Miles)	Width (Feet)	Steel Towers, Wood Poles, or Underground, Etc. and number of mile of the line of each structure	Design	Installed	Substation Name
206. Allen Junction Westgate	Jackman Transmission Substation - Allen Junction Transmission Substation	278	342	327	382	138 138	138 138	8.9 5.1	60 60	Wood Pole Steel Pole	2 2	1 2	Westgate, Talmadge, Sylvania
207. Bay Shore-Jackman	Bay Shore Generating Station - Jackman Transmission Substation	234	287	275	332	138	138	7.2	110	Steel Tower	2	2	Jeep II, Dixie
Dixie-Jackman		234	287	275	332	138	138	2.02	100	Steel Tower	2	2	
Bayshore Jeep No. 2		300	358	356	363	138	138	6.5	100	Steel Tower	2	2	
208. Five Point-Five Point Tap	Five Point Distribution Substation - Five Point Tap	198	198	198	198	138	138	1.0	60	Wood Pole	1	1	
209. Vulcan-Hawthorne Tap	Vulcan Transmission Substation - Hawthorne Tap	258	307	317	351	138 138 138	138 138 138	11.8 1.2 1.5	60 60 60	Wood Pole Steel Pole Steel Pole	1 2 2	1 2 2	Angola, Hawthorne, Dana ASG, St Luke Hospital
211. Chrysler-O.I.Levis	Chrysler Transmission Substation - OI Levis Transmission Substation	278	332	327	332	138	138	9.77	60	Wood Pole	1	1	Lime City, Five Point, Delafoil, First Solar
212. Brim Tap-Brim	Brim Tap - Brim Transmission Substation	133	141	158	172	138	138	5.5	60	Wood Pole	1	1	
213. Lemoyne-Midway	Lemoyne Transmission Substation - Midway Transmission Substation, Substation 1 Ckt.	149	176	179	179	138	138	24.4	110	Steel Tower	2	2	

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PUCO FORM FE3-T7: **Characteristics Of Transmission Owner'S Existing Transmission Lines**

ATSI-Toledo Edison Company Area

Transmission Line Name and Number (a)	Point of Origin and Terminus	Summer Capability (MVA)		Winter Capability (MVA)		Operating Voltage (kV)	Design Voltage (kV)	Right-of-Way		Type of Supporting Structure	Number of Circuits		Substations On the Line
List each Transmission Line of 125 kV or more.	Indicate location of line's beginning and terminus.	Normal Rating	Emergency Rating	Normal Rating	Emergency Rating			Length (Miles)	Width (Feet)	Steel Towers, Wood Poles, or Underground. Etc. and number of mile of the line of each structure	Design	Installed	Substation Name
214. Lemoyne-Walbridge Junction	Lemoyne Transmission Substation - Walbridge Junction	195	208	223	230	138	138	7.4	110	Steel Tower	2	2	
215. Lemoyne-Fostoria West End	Lemoyne Transmission Substation - Fostoria West End (to T.E. Boundary - O.P.)	278	286	286	286	138	138	4.6	110	Steel Tower	2	2	
216. Decant-Ottawa	Decant Distribution Substation - Ottawa Transmission Substation	161	193	181	229	138	138	15.9	110	Steel Tower	2	2	
217. Stryker-Stryker (Loop)	Stryker Transmission Substation - Stryker Transmission Substation	72	87	84	85	69	138	28.0	60	Wood Pole	1	1	West Unity, Exit 2, Village of Montpelier, Bryan, Edon, Edgerton, Village of Edgerton
218. Allen Junction-Stryker	Allen Junction Transmission Substation - Stryker Transmission Substation	143	174	168	213	138	138	48.0	60	Wood Pole	1	1	Lyons, Fayette
219. Allen Junction-Vulcan	Allen Junction Transmission Substation - Vulcan Transmission Substation	278	342	327	348	138 138-69 138-69	138 138 138	3.1 5.8 5.1	60 110 60	Wood Pole Steel Tower Steel Pole	1 2 2	1 2 2	Reynolds, Silica University of Toledo
220. Jackman-Vulcan	Jackman Transmission Substation - Vulcan Transmission Substation	215	264	252	286	138	138	3.9	110	Steel Tower	2	2	Bellevue, University of Toldeo, Toledo Hospital
221. Richland-Richland (Loop)	Richland Transmission Substation - Richland Transmission Substation	215	264	252	286	138	138	8.8	60	Wood Pole	1	1	S.W. Defiance, Ayersville, Schuller Defiance
222 Vulcan Tap-Wauseon	Vulcan Tap - Wauseon Transmission Substation	160	192	180	228	138	138	19.8	60	Wood Pole	1	1	Delta, Swanton, Eber, Wentworth, York, Johnson Control, Worthington Industries, Liquid Air

Characteristics Of Transmission Owner'S Existing Transmission Lines

ATSI-Toledo Edison Company Area

Transmission Line Name and Number (s)	Point of Origin and Terminus	Summer Capability (MVA)		Winter Capability (MVA)		Operating Voltage (kV)	Design Voltage (kV)	Right-of-Way		Type of Supporting Structure	Number of Circuits		Substations On the Line
List each Transmission Line of 125 kV or more.	Indicate location of line's beginning and terimus.	Normal Rating	Emergency Rating	Normal Rating	Emergency Rating			Length (Miles)	Width (Feet)	Steel Towers, Wood Poles, or Underground. Etc. and number of mile of the line of each structure	Design	Installed	Substation Name
223. Midway-Hawthorne Tap-Gould	Midway Transmission Substation - Hawthorne Tap Gould Transmission Substation - Hawthorne Tap	278	342	327	358	69 69	138 138	13.4 4.8	60 60	Steel Pole Wood Pole	2 1	2 1	Lynch, Whitehouse, American Can Ford Motor, Maumee
224. Dixie-A.M.C. Jeep	Dixie Transmission Substation - A.M.C. Jeep Distribution Substation	256	310	289	360	69	138	0.7 1.5	60 60	Wood Pole Wood Pole	2 1 1	2 1	
226. Richland-E. Lima	Richland Transmission Substation - E. Lima (to T.E. Boundary - O.P.)	224	266	266	266	138	138	16.0	60	Wood Pole	1	1	
227. Richland-Robison Park	Richland Transmission Substation - Robison Park (to T.E. Boundary - O.P.)	215	264	252	280	138	138	11.0	60	Wood Pole	1	1	
228. Richland-Midway	Richland Transmission Substation - Midway Transmission Substation	161	179	179	179	138	138	33.1 1.5	110 60	Steel Tower Wood Pole	2 2	2 2	Napoleon Muni Ridgeville
229. Naomi Tap-Wauseon	Naomi Tap - Wauseon Transmission Substation	157	190	178	191	138	138	5.0	60	Wood Pole	1	1	
230. Ridgeville Junction-Stryker	Ridgeville Junction - Stryker Transmission Substation	161	193	181	226	138	138	5.6	110	Steel Tower	1	1	
231. Ottawa-Lakeview	Ottawa Transmission Substation - Lakeview (to T.E. Boundary - O.E.)	278	338	315	401	138	138	3.9	110	Steel Tower	2	2	

ATSI-Toledo Edison Company Area

Transmission Line Name and Number (s)	Point of Origin and Terminus	Summer Capability (MVA)		Winter Capability (MVA)		Operating Voltage (kV)	Design Voltage (kV)	Right-of-Way		Type of Supporting Structure	Number of Circuits		Substations On the Line
List each Transmission Line of 125 kV or more.	Indicate location of line's beginning and terimus.	Normal Rating	Emergency Rating	Normal Rating	Emergency Rating			Length (Miles)	Width (Feet)	Steel Towers, Wood Poles, or Underground. Etc. and number of mile of the line of each structure	Design	Installed	Substation Name
232. Lemoyne-West Fremont	Lemoyne Transmission Substation - West Fremont Transmission Substation	200	241	226	286	138	138	23.0	60	Wood Pole	1	1	Woodville 2
233. Allen Junction-Silica	Allen Junction Transmission Substation - Silica Distribution Substation	272	272	272	272	138	138	3.5	60	Wood Pole	1	1	
234. Dixie-Locust	Dixie Transmission Substation - Locust Transmission Substation	107	134	138	138	69	138	6.0	60	Wood Pole	1	1	Perstorp, Texileather, Libbey Glass
235. Richland-G.M. #1	Richland Transmission Substation - General Motors Foundry	197	197	197	197	138	138	2.4	60 110	Wood Pole & Steel Tower	1	1	
236. Richland-G.M. #2	Richland Transmission Substation - General Motors Foundry	197	197	197	197	138	138	2.4	60 110	Wood Pole & Steel Tower	1	1	
238. Pre-Finish Metals Tap-Pre-Finish Metals	Tap on Maclean-Midway Line to Pre-Finish Metals	163	163	163	163	138	138	0.7	60	Wood Pole	1	1	
239. North Star Steel Backup Supply	Point on Vulcan Tap-Wauseon Line - York Distribution Substation	284	284	284	284	138	138	0.6	60	Wood Pole	1	1	
240. Worthington Supply	Point on Vulcan Tap-Wauseon Line-Worthington Industries	14				138	138	0.1	60	Wood Pole	1	1	

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Transmission Line Name and Number (a)	Point of Origin and Terminus	Summer Capability (MVA)		Winter Capability (MVA)		Operating Voltage (kV)	Design Voltage (kV)	Right-of-Way		Type of Supporting Structure	Number of Circuits		Substations On the Line
List each Transmission Line of 125 kV or more.	Indicate location of line's beginning and terminus.	Normal Rating	Emergency Rating	Normal Rating	Emergency Rating			Length (Miles)	Width (Feet)	Steel Towers, Wood Poles, or Underground. Etc. and number of mile of the line of each structure	Design	Installed	Substation Name
241. Delafoil Supply	Point on Five Point-Five Point Tap Line-Delafoil Customer Substation	198				138	138	0.1	60	Wood Pole	1	1	
242. Ironville-Dixie	Ironville Transmission Substation - Dixie Transmission Substation	82	103	108	123	69	138	5.4	110	Steel Tower	1	1	Lapier, Omni Source, Doehler-Jarvis, Bayview Sewage, North Star Recycling
243. Bay Shore Decant	Bay Shore Generating Station - Decant Distribution Substation	234	287	275	312	138	138	7.2	110	Steel Tower	2	2	
244 Lemoyne - West Fremont	Lemoyne Transmission Substation - West Fremont Transmission Substation	200	241	228	286	138	138	4.3 0.9	110 60	Steel Tower Wood Pole	2 2	1 1	(AEP owns 19 miles in between the segments shown.)
245 West Fremont Fremont Center	West Fremont Transmission Substation - Fremont Center (to T.E. boundary - O.P.)	312	380	353	450	138	138	0.9	60	Wood Pole	2	1	
246 Ottawa - West Fremont	Ottawa Transmission Substation West Fremont Transmission Substation	161	193	181	229	138	138		60	Steel Tower	2	2	
247 Midway-O.I. Levis	Midway O.I. Levis	278	310	310	310	138	138	14.89	60	Wood Pole	1	1	Waterville, Johns Manville
248 Chrysler-Maclean	Chrysler Maclean	278	286	286	286	138	138	4.28	60	Wood Pole	1	1	Walbridge, Calphalon, Conagra, Walgreens

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ATSI-Cleveland Electric Illuminating Company Area

Transmission Line Name and Number (s)	Point of Origin and Terminus	Summer Capability (MVA)		Winter Capability (MVA)		Operating Voltage (kV)	Design Voltage (kV)	Right-of-Way		Type of Supporting Structure	Number of Circuits		Substations On the Line
List each Transmission Line of 125 kV or more.	Indicate location of line's beginning and terimus.	Normal Rating	Emergency Rating	Normal Rating	Emergency Rating			Length (Miles)	Width (Feet)	Steel Towers, Wood Poles, or Underground. Etc. and number of mile of the line of each structure	Design	Installed	Substation Name
1. Avon-Beaver #1	Avon 345 kV Station - Point of Interconnection with Ohio Edison, Sheffield Township	977	1030	1116	1153	345	345	6.4	150	S.C.T.	1	1	
2. Juniper-Star	Juniper Substation - Point of Interconnection with Ohio Edison, Richfield Township	1377	1377	1377	1377	345	345	0.6	150	D.C.T.	2	1	
								1.5	150	S.C.T.	1	1	
								9.2	150	D.C. H-Frame	2	1	
3. Hanna-Juniper	Juniper Substation - Point of Interconnection with Ohio Edison, Osnaburg Township	1553	1553	1553	1553	345	345	54.6	150	S.C.T.	1	1	
4. Ashtabula-Erie West (Penelec)	Ashtabula 345 kV Station - Interconnection Point with Pennsylvania Electric Co., Ohio-Penn State Line	1669	1899	1765	2251	345	345	14.9	150	S.C.T.	1	1	
5. Perry-Eastlake	Perry Station - Eastlake 345 kV Station	1554	1792	1765	1792	345	345	17.9	150	S.C.T.	1	1	
								2.6	150	D.C.T.	2		
6. Eastlake-Juniper	Juniper Substation - Eastlake 345 kV Station	1370	1719	1765	1792	345	345	30.8	150	S.C.T.	1	1	
								6.1	150	D.C.T.	2		
7. Avon-Juniper	Avon 345 kV Station - Juniper Substation	1222	1258	1395	1441	345	345	1.0	150	D.C.T.	2	1	
								12.9	150	D.C. H-Frame	2		
								20.9	150	D.C.P. H-Frame	2		
								9.2	150	S.C.T.	1		
8. Juniper-Harding	Juniper Substation - Harding Substation	1395	1666	1716	1792	345	345	0.9	150	D.C.T.	2	2	
								2.1	150	D.C. H-Frame	2		
								5.0	120	D.C.P.	2		

 Characteristics Of Transmission Owner'S Existing Transmission Lines

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Transmission Line Name and Number (a)	Point of Origin and Terminus	Summer Capability (MVA)		Winter Capability (MVA)		Operating Voltage (kV)	Design Voltage (kV)	Right-of-Way		Type of Supporting Structure	Number of Circuits		Substations On the Line
List each Transmission Line of 125 kV or more.	Indicate location of line's beginning and terminus.	Normal Rating	Emergency Rating	Normal Rating	Emergency Rating			Length (Miles)	Width (Feet)	Steel Towers, Wood Poles, or Underground. Etc. and number of mile of the line of each structure	Design	Installed	Substation Name
9. Harding-Fox	Harding Substation - Fox Substation	1195	1195	1195	1195	345	345	5.1 0.1	120 150	D.C.P. D.C.T.	2 2	2	
10. Galaxie Supply	Fowles Substation - Galaxie Substation	175	228	252	284	138	138 345	1.8 11.8	110 150	D.C. H-Frame D.C.P. H-Frame	2 2	2nd Circuit	
11. Avon-Beaver #2	Avon 345 kV Station - Point of Interconnection with OE Avon-Beaver ROW, Lorain County	977	1030	1116	1153	345	345	3.6	150	D.C. H-Frame	2		
12. Perry-Inland	Perry Station - Inland Substation	1559	1673	1673	1673	345	345	43.8 11.4	150 120	D.C.T. D.C.S.P.	2 2	2	
13. Inland-Harding	Point on Perry-Macedonia-Inland Line - Harding Substation	1222	1288	1395	1441	345	345	1.8 0.2 0.1	120 150 150	D.C.S.P. D.C. 2P Structure D.C.T.	2 2 2	2	
14. Perry-Ashtabula	Perry Station - Tap Point to Ashtabula Township, Ashtabula County	1559	1899	1765	2161	345	345	1.1 22.1	150 150	D.C.T. S.C.T.	2 1	1	
15. Harding-Chamberlin	Harding Substation - Point of Interconnection with OE, Sagamore Hills	1554	1792	1765	1792	345	345	0.6 1.5	150 150	D.C.T. D.C. H-Frame	2 2	1	
201. Avon-Lorain-Fowles	Avon Lake Plant - Fowles Switching Station	175	215	215	215	138	138	17.9	110	D.C.T.	4	4	Admiral Astor Lorain Crystal Slater
202. Avon-Lorain-Fowles (Berea Cutoff)	Avon Lake Plant - Fowles Switching Station	175	215	215	215	138	138	17.9 0.5	110 60	D.C.T. S.P.	2 1	2	Clifford

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Transmission Line Name and Number (s)	Point of Origin and Terminus	Summer Capability (MVA)		Winter Capability (MVA)		Operating Voltage (kV)	Design Voltage (kV)	Right-of-Way		Type of Supporting Structure	Number of Circuits		Substations On the Line
List each Transmission Line of 125 kV or more.	Indicate location of line's beginning and terminus.	Normal Rating	Emergency Rating	Normal Rating	Emergency Rating			Length (Miles)	Width (Feet)	Steel Towers, Wood Poles, or Underground. Etc. and number of mile of the line of each structure	Design	Installed	Substation Name
203. Dawson Supply-Avon	Point on Avon-Lorain-Fowles Line, Avon Lake - Dawson Substation	273	331	308	392	138	138	1.8 7.2	110 60	D.C.T. D.C.S.P.	2 2	2	Crestwood Darwin Dawson
204. Dawson Supply-Clague	Dawson Substation - Clague Road and N&W Railroad Right-of-Way	20	20	20	20	33	138	1.4	60	D.C.S.P.	2	2	Dodge
205. Lorain-Ohio Edison I (Johnson Sub)	Lorain Switching Station - Point of Interconnection with Ohio Edison, Sheffield Twp	161	193	181	229	138	138	5.1	110	D.C.T.	2	1	
206. Fowles-NASA	Fowles Switching Station - NASA Customer Station, Cleveland	103	132	146	164	138	138	6.6	110	D.C.T.	4	4	Dunkirk
207. IX Center Supply (Formerly Cadillac)	Point on Fowles-NASA Line, Olmsted Township - Cadillac Customer Station, Brook Park	14	14	14	14	138	138	0.9 0.6	110 60	D.C.T. D.C.S.P. Structures w/6 S.C.P. at Customer Station	2 2	2	
208. Fowles-Clinton	Fowles Switching Station - Clinton Substation	102	132	146	164	138	138	9.0	110	D.C.T.	4	4	Eldon Essex Fox Furlong Graham Grovewood Hummel
209. Ford Tap	Point on Fowles-Clinton Line, Brook Park - Ford Customer Station, Brook Park	44	55	51	61	138	138	2.0	110	D.C.T.	2	2	
210. General Motors Supply	Point on Fowles-Clinton Line - General Motors Chevrolet Customer Station, Parma	49	49	56	56	138	138	0.3	60	D.C.S.P.	2	2	

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Transmission Line Name and Number (s)	Point of Origin and Terminus	Summer Capability (MVA)		Winter Capability (MVA)		Operating Voltage (kV)	Design Voltage (kV)	Right-of-Way		Type of Supporting Structure	Number of Circuits		Substations On the Line
List each Transmission Line of 125 kV or more.	Indicate location of line's beginning and terminus.	Normal Rating	Emergency Rating	Normal Rating	Emergency Rating			Length (Miles)	Width (Feet)	Steel Towers, Wood Poles, or Underground. Etc. and number of mile of the line of each structure	Design	Installed	Substation Name
211. Fowles-Mayfield	Fowles Switching Station - Mayfield Substation	102	132	146	163	138	138	33.3 0.6	110 60	D.C.T. D.C.S.P.	4 4	4	Faber Griffin Imperial Juniper Krick Longfield Maxwell Northfield Nelson Norway Pleasant Valley
212. Pleasant Valley-Ohio Edison (OE) (West Akron)	Pleasant Valley Switching Station - Point of Interconnection with Ohio Edison, Richfield Township	143	143	143	143	138	138	6.2	110	D.C.T.	2	2	Hickory
213. Pleasant Valley-Jennings	Pleasant Valley Switching Station - Jennings Switching Station	225	286	286	286	138	138	9.3	110	D.C.T.	4	4	Grant Hancock Harding Issler
214. LTV Steel Supply (Formerly Republic Steel)	Point on Pleasant Valley-Jennings Line, Newburgh Heights - LTV Steel Customer Station (Formerly Republic Steel)	39	45	43	49	138	138	0.3	110	D.C.T.	4	4	
215. Jennings-Clark	Jennings Switching Station, Newburgh Heights - Clark Substation	42	48	45	50	138	138	0.1 0.1	110 60	S.C.T. W.P.S.	1 2	1 2	

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Transmission Line Name and Number (a)	Point of Origin and Terminus	Summer Capability (MVA)		Winter Capability (MVA)		Operating Voltage (kV)	Design Voltage (kV)	Right-of-Way		Type of Supporting Structure	Number of Circuits		Substations On the Line
List each Transmission Line of 125 kV or more.	Indicate location of line's beginning and terimus.	Normal Rating	Emergency Rating	Normal Rating	Emergency Rating			Length (Miles)	Width (Feet)	Steel Towers, Wood Poles, or Underground, Etc. and number of mile of the line of each structure	Design	Installed	Substation Name
216. Jennings-Jones & Laughlin Steel	Jennings Switching Station - LTV Steel Customer Station (Formerly Jones & Laughlin)	62	67	71	76	138	138	0.1	110	D.C.T.	2	2	
217. Jennings-Hazel	Jennings Switching Station - Hazel Terminal Structure	265	286	286	286	138	138	2.1	110	D.C.T.	2	2	Horizon
218. Hazel-Lake Shore	Hazel Terminal Structure - Lake Shore Plant	235	271	288	288	138	138	4.5	100	Underground	2	2	Hamilton
219. Jennings-Oak Tap Structure	Jennings Switching Station - Oak Tap Structure, Cuyahoga Heights	215	215	215	215	138	138	2.0 3.1	60 110	D.C.S.P. D.C.T.	2 2	2	Inca
220. Pleasant Valley-Oak Tap Structure	Pleasant Valley Switching Station - Oak Tap Structure, Cuyahoga Heights	215	215	215	215	138	138	6.5 0.2	110 100	D.C.T. Underground	2 2	2	Oak Substation was removed in 1976
221. Juniper-Hillside	Juniper Substation - Hillside Structure	215	215	215	215	138	138	2.9	110	D.C.T.	2	2	Hillside is a transmission structure
222. Juniper-Lloyd	Juniper Substation - Point on the Mayfield-Lloyd Line	215	215	215	215	138	138	8.9 14.6	110 60	D.C.T. D.C.S.P.	2 2	2	Inland Irwin Ivy Jordan Judi Kipling Newburgh Nottingham
223. Kendall-Kelly-Lester Supply	Point on the Fowles-Mayfield Line - Kelly Substation	273	331	308	392	138	138	7.6	60	D.C.S.P.	2	2	Kendall Lester

ATSI-Cleveland Electric Illuminating Company Area

Transmission Line Name and Number (a)	Point of Origin and Terminus	Summer Capability (MVA)		Winter Capability (MVA)		Operating Voltage (kV)	Design Voltage (kV)	Right-of-Way		Type of Supporting Structure	Number of Circuits		Substations On the Line
List each Transmission Line of 125 kV or more.	Indicate location of line's beginning and terminus.	Normal Rating	Emergency Rating	Normal Rating	Emergency Rating			Length (Miles)	Width (Feet)	Steel Towers, Wood Poles, or Underground, Etc. and number of mile of the line of each structure	Design	Installed	Substation Name
224. Mayfield-Lloyd	Mayfield Substation - Lloyd Substation	202	215	215	215	138	138	15.7	110	D.C.T.	4	4	Lamont Marble Newport Lincoln
225. Mayfield-Ashtabula	Mayfield Substation - Ashtabula Plant Transmission Station	103	114	114	114	138	138	43.4	110	D.C.T.	4	4	Sanbom Leroy Center Spruce
226. Leroy Center-Eastlake Plant	Leroy Center Switching Station - Eastlake Plant Transmission Station	143	143	143	143	138	138	18.3 2.4	110 60	D.C.T. D.C.S.P.	2 2	2	Nash Nathan Newell Nursery
227. Pinegrove Supply	Point on Mayfield-Ashtabula Line, Chardon Township - Pinegrove Substation	115	115	115	115	138	138	1.0	110	D.C.T.	2	2	
228. Eastlake Tap	Eastlake Plant - Eastlake Tap Structure, City of Eastlake	222	287	246	287	138	138	2.5	110	D.C.T.	2	8	
229. Ashtabula-Conneaut	Ashtabula Plant - Pittsburgh & Conneaut Docks Customer Station, Conneaut	274	333	310	334	138	138	17.7 0.1	110 60	D.C.T. D.C.S.P.	2 2	2	Zenith
230. Ashtabula Generation Tie	Ashtabula Plant - Ashtabula C Plant	246	246	246	246	138	138	0.5	100	W.P. H-Frame	1	1	
231. IX Center-Ford Line	Point on Fowles-CAD Line, Brook Park - Ford Customer Station, Brook Park	78	91	91	101	138	138	2.1 0.6 0.4	60 110 110	D.C.S.P. D.C.T. D.C.S. 2P H Structure	2 2 2	2	Eaton Cleveland Hopkins Airport II

ATSI-Cleveland Electric Illuminating Company Area

Transmission Line Name and Number (a)	Point of Origin and Terminus	Summer Capability (MVA)		Winter Capability (MVA)		Operating Voltage (kV)	Design Voltage (kV)	Right-of-Way		Type of Supporting Structure	Number of Circuits		Substations On the Line
List each Transmission Line of 125 KV or more.	Indicate location of line's beginning and terinus.	Normal Rating	Emergency Rating	Normal Rating	Emergency Rating			Length (Miles)	Width (Feet)	Steel Towers, Wood Poles, or Underground, Etc. and number of mile of the line of each structure	Design	Installed	Substation Name
232. Dell Supply	Point on Fowles-NASA Line, Olmsted Township - Dell Substation	24	29	30	34	138	138	0.9	60	D.C.S.P.	2	2	
233. Edgewater Supply Fremont Line	Clague Road and N&W Railroad, Westlake - Fremont Substation	20	20	20	20	33	138	6.1	60	D.C.S.P.	2	2	Edgewater Freedom
234. Fowles-Dunbar Line	Fowles Substation - Dunbar Substation	176	215	215	215	138	138	4.2	60	D.C.S.S.P. Structure	2	2	Erie
235. Garfield Supply	Point on Grant-Jennings Line, Cuyahoga Heights - Garfield Substation	287	287	287	287	138	138	1.5 0.8	60 110	D.C.S.P. D.C.T.	2 2	2	
236. I-271 Line	Point on Kendall-Kelly Line - Point on Eastlake-Lloyd Line, Eastlake	273	331	308	392	138	138	16.8	60	D.C.S.P.	2	2	Keith Kenyon Lark Kepler
237. Newbury-Burton-Middlefield Line (U.C.)	Vicinity of Routes 306 & 87, Russel Township - Vicinity of Kinsman & White Roads, Middlefield Township	40	40	40	40	33	138	13.0	60	S.C.W.P.	1	1	
238. Lorain-Ohio Edison II (Carlisle Sub)	Lorain Station - Point of Interconnection with Ohio Edison, Sheffield Township	225	281	262	286	138	138	1.5 1.5	110 60	D.C.T. S.C.W.P.	2 1	1	
239. Emily Supply	Point on Fowles-Dunbar Line, Strongsville - Galaxie Substation, North Royalton	338	405	402	463	138	138	7.4 0.5	60 60	S.C.S.W.P. D.C.S.P.	1 2	1	Emily

ATSI-Cleveland Electric Illuminating Company Area

Transmission Line Name and Number (a)	Point of Origin and Terminus	Summer Capability (MVA)		Winter Capability (MVA)		Operating Voltage (kV)	Design Voltage (kV)	Right-of-Way		Type of Supporting Structure	Number of Circuits		Substations On the Line
List each Transmission Line of 125 kV or more.	Indicate location of line's beginning and terimus.	Normal Rating	Emergency Rating	Normal Rating	Emergency Rating			Length (Miles)	Width (Feet)	Steel Towers, Wood Poles, or Underground. Etc. and number of mile of the line of each structure	Design	Installed	Substation Name
240. Inland-Lake Shore (a)	Inland Substation-Lake Shore Plant	266	352	386	438	138	138	0.3	60	S.C.S.P.	1	1	
								5.3	60	D.C.S.P.	2	1	
241. Plain Dealer Supply	Point on Fowles-Clinton Line, City of Brooklyn	12	12	12	12	138	138	0.3	60	D.C.S.P.	2	2	
242. Horizon Supply	Hazel Terminal Structure, City of Cleveland, Cuyahoga County - Horizon Substation, City of Cleveland, Cuyahoga County	235	271	249	280	138	138	0.3	100	Underground	4	4	

(a) Leased from City of Cleveland

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PUCO FORM FE3-T8: Summary Of Existing Substations On Transmission Lines

ATSI-Ohio Edison Company Area

Substation Name	Type Transmission (T) Distribution (D)	Voltages	Line Association(s) (FE-T7 or FE-T9 Notation)	Line Existing
R. E. Burger	T	138	Burger-Knox (223)	E
			Burger-Brookside (224)	E
			Burger-Cloverdale (225)	E
			Burger-Cloverdale (226)	E
			Burger-Cloverdale (227)	E
			Burger-Longview (228)	E
Edgewater	T	138-69	Edgewater-Beaver (238)	E
			Edgewater-U.S. Steel (239)	E
Niles	D	138-23	Niles-Evergreen (269)	E
			Niles-Bluebell (268)	E
			Niles-Salt Springs (271)	E
			Niles-Central (305)	*E*
W. H. Sammis	T	345-138	Sammis-Highland (9)	E
			Sammis-South Canton (OP) (10)	E
			Sammis-Star (11)	E
			Sammis-Beaver Valley (DL) (3)	E
			Sammis-Wylie Ridge (APS) (12)	E
			Sammis Pidgeon (276)	E
			Sammis-Boardman (277)	E
			Sammis-Lowellville (278)	E
			Sammis-East Akron (284)	E
Aetna	D	138-23-22.86-4.1(	Aetna-West Akron (200)	E
Airpark	D	138-12.47	Clark-E. Springfield (236)	E
Avery	T	138-69	Avery-Greenfield (295)	E
			Avery-Shinrock (320)	E
Babb	D	138-22.86	Babb-East Akron (252)	E
			Babb-West Akron (288)	E
			Babb-Valley (CF) (299)	E
Barberton	D	138-23-4.16	Barberton-Babcock & Wilcox (203)	E
			Barberton-Cloverdale (204)	E
			Barberton-Star North (205)	E
			Barberton-Star South (206)	E
			Barberton-West Akron (207)	E
Beaver	T	345-138	Avon-Beaver #1 (CEI) (1)	E
			Beaver-Carlisle (2)	E
			Beaver-Davis-Besse (TE) (40)	E
			Avon-Beaver #2 (CEI) (43)	E
			Beaver-Brookside (209)	E
			Beaver-Ford (210)	E
			Beaver-Johnson (211)	E
			Beaver-NASA (212)	E
			Beaver-Edgewater (238)	E
			Beaver-Greenfield (370)	E
Bluebell	T & D	138-69-23	Bluebell-American Steel (202)	E
			Bluebell-Canton Central (213)	E

ATSI-Ohio Edison Company Area

Substation Name	Type Transmission (T) Distribution (D)	Voltages	Line Association(s) (FE-T7 or FE-T9 Notation)	Line Existing
			Bluebell-Highland (214)	E
			Bluebell-Knox (315)	E
			Bluebell-Pidgeon (296)	E
			Niles-Bluebell (268)	E
Boardman	T & D	138-69-23	Boardman-Riverbend (215)	E
			Boardman-Shenango (216)	E
			Sammis-Boardman (277)	E
			Boardman-Nevada (279)	E
Brady	D	138-12.47	Darrow-Hanna (294)	E
Bridge	D	138-12.47	Evergreen-Ivanhoe (241)	E
Brookside	T	138-69	Beaver-Brookside (209)	E
			Brookside-Cloverdale (217)	E
			Brookside-Leaside (219)	E
			Brookside-Howard (OP) (220)	E
			Brookside-Longview E. (221)	E
			Brookside-Longview W. (222)	E
			Burger-Brookside (224)	E
			Brookside-Wellington (287)	E
Brunswick	D	138-12.47	West Akron-West Medina (346)	E
Brush	D	138-12.47	Pleasant Valley-West Akron West (27:	E
Buckeye	D	138-12.47	West Akron-West Medina (346)	E
Burton	D	138-12.47	Evergreen-Highland #3 (201)	E
Cairns	D	138-12.47	General Motors-Longview (306)	E
Cardington	T	138-69	Galion-Cardington	E
Carlisle	T	345-138-69	Beaver-Carlisle (2)	E
			Carlisle-Star (46)	E
			Carlisle-Gates (343)	E
			Carlisle-Lorain (CEI) (341)	E
			Carlisle-Shinrock (247)	E
			Carlisle-Johnson (356)	E

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PUCO FORM FE3-T8: **Summary Of Existing Substations On Transmission Lines**

ATSI-Ohio Edison Company Area

Substation Name	Type Transmission (T) Distribution (D)	Voltages	Line Association(s) (FE-T7 or FE-T9 Notation)	Line Existing
Chamberlin	T	345-138-69	Chamberlin-Harding (CEI) (30)	E
			Chamberlin-Mansfield (PP) (38)	E
			Chamberlin-Valley (CF) (293)	E
			Chamberlin-Hudson East (298)	E
			Chamberlin-West Akron (322)	E
Clark	T	138-69	Clark-East Springfield (236)	E
			Clark-Greene (DPL) (291)	E
			Clark-Urbana (DPL) (360)	E
Clayben	D	138-12.47	Gilchrist-South Akron (251)	E
Cloverdale	T & D	138-69-23	Barberton-Cloverdale (204)	E
			Brookside-Cloverdale (217)	E
			Cloverdale-East Wooster (OP) (218)	E
			Burger-Cloverdale #1 (225)	E
			Burger-Cloverdale #2 (226)	E
			Burger-Cloverdale #3 (227)	E
			Canton Central (OP)-Cloverdale (229)	E
			Cloverdale-Star (231)	E
			Cloverdale-Torrey (OP) (232)	E
Commerce	D	138-12.47	Bluebell-Highland (214)	E
Cortland	D	138-12.47	Central-Packard (270T)	E
Crissinger	D	138-34.5	Crissinger-Roberts (275)	E
			Crissinger-Tangy (292)	E
Dale	T & D	138-69-12.47	Dale-South Akron (282)	E
			Dale-W. Canton (OP) (285)	E
Darrow	T	138-69	Darrow-Hudson East (308)	E
			Darrow-Hanna (294)	E
Dobbins	D	138-12.47	Sammis-Lowellville (278)	E
Dual Rail	D	138-12.47	Galion-Roberts South (246)	E
East Akron	D	38-23-22.86-12.4	East Akron-Gilchrist (234)	E
			East Akron-West Ravenna (235)	E
			Babb-East Akron (252)	E
			Sammis-East Akron (284)	E
			East Akron-Hanna (289)	E
East Springfield	T	138-69	East Springfield-London (208)	E
			Clark-East Springfield (236)	E
			East Springfield-Tangy (237)	E

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PUCO FORM FE3-T8: **Summary Of Existing Substations On Transmission Lines**

ATSI-Ohio Edison Company Area

Substation Name	Type Transmission (T) Distribution (D)	Voltages	Line Association(s) (FE-T7 or FE-T9 Notation)	Line Existing
Elm	D	138-12.47	Central-Packard (270)	E
Evans	D	138-22.86	Babb-East Akron (252)	E
Evergreen	T & D	138-23	Evergreen-Highland #3 (201)	E
			Evergreen-Ivanhoe (241)	E
			Evergreen-Highland #2 (242)	E
			Evergreen-Highland #1 (243)	E
			Niles-Evergreen (269)	E
Ford	T	138	Beaver-Ford (210)	E
			Ford-New Departure (366)	
Galion	T	345-138-69	Ohio Power Lines (DA13)	E
			Ohio Power Lines (DA18)	E
			Galion-Leaside (350)	E
			Galion-Roberts North (245)	E
			Galion-Roberts South (246)	E
			Galion-General Motors (263)	E
Garden	D	138-12.47	Central-Packard (270)	E
Gates	D	138-12.47	Gates-Johnson (249)	E
			Carlisle-Gates (343)	E
Gilchrist	T & D	138-69-12.47	East Akron-Gilchrist (234)	E
			Gilchrist-South Akron (251)	E
Granger	D	138-12.47	West Akron-West Medina (346)	E
Greenfield	T & D	138-69-12.47	Greenfield-Ford (244)	E
			Greenfield-Lakeview (253)	E
			Greenfield-NASA (254)	E
			Avery-Greenfield (295)	E
			Greenfield-New Departure (319)	E
			Beaver-Greenfield (370)	E
Hanna	T	345-138	Hanna-Highland (5)	E
			Beaver Valley (DL)-Hanna (31)	E
			CEI Line to (OP)-Hanna (4)	E
			CEI Line to (CEI)-Hanna (6)	E
			Hanna-Newton Falls (255)	E
			Hanna-West Ravenna #1 (256)	E
			Darrow-Hanna (294)	E
			East Akron-Hanna (289)	E
			Hanna-West Ravenna #2 (328)	E

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PUCO FORM FE3-T8: Summary Of Existing Substations On Transmission Lines

ATSI-Ohio Edison Company Area

Substation Name	Type Transmission (T) Distribution (D)	Voltages	Line Association(s) (FE-T7 or FE-T9 Notation)	Line Existing
Highland	T	345-138	Hanna-Highland (5)	E
			Sammis-Highland (9)	E
			Mansfield (PP)-Highland (32)	E
			Highland-Shenango (PP) (33)	E
			Evergreen-Highland #3 (201)	E
			Bluebell-Highland (214)	E
			Evergreen-Highland #2 (242)	E
			Evergreen-Highland #1 (243)	E
			General Motors-Highland (248)	E
			Highland-Salt Springs (257)	E
			Highland-Mahoningside (303)	E
Ira	D	138-12.47	Chamberlin-West Akron (322)	E
Ivanhoe	D	138-23	Ivanhoe-Packard (258)	E
			Ivanhoe-Mahoningside (302)	E
			Evergreen -Ivanhoe (241)	E
Johnson	T	138-69	Beaver-Johnson (211)	E
			Johnson-Lorain (CEI) (230)	E
			Johnson-Gates (249)	E
			Johnson-U.S. Steel (Lorain) (259)	E
			Carlisle-Johnson (356)	E
Kirby	T	138-69	Blue Jacket-Kirby (DPL) (365)	E
			Kirby- Roberts (280)	E
			Kirby-Tangy (286)	E
Knox	T	138-69	Burger-Knox (223)	E
			Bluebell-Knox (315)	E
Lakemore	D	138-12.47	Gilchrist-South Akron (251)	E
Lakeview	D	38-34.5-12.47-7.	Greenfield-Lakeview (253)	E
			Lakeview-Ottawa (TE) (260)	E
Leaside	T	138-69	Brookside-Leaside (219)	E
			Galion-Leaside (350)	E
Lincoln Park	D	138-23	Lincoln Park-Lowellville (261)	E
			Lincoln Park-Masury (262)	E
London	T	138-69	Beatty Rd. (CSP)-London (304)	E
			East Springfield-London (208)	E
Longview	T & D	138-69-12.47	Brookside-Longview East (221)	E
			Brookside-Longview West (222)	E
			Burger-Longview (228)	E
			Longview-Empire Steel (240)	E
			General Motors-Longview (306)	E

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PUCO FORM FE3-T8: **Summary Of Existing Substations On Transmission Lines**

ATSI-Ohio Edison Company Area

Substation Name	Type Transmission (T) Distribution (D)	Voltages	Line Association(s) (FE-T7 or FE-T9 Notation)	Line Existing
Lowellville	T & D	138-69-23	Lincoln Park-Lowellville (261)	E
			Sammis-Lowellville (278)	E
Madison	D	138-12.47	Brookside-Longview W (222)	E
Mahoningside	D	138-23	Ivanhoe-Mahoningside (302)	E
			Highland-Mahoningside (303)	E
Masury	T & D	138-69-23	Lincoln Park-Masury (262)	E
			Masury-Salt Springs (264)	E
			Crossland (PP)-Masury (265)	E
			Masury-Shenango (PP) (266)	E
			Masury-Maysville (PP) (300)	E
Mill Creek	D	138-12.47	East Springfield-Tangy (237)	E
Moore	D	138-12.47	Dale-South Akron (282)	E
Murray	D	138-12.47	Gates-Johnson (249)	E
Nevada	T	138-69	Boardman-Nevada (279)	E
New Departure	T	138	Ford-New Departure (366)	E
			Greenfield-New Departure (319)	E
Newton Falls	T & D	138-69-23	General Motors-Newton Falls (250)	E
			Hanna-Newton Falls (255)	E
Nordonia	D	138-12.47	Chamberlin-W. Akron (322)	E
North Medina	T	345-138	Carlisle-North Medina 345kV (47)	E
			North Medina-Star 345 kV (48)	E
			North Medina-West Akron 138 kV (34	E
			North Medina-West Medina 138 kV (3	E
Ontario	D	138-12.47	General Motors-Longview (306)	E
Packard	D	138-13.2	Ivanhoe-Packard (258)	E
			Central-Packard (270)	E
Pidgeon	T	138-69	Sammis-Pidgeon (276)	E
			Bluebell-Pidgeon (296)	E
Pine	D	138-12.47	Star-West Akron #1 (283)	E
Riverbend	D	138-23	Boardman-Riverbend (215)	E
			Riverbend-Salt Springs (297)	E
Roberts	D	138-34.5-13.8	Galion-Roberts North (245)	E
			Galion-Roberts south (246)	E
			Crissinger-Roberts (275)	E
			Kirby-Roberts (280)	E

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PUCO FORM FE3-T8: **Summary Of Existing Substations On Transmission Lines**

ATSI-Ohio Edison Company Area

Substation Name	Type Transmission (T) Distribution (D)	Voltages	Line Association(s) (FE-T7 or FE-T9 Notation)	Line Existing
Rosemont	D	138-12.47	Star-West Akron #1 (283)	E

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PUCO FORM FE3-T8: **Summary Of Existing Substations On Transmission Lines**

ATSI-Ohio Edison Company Area

Substation Name	Type Transmission (T) Distribution (D)	Voltages	Line Association(s) (FE-T7 or FE-T9 Notation)	Line Existing
Ross	D	138-23-12.47	Brookside-Cloverdale (217)	E
Ryan	D	138-12.47	Star-West Medina (344)	E
Salt Springs	T & D	138-69-23	Riverbend-Salt Springs (297)	E
			Highland-Salt Springs (257)	E
			Masury-Salt Springs (264)	E
			Niles-Salt Springs (271)	E
			Salt Springs (301)	E
Seville	T	138-69	Star-West medina (344)	E
Shalersville	T	138-69	Hanna-Shalersville (369)	E
Shinrock	T & D	138-69-12.47	Carlisle-Shinrock (247)	E
			Avery-Shinrock (320)	E
South Akron	D	138-23-22.86-4.1	Gilchrist-South Akron (251)	E
			Firestone-South Akron (281)	E
			Dale-South Akron (282)	E
Star	T	345-138-69	Carlisle-Star (46)	E
			Juniper (CEI)-Star (7)	E
			South Canton (OP)-Star (8)	E
			Sammis-Star (11)	E
			Barberton-Star North (205)	E
			Barberton-Star South (206)	E
			Cloverdale-Star (231)	E
			Star-West Akron #1 (283)	E
			Star-Urban (330)	E
			Star-West Medina (344)	E
Stoney	D	138-12.47	West Akron-West Medina (346)	E
Tangy	T	345-138-69	Hyatt (OP)-Tangy (36)	E
			Marysville (OP-Tangy (37)	E
			Delaware (CSOE)-Tangy (233)	E
			East Springfield-Tangy (237)	E
			Crissinger-Tangy (292)	E
			Kirby-Tangy (286)	E
Terex	D	138-12.47	Darrow Sub 138 kV Bus	E
Tod	D	138-12.47	General Motors-Highland (248)	E
Tusc	D	138-12.47	Star-Urban (330)	E
Urban	D	138-23-22.86	Firestone-Urban (329)	E
			Star-Urban (330)	E

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PUCO FORM FE3-T8: **Summary Of Existing Substations On Transmission Lines**

ATSI-Ohio Edison Company Area

Substation Name	Type Transmission (T) Distribution (D)	Voltages	Line Association(s) (FE-T7 or FE-T9 Notation)	Line Existing
Wellington	T	138-69	Brookside-Wellington (287)	E
West Akron	T & D	138-69-12.47	Aetna-West Akron (200)	E
			Barberton-West Akron (207)	E
			(East) Pleasant Valley (CEI) -- West Akron (272)	E
			(West) Pleasant Valley (CEI) -- West Akron (273)	E
			Star-West Akron #1 (283)	E
			Babb-West Akron (288)	E
			Chamberlin-West Akron (322)	E
			North Medina-West Akron 138 kV (34	E
West Medina	D	138-12.47	Star-West Medina (344)	E
			North Medina-West Medina 138 kV (3	E
West Ravenna	T & D	138-69-23	East Akron-West Ravenna (235)	E
			Hanna-West Ravenna #1 (256)	E
			Hanna-West Ravenna #2 (328)	E
Wickliffe	D	138-4.16	Boardman-Riverbend (215)	E

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PUCO FORM FE3-T8: **Summary Of Existing Substations On Transmission Lines**

ATSI-Toledo Edison Company Area

Substation Name	Type Transmission (T) Distribution (D)	Voltages	Line Association(s) (FE-T7 or FE-T9 Notation)	Line Existing
Allen Junction	T	345 kV	Allen Junction-Lulu-2	E
			Midway-Allen Junction-11	E
	T	138 kV	Allen Junction-Stryker-218	E
			Allen Junction-Vulcan-219	E
			Allen Junction-Silica-233	E
			Jackman-Allen Junction-205	E
			Westgate-Allen Junction-206	E
Angola	D	138-12.47 kV	Vulcan-Hawthorne Tap-209	E
Ayersville	D	138-12.47 kV	Richland-Richland-221	E
Bay Shore	T	345 kV	Bay Shore-Monroe-8	E
			Davis-Besse-Bay Shore-4	E
			Bay Shore-Fostoria-9	E
	T	138 kV	Bay Shore-Jackman-201	E
			Bay Shore-Ironville-202	E
			Bay Shore-Maclean-Lemoyne No 2-203	E
			Bay Shore-Maclean-Lemoyne No 1-247	E
			Bay Shore-Ottawa-Toussaint-204	E
			Bay Shore-Decant-243	E
Bellevue	D	138-12.47 kV	Jackman-Vulcan-220	E
Brim	T	138-69 kV	Brim Tap-Brim-212	E
Davis-Besse	T	345 kV	Davis-Besse-Bay Shore-4	E
			Davis-Besse-Lemoyne-3	E
			Davis-Besse-Beaver-5	E
Decant	T	138 kV	Bay Shore-Ottawa-Toussaint-204	E
			Decant-Ottawa - 216	E
			Bay Shore-Decant-243	E

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PUCO FORM FE3-T8: Summary Of Existing Substations On Transmission Lines

ATSI-Toledo Edison Company Area

Substation Name	Type Transmission (T) Distribution (D)	Voltages	Line Association(s) (FE-T7 or FE-T9 Notation)	Line Existing
S. W. Defiance	D	138-12.47 kV	Richland-Richland-221	E
Delta	T	138 kV	Vulcan Tap-Wauseon-222	E
Dixie	T	138-69 kV	Ironville-Jackman-207	E
			Dixie-Locust-234	E
			Dixie-A.M.C. Jeep-224	E
Eber	T	138 kV	Vulcan Tap-Wauseon-222	E
Fayette	D	138-12.47 kV	Allen Junction-Stryker-218	E
Five Point	D	138-12.47 kV	Five Point-Five Point Tap-208	E
Fort Industry	D	138-12.47 kV	Bay Shore-Jackman-201	E
West Fremont	T	138-69 kV	Lemoyne-West Fremont-232	E
			Lemoyne-West Fremont-244	E
			West Fremont-Fremont Center-245	E
			West Fremont-Ottawa 216	
Frey	D	138-12.47 kV	Bay Shore-Maclean-Lemoyne-247	E
Gould	T	138 kV	Maclean-Vulcan-210	E
			Midway-Hawthorne Tap-Gould-223	E
Hawthorne	D	138-12.47 kV	Vulcan-Hawthorne Tap-209	E
Ironville	T	138-69 kV	Bay Shore-Ironville-202	E
			Ironville-Jackman-207	E
Jackman	T	138 kV	Bay Shore-Jackman-201	E
			Ironville-Jackman-207	E
			Jackman-Allen Junction-205	E
			Jackman-Allen Junction-206	E
			Jackman-Vulcan-220	E
Lapier	T	138 kV	Ironville-Jackman-207	E

ATSI-Toledo Edison Company Area

Substation Name	Type Transmission (T) Distribution (D)	Voltages	Line Association(s) (FE-T7 or FE-T9 Notation)	Line Existing
Lemoyne		345 kV	Lemoyne-Majestic-7	E
			Lemoyne-Fostoria-6	E
			Lemoyne-Midway-1	E
			Davis-Besse-Lemoyne-3	E
	T	138 kV	Lemoyne-Walbridge Junction-214	E
			Lemoyne-Midway-213	E
			Lemoyne-Fremont-West End-215	E
			Lemoyne-West Fremont-232	E
			Bayshore-Maclean-Lemoyne-247	E
			Bayshore-Maclean-Lemoyne-203	E
Lime City	D	138-12.47 kV	Chrysler-O.I.Levis (211)	E
Lynch	D	138-7.2 kV	Midway-Hawthorne Tap-Gould-223	E
Lyons	D	138-12.47 kV	Allen Junction-Stryker-218	E
Maclean	T	138-69 kV	Bay Shore-Maclean-Lemoyne-203	E
			Bay Shore-Maclean-Lemoyne-247	E
			Chrysler-Maclean 248	E
Maumee	D	138-12.47 kV	Midway-Hawthorne Tap-Gould-223	E
Midway	T	345-138-69 kV	Lemoyne-Midway-1	E
			Midway-Allen Junction-11	E
			Midway-Hawthorne Tap-Gould-223	E
			Lemoyne-Midway-213	E
			Richland-Midway-228	E
			Midway-O.I. Levis 247	E
O. I. Levis	D	138-12.47 kV	Chrysler-O.I.Levis - 211	E
			Midway-O.I. Levis 247	
Oregon	D	138-12.47 kV	Bay Shore-Maclean-Lemoyne-203	E
Ottawa	T	138 kV	Ottawa-Lakeview-231	E
			Decant-Ottawa-216	E
			Bay Shore-Ottawa-204	E
			Ottawa-West Fremont-232	E
Penta County	D	138-12.47 kV	Maclean-Vulcan-210	E

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PUCO FORM FE3-T8: **Summary Of Existing Substations On Transmission Lines**

ATSI-Toledo Edison Company Area

Substation Name	Type Transmission (T) Distribution (D)	Voltages	Line Association(s) (FE-T7 or FE-T9 Notation)	Line Existing
Reynolds	D	138-12.47 kV	Allen Junction-Vulcan-219	E
Richland	T	138-69 kV	Richland-Richland-221	E
			Richland-East Lima-226	E
			Richland-Robison Park-227	E
			Richland-Midway-228	E
			Richland-G.M. #1-235	E
			Richland-G.M. #2-236	E
Ridgeville	D	138-12.47 kV	Richland-Midway-228	E
Silica	D	138-12.47 kV	Allen Junction-Silica-233	E
Stryker	T	138-69 kV	Allen Junction-Stryker-218	E
			Ridgeville Junction-Stryker-230	E
Swanton	T	138 kV	Vulcan Tap-Wauseon-222	E
Sylvania	D	138-12.47 kV	Jackman-Allen Junction-206	E
Talmadge	D	138-12.47 kV	Jackman-Allen Junction-206	E
Toussaint	T	138-69 kV	Bay Shore-Ottawa-204	E
Vulcan	T	138-69 kV	Jackman-Vulcan-220	E
			Allen Junction-Vulcan-219	E
			Vulcan-Hawthorne Tap-209	E
Waterville	D	138-12.47 kV	Midway-O.I. Levis 247	E
Wauseon	T	138-69 kV	Vulcan Tap-Wauseon-222	E
			Naomi Tap-Wauseon-229	E
Wentworth	D	138-12.47 kV	Vulcan Tap-Wauseon-222	E
Westgate	T	138 kV	Jackman-Allen Junction-206	E
Whitehouse	D	138-12.47 kV	Midway-Hawthorne Tap-Gould-223	E
Woodville #2	T	138 kV	Lemoyne-West Fremont-232	E
York	D	138-34.5 kV	Vulcan Tap -Wauseon-222	E
Manville (2) Carpenter	D	138-12.47 kV	Richland 13236	E
Lear	D	138-12.47 kV	222	E
First Solar	D	138-12.47 kV	Chrysler-O.I.Levis (211)	E
Toledo Hospital	D	138-12.47 kV	209	E
St. Luke's Hospital	D	138-12.47kV	11	E
Chrysler Jeep (Expansion)	D	138.12.47kV	202	E

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PUCO FORM FE3-T8: **Summary Of Existing Substations On Transmission Lines**

ATSI-Cleveland Electric Illuminating Company Area

Substation Name	Type Transmission (T) Distribution (D)	Voltages	Line Association(s) (FE-T7 or FE-T9 Notation)	Line Existing
Astor Substation	D	138-13.2 kV	201	E
Ashtabula 345 kV Transmission Substation	T	345-138 kV	4	E
Ashtabula Plant Transmission Substation	T	138 kV	225	E
			229	E
Austinburg Substation	D	138-13.2kV	225	E
Avon 345 kV Transmission Substation	T	345-138 kV	1	E
			11	E
Avon Lake Plant Transmission Substation	T	138 kV	201	E
			202	E
Avondale	D	138 - 34kV	201	E
Charter Steel	D	138 - 34.5 - 11.5	213	E
Clifford Substation	D	138-13.2 kV	202	E
Clark Substation	D	138-11 kV	215	E
Clinton Substation	D	138-11 kV	208	E
Crestwood Substation	D	138-13.2 kV	203	E
Crystal Substation	D	138-13.2 kV	201	E
Dunbar Substation	D	138-13.2 kV	234	E
Dodge Substation	D	138-13.2 kV	204	E
			233	E
Dunkirk Substation	D	138-13.2 kV	206	E
Dell Substation	D	138-13.2 kV	232	E
Dawson Substation	D	138-33 kV	203	E
			204	E
Darwin Substation	D	138-13.2 kV	203	E
Eastlake 345 kV Transmission Substation	T	345-138 kV	5	E
			6	E

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PUCO FORM FE3-T8: Summary Of Existing Substations On Transmission Lines

ATSI-Cleveland Electric Illuminating Company Area

Substation Name	Type Transmission (T) Distribution (D)	Voltages	Line Association(s) (FE-T7 or FE-T9 Notation)	Line Existing
Eastlake Plant Transmission Substation	T	138 kV	226	E
			228	E
Elden Substation	D	138-13.2 kV	208	E
Erie Substation	D	138-13.2 kV	234	E
Essex Substation	D	138-13.2 kV	208	E
Eaton Substation	D	138-13.2 kV	231	E
Edgewater Substation	D	138-13.2 kV	233	E
Emily Substation	D	138-13.2 kV	239	E
Faber Substation	D	138-13.2 kV	211	E
Freedom Substation	D	138-13.2 kV	233	E
Furlong Substation	D	138-13.2 kV	208	E
Fowles Switching Substation	T	138 kV	10	E
			201	E
			202	E
			206	E
			208	E
			211	E
			231	E
Fox Substation	T	345-138 kV	9	E
			208	E
Garfield Substation	D	138-13.2 kV	235	E
Graham Substation	D	138-13.2 kV	208	E
Griffin Substation	D	138-13.2 kV	211	E
Grant Substation	D	138-66-11 kV	213	E
Grovewood Substation	D	138-33 kV	208	E
Galaxie Substation	D	138-13.2 kV	10	E
			239	E
Hancock Substation	D	138-13.2 kV	213	E

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PUCO FORM FE3-T8: **Summary Of Existing Substations On Transmission Lines**

ATSI-Cleveland Electric Illuminating Company Area

Substation Name	Type Transmission (T) Distribution (D)	Voltages	Line Association(s) (FE-T7 or FE-T9 Notation)	Line Existing
Harding Substation	T	345-138 kV	9	E
			12	E
			13	E
			213	E
Hickory Substation	D	138-13.2 kV	212	E
Hamilton Substation	D	138-11 kV	218	E
Hummel Substation	D	138-33-11 kV	208	E
Horizon Substation	D	138-11 kV	242	E
Hazel Terminal Structure	T	138 kV	217	E
			218	E
			242	E
Iron	D	138 - 13.2kV	?	E
Issler Substation	D	138-13.2 kV	213	E
Inland Substation	T	345-138 kV	12	E
			222	E
			240	E
Inca Substation	D	138-13.2 kV	219	E
			220	E
Issler Substation	D	138-13.2 kV	213	E
Imperial Substation	D	138-13.2 kV	211	E
Ivy Substation	D	138-33 kV	222	E
Irwin Substation	D	138-13.2 kV	222	E
Jordan Substation	D	138-33 kV	222	E
Jennings Switching Substation	T	138 kV	213	E
			215	E
			216	E
			217	E
			219	E
Judi Substation	D	138-13.2 kV	222	E

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PUCO FORM FE3-T8: *Summary Of Existing Substations On Transmission Lines*

ATSI-Cleveland Electric Illuminating Company Area

Substation Name	Type Transmission (T) Distribution (D)	Voltages	Line Association(s) (FE-T7 or FE-T9 Notation)	Line Existing
Juniper Substation	T	345-138 kV	2	E
			3	E
			6	E
			7	E
			8	E
			15	E
			211	E
			221	E
			222	E
Kendall Substation	D	138-13.2 kV	223	E
Keith Substation	D	138-13.2 kV	236	E
Kipling Substation	D	138-13.2 kV	222	E
Krick Substation	D	138-13.2 kV	211	E
Kelly Substation	D	138-13.2 kV	223	E
Kepler Substation	D	138-13.2 kV	236	E
Kenyon Substation	D	138-13.2 kV	236	E
Lark Substation	D	138-13.2 kV	236	E
Liberty Switching Substation	T	138 kV	224	E
			236	E
Leroy Center Switching Substation	T	138 kV	225	E
			226	E
Lester Substation	D	138-13.2 kV	223	E
Longfield Substation	D	138-13.2 kV	211	E
Lincoln Substation	D	138-13.2 kV	224	E
Lamont Substation	D	138-13.2 kV	224	E
Lorain Switching Substation	T	138 kV	202	E
			205	E
			238	E

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PUCO FORM FE3-T8: **Summary Of Existing Substations On Transmission Lines**

ATSI-Cleveland Electric Illuminating Company Area

Substation Name	Type Transmission (T) Distribution (D)	Voltages	Line Association(s) (FE-T7 or FE-T9 Notation)	Line Existing
Lake Shore Transmission Substation	T	138 kV	218	E
			240	E
Lloyd Substation	D	138-33 kV	224	E
Marble Substation	D	138-13.2 kV	224	E
			228	E
Mayfield Substation	D	138-33 kV	211	E
			224	E
			225	E
Maxwell Substation	D	138-13.2 kV	211	E
Newburgh Substation	D	138-66-11 kV	222	E
Newell Substation	D	138-13.2 kV	226	E
Northfield Substation	D	138-33 kV	211	E
Nottingham Switching Substation	T	138 kV	222	E
Nelson Substation	D	138-13.2 kV	211	E
Newport Substation	D	138-13.2 kV	224	E
Nash Substation	D	138-13.2 kV	226	E
Nathan Substation	D	138-33 kV	226	E
Norway Substation	D	138-13.2 kV	211	E
Nursery Substation	D	138-33-13.2 kV	226	E
Pawnee Substation	D	138-13.2 kV	243	E
Pinegrove Substation	D	138-13.2 kV	227	E
Pleasant Valley Switching Substation	T	138 kV	211	E
			212	E
			213	E
			220	E

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PUCO FORM FE3-T8: Summary Of Existing Substations On Transmission Lines

ATSI-Cleveland Electric Illuminating Company Area

Substation Name	Type Transmission (T) Distribution (D)	Voltages	Line Association(s) (FE-T7 or FE-T9 Notation)	Line Existing
Perry Plant Transmission Substation	T	345 kV	5	E
			12	E
			14	E
Progressive Insurance	D	138-13.2 kV		E
Queen	D	138-13.2 kV		E
Ruth Substation	D	138-13.2 kV	Existing 33 kV System	--
Sanborn Substation	D	138-33 kV	225	E
Spruce Substation	D	138-13.2 kV	225	E
Zenith Substation	D	138-13.2 kV	229	E
GE Quatz Strongsville	D	138-13kV	Q-14-AV-EY-X	E
Steelyard Commons	D	138-13kV	Q-12-HD-JG-X	E
Slater	D	138-13kV	201	E
Ashtabula East Yard	D	138-13kV	Breaker B-92	E

4901:5-5-04(D)(1)
PUCO FORM FE3-T9: **Specifications Of Planned Electric Transmission Lines**

ATSI-Ohio Edison Company Area

1	Line Name and Number	Chamberlin - Shalersville 138kV Line
2	Point of Origin and Termination	O-Chamberlin Substation T-Shalersville Substation
3	Right of Way	Length in mile: Approx.12.0 Miles, 9.5 miles of existing and 2.5 miles of new Average width in feet: 225 Number of transmission lines above 125 kV: 1
4	Voltage	138,000 Volts Operation with approximately 9.5 miles constructed for 345,000 Volts
5	Application for Certificate	2009
6	Construction	Commence: 2010 Complete: 2012 Operation: 2012
7	Capital Investment	Land Acquisition: 0 Facilities and Equipment: $3,400,000
8	Substations	No. of planned substations: None
9	Supporting Structures	Conceptually planned as 9.5 miles of existing steel towers, 2.5 miles of wood poles
10	Participation with other Utilities	None
11	Purpose of Planned Transmission Line	Relieve first contingency line overloads under peak loading with generation on-line.
12	Consequence of Line Construction Deferment or Termination	Existing facilities would be overloaded, resulting in decreased equipment life and possible equipment failure. Based on 2012 loads, loss of the Chamberlin 345/138kV transformer overloads the Chamberlin - Shalersville 69kV line. 122%SN -101%SE (76/93MVA)
13	Miscellaneous	Additional load growth is expected in the area. Included in MTEP07 Appendix A, MTEP08 Appendix A, and MTEP09 Appendix A

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PUCO FORM FE3-T9: Specifications Of Planned Electric Transmission Lines

ATSI-Ohio Edison Company Area

1	Line Name and Number	East Springfield-London #2 138kV
2	Point of Origin and Termination	O - East Springfield Substation T - London Substation
3	Right of Way	Length in mile: 15.5 miles, 12.3 miles existing towers and 3.6 miles new construction Average width in feet: 60 Number of transmission lines above 125 kV: 1
4	Voltage	138,000 Volts
5	Application for Certificate	2012
6	Construction	Commence: 2013 Complete: 2015 Operation: 2015
7	Capital Investment	Facilities and Equipment: $26,500,000 (Includes cost for this line and the London -Tangy 138 kV line)
8	Substations	No. of planned substations: N/A Voltage: N/A Location: N/A
9	Supporting Structures	Existing steel towers, and new wood poles
10	Participation with other Utilities	None
11	Purpose of Planned Transmission Line	Provides FE the ablity to sustain the loss of two 138kV transmission lines (2 tie lines to DPL - Clark-Urbana and Clark-Greene 138 kV lines) without having to drop several hundred MW of load. With the addition of 138kV line from Tangy to London back to E.Springfield, FE will be less dependent on importing from AEP through the London-Beatty 138kV line.
12	Consequence of Line Construction Deferment Or Temination	FE will have to drop 200-300 MW of load to prevent system collapse starting in 2015.
13	Miscellaneous	Included in MTEP07 Appendix C, MTEP08 Appendix C, and MTEP09 Appendix C

PUCO FORM FE3-T9: Specifications Of Planned Electric Transmission Lines

ATSI-Ohio Edison Company Area

1	Line Name and Number	London-Tangy 138kV
2	Point of Origin and Termination	O - London Substation T - Tangy Substation
3	Right of Way	Length in mile: 38.6 mi Average width in feet: 60 Number of transmission lines above 125 kV: 1
4	Voltage	138,000 Volts
5	Application for Certificate	2012
6	Construction	Commence: 2013 Complete: 2015 Operation: 2015
7	Capital Investment	Facilities and Equipment: $26,500,000 (Includes cost for this line and the E. Springfield - London #2 line)
8	Substations	No. of planned substations: N/A Voltage: N/A Location: N/A
9	Supporting Structures	Wood poles
10	Participation with other Utilities	None
11	Purpose of Planned Transmission Line	Provides FE the ablity to sustain the loss of two 138kV transmission lines (2 tie lines to DPL - Clark-Urbana and Clark-Greene 138 kV lines) without having to drop several hundred MW of load. With the addition of 138kV line from Tangy to London back to E.Springfield, FE will be less dependent on importing from AEP through the London-Beatty 138kV line.
12	Consequence of Line Construction Deferment Or Temination	FE will have to drop 200-300 MW of load to prevent system collapse starting in 2015.
13	Miscellaneous	Included in MTEP07 Appendix C, MTEP08 Appendix C, and MTEP09 Appendix C

ATSI-Ohio Edison Company Area

1	Line Name and Number	Barberton-South Akron 138 kV
2	Point of Origin and Termination	O - Barberton Substation T - South Akron Substation
3	Right of Way	Length in mile: 8.1 Average width in feet: 60 Number of transmission lines above 125 kV: 1
4	Voltage	138,000 Volts
5	Application for Certificate	Letter of Notification
6	Construction	Commence: 2015 Complete: 2017 Operation: 2017
7	Capital Investment	Land Acquisition: 0 Facilities and Equipment: $3,500,000
8	Substations	No. of planned substations: N/A Voltage: N/A Location: N/A
9	Supporting Structures	Existing tower line
10	Participation with other Utilities	None
11	Purpose of Planned Transmission Line	Based on 2017 loads, loss of the Star - Urban 138 kV Line at Star loads the Barberton - South Akron 23 kV Line to 100% SN and SE
12	Consequence of Line Construction Deferment Or Temination	Based on 2017 loads, the Dale-West Canton Line loads to 110% normally and loads to 145% SN and 108% SE under loss of the South Canton - Star 345 kV Line
13	Miscellaneous	Included in MTEP07 Appendix C, MTEP08 Appendix C, and MTEP09 Appendix C

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PUCO FORM FE3-T9: **Specifications Of Planned Electric Transmission Lines**

ATSI-Ohio Edison Company Area

1	Line Name and Number	Loop existing Chamberlin-Mansfield 345 kV into Hanna Sub to create Chamberlin-Hanna 345 kV Hanna-Mansfield 345 kV
2	Point of Origin and Termination	O - Chamberlin Substation T - Hanna Substation
3	Right of Way	Length in mile: Approx 0.7 miles of new construction Average width in feet: 100
4	Voltage	345,000 Volts
5	Application for Certificate	Letter of Notification
6	Construction	Commence: 2012 Complete: 2013 Operation: 2013
7	Capital Investment	Facilities and Equipment: $5,600,000
8	Substations	No. of planned substations: N/A Voltage: N/A Location: N/A
9	Supporting Structures	Existing Steel Pole
10	Participation with other Utilities	None
11	Purpose of Planned Transmission Line	In the 2013 timeframe, loss of the Mansfield-Chamberlin line with Perry and Eastlake out of service results voltage instability in the CEI area. Additionally, loss of Mansfield-Chamberlin and Star-South-Canton with Perry out of service results in potential voltage instability in the CEI area
12	Consequence of Line Construction Deferment Or Temination	The loss of the Chamberlin-Mansfield 345 kV Line with the Perry Generator out of service has caused loading problems on the Hanna-Juniper 345 kV Line. This project reduces the exposure on the Chamberlin-Mansfield 345 kV Line by splitting it at Hanna Substation (78 miles to 26 miles)
13	Miscellaneous	Included in MTEP07 Appendix A, MTEP08 Appendix A, and MTEP09 Appendix A

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PUCO FORM FE3-T9: Specifications Of Planned Electric Transmission Lines

ATSI-Ohio Edison Company Area

1	Line Name and Number	Loop to New Berlin Lake Area Sub to create: Bluebell-Berlin Lake Area Sub 138 kV Niles-Berlin Lake Area Sub 138 kV
2	Point of Origin and Termination	Bluebell-Berlin Lake Area Sub 138 kV O - Bluebell T - Berlin Lake Area Sub Niles-Berlin Lake Area Sub 138 kV O - Berlin Lake Area Sub T - Niles
3	Right of Way	Length in mile: Approx imately 1 mile of 138 kV line Average width in feet: 60
4	Voltage	138,000 Volts
5	Application for Certificate	Letter of Notification
6	Construction	Commence: 2012 Complete: 2013 Operation: 2013
7	Capital Investment	$14,100,000
8	Substations	No. of planned substations: 1 Voltage: 138-69 kV Location: Berlin Lake Area
9	Supporting Structures	Wood poles
10	Participation with other Utilities	None
11	Purpose of Planned Transmission Line	Long-term solution resulting in increased capacity, increased voltage, decreased line exposure. Loss of either end of the Boardman-Pidgeon North 69kV line results in thermal overloads on the in-service end, plus voltages below 83% on the remote end.
12	Consequence of Line Construction Deferment Or Temination	Possible loss of 75+ MVA for N-1 condition.
13	Miscellaneous	Not included in MTEP07, MTEP08 or MTEP09. Planned to be submitted for MTEP10

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PUCO FORM FE3-T9: **Specifications Of Planned Electric Transmission Lines**

ATSI-Ohio Edison Company Area

1	Line Name and Number	Loop to Henrietta Sub to create: Brookside-Henrietta 138 kV Beaver-Henrietta 138 kV
2	Point of Origin and Termination	Brookside-Henrietta 138 kV O-Brookside T-Henrietta Beaver-Henrietta 138 kV O-Beaver T-Henrietta
3	Right of Way	Length in mile: Several hundred feet of 138 kV Average width in feet: 60
	Right of Way	
4	Voltage	138,000 Volts
5	Application for Certificate	Letter of Notification
6	Construction	Commence: 2010 Complete: 2011 Operation: 2011
7	Capital Investment	$6,100,000
8	Substations	No. of planned substations: 1 Voltage: 138-69 kV Location: Lorain County
9	Supporting Structures	Wood poles
10	Participation with other Utilities	None
11	Purpose of Planned Transmission Line	Based on the model year 2007 FE load flow case, loss of the Johnson Terminal of the Johnson-Oberlin 69 kV Line causes extremely low voltages (below 70%) at Amherst Muni. and overloads the Oberlin-Shinrock 69 kV Line by 150%. This situation existed for over 400 hrs in 2006. The mitigation measure is to quickly drop Amherst Muni until they can reduce their load below the level needed to eliminate the criteria violations.
12	Consequence of Line Construction Deferment Or Temination	It is necessary to drop Amherst Muni for the loss of the Johnson Terminal of the Johnson-Oberlin 69 kV Line. The amount of time that this contingency problem exists increases by several hundred hours every year
13	Miscellaneous	Included in MTEP08 Appendix A and MTEP09 Appendix A

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PUCO FORM FE3-T9: **Specifications Of Planned Electric Transmission Lines**

ATSI-Ohio Edison Company Area

1	Line Name and Number	Broadview-E. Springfield 138 kV and Broadview - Tangy 138 kV Create 138kV loop around city of Springfield
2	Point of Origin and Termination	O - Point on the existing East Springfield-Tangy 138 kV Transmission Line T- existing Broadview distribution substation
3	Right of Way	Length in mile: Approximately 8 miles of 138 kV line Average width in feet: 150 Number of transmission lines above 125 kV: 2
4	Voltage	138,000 Volts
5	Application for Certificate	Filing Date: 2011
6	Construction	Commence: 2013 Complete: 2015 Operation: 2015
7	Capital Investment	Land Acquisition: Existing + 8 miles of new right of way Facilities and Equipment: $13,100,000
8	Substations	No. of planned substations: 1 (Expand existing 69 kV sub into 139 kV) Voltage: 138,000 volts
9	Supporting Structures	Wood Poles/Tower
10	Participation with other Utilities	None
11	Purpose of Planned Transmission Line	Load Center Growth Provides FE the ablity to sustain the loss of two 138kV transmission lines (2 tie lines to DPL - Clark-Urbana and Clark-Greene 138 kV lines) without having to drop several hundred MW of load. With the addition of 138kV line from Tangy to London back to E.Springfield, FE will be less dependent on importing from AEP through the London-Beatty 138kV line.
12	Consequence of Line Construction Deferment Or Temination	Loss of both DP&L ties shows possiblity of voltage collapse in Springfield division. Local generation at Mad River has been able to mitigate this contingency in the past, but the load in the area is expected to exceed the amount of capacity generated by Mad River combined with the thermal capability of the remaining lines feeding the Springfield load. In addition, it is unknown how long the generation at Mad River will be available.
13	Miscellaneous	Included in MTEP07 Appendix C, MTEP08 Appendix C, and MTEP09 Appendix C

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PUCO FORM FE3-T9: **Specifications Of Planned Electric Transmission Lines**

ATSI-Ohio Edison Company Area

1	Line Name and Number	Hayes Substation Beaver-Hayes 345 kV Davis Besse-Hayes 345 kV Greenfield-Hayes #1 138 kV Greenfield-Hayes #2 138 kV Avery-Hayes 138 kV
2	Point of Origin and Termination	Beaver-Hayes 345 kV O-Beaver T-Hayes Davis Besse-Hayes 345 kV O-Davis Besse T-Hayes Greenfield-Hayes #1 138 kV O-Greenfield T-Hayes Greenfield-Hayes #2 138 kV O-Greenfield T-Hayes Avery-Hayes 138 kV O-Avery T-Hayes
3	Right of Way	Length in mile: 59.2 mile of new 345 kV on existing tower. Approx 1 mile of new 138 kV line Average width in feet: Existing. New 138 kV would be 60 foot right of way.
4	Voltage	345,000 and 138,000 Volts
5	Application for Certificate	
6	Construction	Commence: 2014 Complete: 2018 Operation: 2018
7	Capital Investment	$36,000,000
8	Substations	No. of planned substations: 1 Voltage: 345-138 kV Location:
9	Supporting Structures	Wood pole for new 138 kV line
10	Participation with other Utilities	None
11	Purpose of Planned Transmission Line	To mitigate low voltages in the Sandusky area under post-contingency conditions. Based on 2018 loads, loss of the Ottawa feed into the Sandusky area cause low voltages (85%-87%) over most of the former Bay Division
12	Consequence of Line Construction Deferment Or Temination	Potential loss of load in Sandusky area under post-contingency. In addition to not addressing published report findings, risk of contingency overload of Lakeview-Ottawa 138kV Line during extreme transfer conditions, which may result in congestion, operational switching, etc. to alleviate condition.
13	Miscellaneous	The 138 kV line work to be done is to terminate the existing 138 kV lines into the new Hayes Substation. The site location is in close proximity to where the 2 - 138 kV lines (Avery-Greenfield and Beaver-Greenfield) cross the property. (1) The Avery-Greenfield 138 kV line would be split by Hayes Substation and become the Avery-Hayes 138 kV line and one of the two Greenfield-Hayes 138 kV lines (2) The portion of the Beaver-Greenfield 138 kV line that is not being converted to 345 kV (the portion that departs from the 345 kV tower and heads to Greenfield Sub) would become the second of the Greenfield-Hayes 138 kV lines. Since the substation property is not right where the 138 kV lines head north to Greenfield, there would be a small amount of new 138 kV line (approximately 0.8-0.9 miles) that would be needed from Hayes substation to where the existing line would head north since we have to abandon that position on the 345 kV tower. Included in MTEP09 Appendix C

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PUCO FORM FE3-T9: Specifications Of Planned Electric Transmission Lines

ATSI-Ohio Edison Company Area

1	Line Name and Number	West Medina Substation on the N Medina-Seville 138 kV line
2	Point of Origin and Termination	N Medina - W Medina 138 kV O-N Medina T-W Medina Seville- W Medina 138 kV O-Seville T-W Medina
3	Right of Way	Length in mile: several hundred feet of 138 kV line Average width in feet: 60 feet
4	Voltage	138,000 Volts
5	Application for Certificate	2011
6	Construction	Commence: 2012 Complete: 2014 Operation: 2014
7	Capital Investment	$6,500,000
8	Substations	No. of planned substations: 1 Voltage: 138-69 kV Location:
9	Supporting Structures	
10	Participation with other Utilities	None
11	Purpose of Planned Transmission Line	Places a source where the load center is. The Region is planning on adding a Mod Sub on the Medina - Star 69 kV Line Relieves overload condition under post-contingency Based on 2013 loads and the addition of mod-sub, loss of the Medina - West Akron 69 kV Line loads the Medina - Star 69 kV line to 118% SN (76 MVA) and 97% SE (93 MVA). Without the mod sub the loadings are 97% SN (76 MVA) and 80% SE (93 MVA)
12	Consequence of Line Construction Deferment Or Temination	The loss of the Medina - West Akron 69 kV Line overloads loads the Medina - Star 69 kV Line.
13	Miscellaneous	Included in MTEP07 Appendix A, MTEP08 Appendix A, and MTEP09 Appendix A

ATSI-Ohio Edison Company Area

1	Line Name and Number	MISO G689 Generation Project on the Highland-Sammis 345 kV line
2	Point of Origin and Termination	Sammis-G689 345 kV O-Sammis T-G689 Susbtation Highland - G689 345 kV O-Highland_ T-G689 Susbtation
3	Right of Way	Length in mile: 1.25 miles Average width in feet:
4	Voltage	345,000 Volts
5	Application for Certificate	2010
6	Construction	Commence: 2011 Complete: 2012 Operation: 2012
7	Capital Investment	$7,600,000
8	Substations	No. of planned substations: 1 Voltage: 345-18 kV Location: Coumbiana County, OH (approximately 6 miles from Sammis Plant)
9	Supporting Structures	
10	Participation with other Utilities	None
11	Purpose of Planned Transmission Line	Interconnection commitment
12	Consequence of Line Construction Deferment Or Temination	Violation of contractual Interconnection agreement
13	Miscellaneous	Included as part of the MISO generation interconnection queue (Queue #: G689)

PUCO FORM FE3-T9: **Specifications Of Planned Electric Transmission Lines**

ATSI-CEI Company Area

1	Line Name and Number	Ashtabula-Mayfield 138 kV Loop to Stacy Substation
2	Point of Origin and Termination	O - Point on the Ashtabula-Mayfield 138 kV Transmission Line T - Stacy Substation
3	Right of Way	Length in mile: 14.7 Average width in feet: 60 Number of transmission lines above 125 kV: 2 (Loop designed for double circuit construction)
4	Voltage	138,000 Volts
5	Application for Certificate	07-0171-EL-BTX
6	Construction	Commence: 2009 Complete: 2012 Operation: 2012
7	Capital Investment	Facilities and Equipment: $24,000,000
8	Substations	No. of planned substations: 1 - Stacy Substation Voltage: 138 - 36kV Location: Geauga County
9	Supporting Structures	Wood poles
10	Participation with other Utilities	None
11	Purpose of Planned Transmission Line	With the loss of any one of the Mayfield transformers or circuits which serves the Middlefield area, thermal and voltage violations exist. Mayfield 36kV Substation will be overloaded by 7% in 2007 and 9% in 2008. R-21&22-Mayfield circuits will exceed their planned ratings by 17% in 2007 and 19% in 2008.
12	Consequence of Line Construction Deferment Or Temination	Continued low voltage, poor reliability and degraded customer relations. Routine maintenance is almost impossible even under low load conditions.
13	Miscellaneous	Included in MTEP08 Appendix A and MTEP09 Appendix A

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PUCO FORM FE3-T9: Specifications Of Planned Electric Transmission Lines

ATSI-CEI Company Area

1	Line Name and Number	CPP 4th 138 kV Interconnection
2	Point of Origin and Termination	Inland Substation O-Inland 138 kV T-Holton 138 kV (CPP owned)
3	Right of Way	Length in mile: 0.1 mjiles Average width in feet: 60 feet
4	Voltage	138,000 Volts
5	Application for Certificate	Filed
6	Construction	Commence: 2009 Complete: October 2010 Operation: October 2010
7	Capital Investment	
8	Substations	No. of planned substations: Voltage Location:
9	Supporting Structures	Wood poles
10	Participation with other Utilities	Cleveland Public Power (CPP)
11	Purpose of Planned Transmission Line	Interconnection commitment
12	Consequence of Line Construction Deferment Or Temination	Failure to meet contractual obligations.
13	Miscellaneous	Included in MTEP09 Appendix A

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PUCO FORM FE3-T9: **Specifications Of Planned Electric Transmission Lines**

ATSI-CEI Company Area

1	Line Name and Number	CPP 5th 138 kV interconnection on the Juniper-Jennings Q-15 138 kV line
2	Point of Origin and Termination	Juniper-Harvard (CPP) 138 kV O-Harvard (CPP) T-Juniper Harvard (CPP) - Jennings 138 kV O-Harvard (CPP) T-Jennings
3	Right of Way	Length in mile: 0.3 miles of new 138 kV line Average width in feet: 60 feet
4	Voltage	138,000 Volts
5	Application for Certificate	2010
6	Construction	Commence: 2011 Complete: 2012 Operation: 2012
7	Capital Investment	
8	Substations	No. of planned substations: 1 (Harvard Substation - CPP) Voltage: 138 kV Location: Cuyahoga County
9	Supporting Structures	
10	Participation with other Utilities	Cleveland Public Power (CPP)
11	Purpose of Planned Transmission Line	Interconnection commitment
12	Consequence of Line Construction Deferment Or Termination	Failure to meet contractual obligations.
13	Miscellaneous	Not yet submitted to MTEP. Planned to be submitted to MTEP10.

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PUCO FORM FE3-T9: Specifications Of Planned Electric Transmission Lines

ATSI-CEI Company Area

1	Line Name and Number	Inland-Jordan Q-11 and Inland-Jordan Q-14 loops to Clinic Health Substation
2	Point of Origin and Termination	Inland-Clinic Health O-Inland T-Clinic Health Inland-Clinic Health O-Inland T-Clinic Health Jordan-Clinic Health O-Jordan T-Clinic Health Jordan-Clinic Health O-Jordan T-Clinic Health
3	Right of Way	Length in mile: 0.3 miles of new 138 kV line Average width in feet: 60
4	Voltage	138,000 Volts
5	Application for Certificate	2010
6	Construction	Commence: 2010 Complete: 2012 Operation: 2012
7	Capital Investment	
8	Substations	No. of planned substations: 1 Voltage: 138-36 kV Location: Cleveland , Ohio
9	Supporting Structures	
10	Participation with other Utilities	None
11	Purpose of Planned Transmission Line	To serve area customer load. Load is growing significantly in the adjacent area.
12	Consequence of Line Construction Deferment Or Temination	Inability of existing system to serve needs of growing load.
13	Miscellaneous	Not yet submitted to MTEP. Planned to be submitted to MTEP10.

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PUCO FORM FE3-T9: Specifications Of Planned Electric Transmission Lines

ATSI-CEI Company Area

1	Line Name and Number	Pleasant Valley-West Akron 138 kV loop to Harper Substation
2	Point of Origin and Termination	Harper-Pleasant Valley 138 kV O-Harper T-Pleasant Valley Harper -West Akron 138 kV O-Harper T-West Akron
3	Right of Way	Length in mile: 2 spans (several hundred feet) Average width in feet: 60
4	Voltage	138,000 Volts
5	Application for *Certificate*	Letter of Notification: 2010
6	Construction	Commence: 2011 Complete: 2011 Operation: 2012
7	Capital Investment	
8	Substations	No. of planned substations: 1 Voltage: 138-12.47 kV Location:
9	Supporting Structures	
10	Participation with other Utilities	None
11	Purpose of Planned Transmission Line	New mod sub location is closest to load center allowing least cost option for distribution line construction and also provides load relief to both Hickory and Galaxie Substations.
12	Consequence of Line Construction Deferment Or Temination	Overloads of area facilities.
13	Miscellaneous	Not yet submitted to MTEP. Planned to be submitted to MTEP10.

PUCO FORM FE3-T9: Specifications Of Planned Electric Transmission Lines

ATSI-Toledo Edison Company Area

1	Line Name and Number	Re-configuration for new ring bus at BP Oil Husky Sub to create: Bayshore-BP Oil Husky #1 138 kV BP Oil Husky-Jackman 138 kV Bayshore-BP Oil Husky #2 138 kV Lemoyne-BP Oil Husky 138 kV
2	Point of Origin and Termination	Bayshore-BP Oil Husky 138 kV O-Bayshore T-BP Oil Husky BP Oil Husky-Jackman 138 kV O-BP Oil Husky T-Jackman Lemoyne-BP Oil Husky 138 kV O-BP Oil Husky T-Lemoyne
3	Right of Way	Length in mile: Existing plus 4 new 138 kV extension from existing lines to BP Husly Sub Average width in feet: 150
4	Voltage	138,000 Volts
5	Application for Certificate	Letter of Notification
6	Construction	Commence: 2009 Complete: 2011 Operation: 2011
7	Capital Investment	$2,500,000
8	Substations	No. of planned substations: N/A Voltage: N/A Location: N/A
9	Supporting Structures	
10	Participation with other Utilities	None
11	Purpose of Planned Transmission Line	Satisfy connection request. Customer is planning significant load growth which is unable to be served on the 69 kV system without causing siginficant overloads under post-contingency conditions.
12	Consequence of Line Construction Deferment Or Temination	System modifications required to serve additional customer load.
13	Miscellaneous	Construct 5 new steel pole structures and loop (2) 138 kV circuits (from the Bayshore-Jackman and Bayshore-Lemoyne lines) into the new BP Husky 138/69 kV sub. (Line lengths are approx. 200'-400' each) Included in MTEP09 Appendix A

4901:5-5-04(D)(1)
PUCO FORM FE3-T9: **Specifications Of Planned Electric Transmission Lines**

ATSI-Toledo Edison Company Area

1	Line Name and Number	Re-configuration for Fulton Sub to create: Allen Junction-Fulton 345 kV Fulton-Midway 345 kV Fulton-North Star Steel 345 kV Fulton-Swanton 138 kV Delta-Fulton 138 kV
2	Point of Origin and Termination	Allen Junction-Fulton 345 kV O-Allen Junction T-Fulton Fulton-Midway 345 kV O-Fulton T-Midway Fulton-North Star Steel 345 kV O-Fulton T-North Star Steel Fulton-Swanton 138 kV O-Fulton T-Swanton Delta-Fulton 138 kV O-Delta T-Fulton
3	Right of Way	Length in mile: 1 mile of new 138 kV line Average width in feet: 60
4	Voltage	138,000 Volts
5	Application for Certificate	2014
6	Construction	Commence: 2015 Complete: 2017 Operation: 2017
7	Capital Investment	$16,500,000
8	Substations	No. of planned substations: 1 Voltage: 345-138 kV Location: N/A
9	Supporting Structures	Wood poles
10	Participation with other Utilities	None
11	Purpose of Planned Transmission Line	Fulton Substation provides a long term solution to voltage and thermal loading concerns in the fast growing area west of Toledo Airport. The other option does not provide as much support as Fulton and will require substantially more siting work. The Delta area has been the target of industrial concerns like ZincOx, a proposed 30 MW EAF recycling facility. Fulton will mitigate voltage fluctuations for customers like ZincOx better than the other option. Based upon 2010 loads, the loss of Vulcan-Wentworth 138 kV Line Segment results in voltage at Wentworth of 0.925 pu and loading of Naomi-Wauseon 138 kV line section of 99.2% of SE rating. Based upon 2015 loads, the loss of Vulcan-Wentworth 138 kV Line results in voltage at Wentworth of 0.904 pu and loading of Naomi-Wauseon 138 kV line section of 111% of SE rating (which is to be reconductored as a separate project) * Note: Zinc Ox load (25-30 MW) is expected to begin service in late 2010.
12	Consequence of Line Construction Deferment Or Termination	Voltage and thermal criteria violations.
13	Miscellaneous	Included in MTEP09 Appendix C

4901:5-5-04(D)(1)
PUCO FORM FE3-T9: **Specifications Of Planned Electric Transmission Lines**

ATSI-Toledo Edison Company Area

1	Line Name and Number	Delta-Wauseon 138 kV Tap to ZincOx
2	Point of Origin and Termination	Tap off Delta-Wauseon 138kV line
3	Right of Way	Length in mile: approximately 1 miles Average width in feet: 60
4	Voltage	138,000 Volts
5	Application for Certificate	LON Filed 1/20/2009
6	Construction	Commence: 2009 Complete: 2010 Operation: 2010
7	Capital Investment	$125,000
8	Substations	No. of planned substations: N/A Voltage: 138 KV Location: N/A
9	Supporting Structures	Wood poles
10	Participation with other Utilities	None
11	Purpose of Planned Transmission Line	Customer service request
12	Consequence of Line Construction Deferment Or Temination	Violation of contractual agreement
13	Miscellaneous	Included in MTEP09 Appendix A

4901:5-5-04(D)(1)
PUCO FORM FE3-T9: Specifications Of Planned Electric Transmission Lines

ATSI-Toledo Edison Company Area

1	Line Name and Number	Re-configuration for new ring bus at Fayette Sub to create: Allen Junction-Fayette 138 kV Fayette-Stryker 138 kV
2	Point of Origin and Termination	Allen Junction-Fayette 138 kV O-Allen Junction T-Fayette Fayette-Stryker 138 kV O-Fayette T-Stryker
3	Right of Way	Length in mile: Existing Average width in feet: Existing
4	Voltage	138,000 Volts
5	Application for Certificate	
6	Construction	Commence: 2009 Complete: 2010 Operation: 2010
7	Capital Investment	$8,500,000
8	Substations	No. of planned substations: 1 Voltage: 138-69 kV Location: N/A
9	Supporting Structures	
10	Participation with other Utilities	None
11	Purpose of Planned Transmission Line	The recommended solution meets all of the requirements for the merger settlement for provision of the ability to provide firm backup service and facilitates implementation of requested primary services consistent with the long range area plan for Williams County in a timely, cost effective manner. For 2009 assessment and assuming 10 MW firm backup at Pioneer and 15 MW firm backup at Bryan, for the loss of the Stryker-West Unity 69 kV line section, voltage at West Unity is 82.5%, Pioneer is 82.9%, Exit 2 is 83.6%, Montpelier is 83.6%, Edon is 85% and Edgerton is 89.3%. If Holiday City/Chase Brass were to take service from the FE facilities rather than JV-4, the 69 kV line from Stryker-West Unity Tap-West Unity would load in excess of 100%. The addition of the Holiday City/Chase Brass load (for which we have an connection application) drives these voltages lower and closer to potential voltage collapse
12	Consequence of Line Construction Deferment Or Termination	Violation of contractual agreement
13	Miscellaneous	Included in MTEP08 Appendix A and MTEP09 Appendix A

PUCO FORM FE3-T9: **Specifications Of Planned Electric Transmission Lines**

ATSI-Toledo Edison Company Area

1	Line Name and Number	Bayshore-Maclean-Lemoyne 3-terminal line elimination to create: Bayshore-Lemoyne 138 kV Bayshore-Maclean 138 kV Maclean-Lemoyne 138 kV
2	Point of Origin and Termination	Bayshore-Lemoyne 138 kV O-Baysore T-Lemoyne Bayshore-Maclean 138 kV O-Baysore T-Maclean Maclean-Lemoyne 138 kV O-Lemoyne T-Maclean
3	Right of Way	Length in mile: Existing Average width in feet: Existing
4	Voltage	138,000 Volts
5	Application for Certificate	Filed 8/26/08
6	Construction	Commence: 2009 Complete: 2011 Operation: 2011
7	Capital Investment	$1,500,000
8	Substations	No. of planned substations: N/A Voltage: N/A Location: N/A
9	Supporting Structures	Existing
10	Participation with other Utilities	None
11	Purpose of Planned Transmission Line	Mitigates contingency overloads and improves reliability by minimizing overtrippings and simplifying switching. Improves loadability of the transmission lines. Based on 2009 loads, the NERC category B outage of Bayshore-Lemoyne-Maclean (Q-5) results in loadings on Walbridge Jct.-Maclean portion of Q-4 of 98.5% of SE (292 MVA). Assuming 1% load growth, this facility would overload by summer 2011.
12	Consequence of Line Construction Deferment Or Temination	Overtrippings, switching errors and contingency overloads.Must Do per transmission Planning
13	Miscellaneous	Included in MTEP07 Appendx A, MTEP08 Appendix A, and MTEP09 Appendix A

Summary Of Proposed Substations

ATSI-Ohio Edison Company Area

Substation Name:	Type of Substation	Voltage (kV)	Timing	Line Association(s):	Line Existing or Proposed:	Minimum Site Acreage:
Henrietta Substation	Transmission	138 - 69 kV	ISD: 6/11	Beaver-Brookside 138 kV (209)	Existing	
				Loop to Henrietta Sub	Proposed	
Berlin Lake Area Substation	Transmission	138 - 69 kV	ISD: 6/13	Niles-Bluebell 138 kV (268)	Existing	
				Loop to Berlin Lake Area Sub	Proposed	
Hayes Substation	Transmission	345 - 138 kV	ISD: 6/18	Beaver - Davis Besse #2 345 kV	Proposed	
				Greenfield-Hayes #1 138 kV (formerly Avery-Greenfield 138 kV)	Proposed	
				Greenfield-Hayes #2 138 kV (formerly Beaver-Greenfield 138 kV)	Proposed	
				Avery-Hayes 138 kV (formerly Avery-Greenfield 138 kV)	Proposed	
Broadview	Transmission	138 - 69 kV	ISD: 6/15	East Springfield - Tangy 138 kV	Existing	
				Loop to Broadview Sub	Proposed	
				Clark - Urbana 138 kV	Existing	
				Loop to Broadview Sub	Proposed	
West Medina	Transmission	138 - 69 kV	ISD: 12/14	North Medina - Seville 138 kV	Existing	
				Loop to West Medina Sub	Proposed	

Summary Of Proposed Substations

ATSI-Cleveland Electric Illuminating Company Area

Substation Name:	Type of Substation	Voltage (kV)	Timing	Line Association(s):	Line Existing or Proposed:	Minimum Site Acreage:
Stacy Substation	Distribution	138 - 36kV	ISD: 6/12	Q-3-AT-MF-X Loop to Stacy Sub	Proposed	
Clinic Health	Distribution	138 - 36 kV	ISD: 12/12	Juniper-Lloyd (Inland-Jordan Q-11) 138 kV	Existing	
				Loop to Cleveland Clinic Sub	Proposed	
				Juniper-Lloyd (Inland-Jordan Q-14) 138 kV	Existing	
				Loop to Cleveland Clinic Sub	Proposed	
Harper	Distribution	138 - kV	ISD: 6/13	Pleasant Valley-West Akron (OE) 138 kV	Existing	
				Loop to Harper Sub	Proposed	
CPP 4th Interconnection (Holton - near Inland Substation)	Transmission	138 kV	ISD: 10/10	Inland Substation	Existing	
				Tap from Inland Substation	Proposed	
CPP 5th Interconnection (Harvard Substation)	Tranmission	138 kV	ISD: 6/12	Juniper-Jennings Q-15 138 kV	Existing	
				Loop to CPP-Harvard Sub	Proposed	

Summary Of Proposed Substations

ATSI-Toledo Edison Company Area

Substation Name:	Type of Substation	Voltage (kV)	Timing	Line Association(s):	Line Existing or Proposed:	Minimum Site Acreage:
Fulton Sub	Transmission	345 - 138 kV	ISD: 6/17	Allen Junction-Midway 345 kV (11) Loop to Fulton Sub	Existing Proposed	
Lime City	Distribution	138 - 12.47 kV	Completed in 2009	Chrysler-Ol Levis 138 kV (211) Tap to Lime City Sub	Existing Proposed	
Fayette (addition of 138 kV ring bus and 138-69 kV transformer)	Transmission	138-69 kV	ISD: 11/10	Allen Junction-Fayette 138kV Fayette-Stryker 138 kV	Existing Proposed	
BP Oil Husky Substation	Distribution	138-69 kV	ISD: 6/11	Bayshore-Jackman (Ft Industry) 138 kV Loop to BP Oil Husky Sub	Existing Proposed	
				Bayshore-Leymone-Maclean (Frey) Q-4 138 kV Loop to BP Oil Husky Sub	Existing Proposed	
Zinc Ox	Distribution	138-12.47 kV	ISD: 12/10	Delta-Wauseon 138 kV Tap to Zinc Ox	Existing Proposed	

APPENDIX D
DISTRIBUTION FORECAST FORMS

4901:5-5-05(B)(1)(a)
PUCO FORM FE - D1 Electric Utility Service Area Energy Consumption Forecast
(Megawatt Hours/Year)

Ohio Edison Company

		(1)	(2)	(3)	(4)	(5)	(6) (1 +2+3+4+5)	(7)	(8) (6 + 7)
	Year	Residential	Commercial	Industrial	Transportation [a]	Other [b]	Total End-Use Delivery	Losses And Unaccounted For Company	Net Energy For Load [c]
-5	2005	9,237,000	7,199,000	9,429,000	-	148,000	26,013,000	2,163,000	28,176,000
-4	2006	8,890,000	7,075,000	9,321,000	-	146,000	25,432,000	2,113,000	27,545,000
-3	2007	9,379,000	7,297,000	9,230,000	-	146,000	26,052,000	1,610,000	27,662,000
-2	2008	9,250,000	7,157,000	8,726,000	-	146,000	25,279,000	1,531,000	26,810,000
-1	2009	8,974,000	6,835,000	6,900,000	-	148,000	22,857,000	1,571,000	24,428,000
0	2010	9,227,000	6,969,000	6,882,000	-	140,000	23,218,000	1,757,000	24,975,000
1	2011	9,079,000	7,082,000	7,624,000	-	141,000	23,926,000	1,755,000	25,681,000
2	2012	9,192,000	7,250,000	7,862,000	-	140,000	24,444,000	1,761,000	26,205,000
3	2013	9,197,000	6,898,000	8,477,000	-	140,000	24,712,000	1,754,000	26,466,000
4	2014	9,148,000	6,815,000	8,690,000	-	140,000	24,793,000	1,750,000	26,543,000
5	2015	9,117,000	6,711,000	8,767,000	-	139,000	24,734,000	1,741,000	26,475,000
6	2016	9,086,000	6,608,000	8,807,000	-	139,000	24,640,000	1,730,000	26,370,000
7	2017	9,069,000	6,506,000	8,848,000	-	139,000	24,562,000	1,721,000	26,283,000
8	2018	9,035,000	6,397,000	8,877,000	-	138,000	24,447,000	1,712,000	26,159,000
9	2019	8,921,000	6,148,000	8,877,000	-	138,000	24,084,000	1,680,000	25,764,000
10	2020	8,819,000	5,869,000	8,867,000	-	138,000	23,693,000	1,647,000	25,340,000

[a] Transportation includes railroads & railways.
[b] Other includes street & highway lighting, public authorities and interdepartmental sales.
[c] Years 0 through 10 are calculated by applying a loss factor to each class (Columns 1- 3, 5) then summing the results. The loss factor accounts for planned transmission & distribution efficiency improvements as part of the Companies EE&PDR Portfolio Plan.

4901:5-5-05(B)(1)(a)

PUCO FORM FE - D1 Electric Utility Service Area Energy Consumption Forecast
(Megawatt Hours/Year)

The Cleveland Electric Illuminating Company

		(1)	(2)	(3)	(4)	(5)	(6) (1 +2+3+4+5)	(7)	(8) (6 + 7)
	Year	Residential	Commercial	Industrial	Transportation[a]	Other[b]	Total End-Use Delivery	Losses And Unaccounted For Company	Net Energy For Load [c]
-5	2005	5,700,000	4,998,000	9,041,000	-	172,000	19,911,000	1,738,000	21,649,000
-4	2006	5,442,000	4,784,000	8,898,000	-	168,000	19,292,000	1,335,000	20,627,000
-3	2007	5,670,000	4,936,000	8,944,000	-	168,000	19,718,000	1,397,000	21,115,000
-2	2008	5,606,000	4,840,000	8,689,000	-	167,000	19,302,000	1,359,000	20,661,000
-1	2009	5,429,000	4,646,000	7,409,000	-	155,000	17,639,000	1,163,000	18,802,000
0	2010	5,589,000	4,942,000	7,591,000	-	162,000	18,284,000	1,457,000	19,741,000
1	2011	5,462,000	5,040,000	7,550,000	-	163,000	18,215,000	1,435,000	19,650,000
2	2012	5,440,000	5,128,000	7,561,000	-	162,000	18,291,000	1,418,000	19,709,000
3	2013	5,457,000	4,881,000	8,056,000	-	162,000	18,556,000	1,428,000	19,984,000
4	2014	5,419,000	4,802,000	8,833,000	-	161,000	19,215,000	1,464,000	20,679,000
5	2015	5,387,000	4,730,000	9,070,000	-	160,000	19,347,000	1,469,000	20,816,000
6	2016	5,355,000	4,664,000	9,080,000	-	159,000	19,258,000	1,461,000	20,719,000
7	2017	5,319,000	4,614,000	9,097,000	-	158,000	19,188,000	1,455,000	20,643,000
8	2018	5,276,000	4,555,000	9,119,000	-	158,000	19,108,000	1,446,000	20,554,000
9	2019	5,172,000	4,391,000	9,123,000	-	157,000	18,843,000	1,423,000	20,266,000
10	2020	5,054,000	4,233,000	9,127,000	-	156,000	18,570,000	1,398,000	19,968,000

[a] Transportation includes railroads & railways.

[b] Other includes street & highway lighting, public authorities and interdepartmental sales.

[c] *Years 0 through 10 is calculated by applying a loss factor* to each class (Columns 1- 3, 5) then summing the results. The loss factor accounts for transmission & distribution planned efficiency improvements through the Companies EE&PDR Portfolio Plan.

4901:5-5-05(B)(1)(a)
PUCO FORM FE - D1 Electric Utility Service Area Energy Consumption Forecast
(Megawatt Hours/Year)

The Toledo Edison Company

		(1)	(2)	(3)	(4)	(5)	(6) (1 +2+3+4+5)	(7)	(8) (6 + 7)
	Year	Residential	Commercial	Industrial	Transportation[a]	Other[b]	Total End-Use Delivery	Losses And Unaccounted For Company	Net Energy For Load [c]
-5	2005	2,543,000	2,938,000	5,110,000	-	64,000	10,655,000	685,000	11,340,000
-4	2006	2,430,000	2,821,000	5,139,000	-	58,000	10,448,000	730,000	11,178,000
-3	2007	2,538,000	2,889,000	5,205,000	-	58,000	10,690,000	587,000	11,277,000
-2	2008	2,523,000	2,850,000	4,851,000	-	57,000	10,281,000	607,000	10,888,000
-1	2009	2,405,000	2,584,000	4,466,000	-	48,000	9,503,000	551,000	10,054,000
0	2010	2,479,000	2,712,000	4,738,000	-	54,000	9,983,000	594,000	10,577,000
1	2011	2,449,000	2,751,000	4,873,000	-	55,000	10,128,000	573,000	10,701,000
2	2012	2,470,000	2,774,000	4,939,000	-	54,000	10,237,000	547,000	10,784,000
3	2013	2,491,000	2,635,000	5,315,000	-	54,000	10,495,000	549,000	11,044,000
4	2014	2,477,000	2,584,000	5,535,000	-	53,000	10,649,000	549,000	11,198,000
5	2015	2,463,000	2,528,000	5,643,000	-	53,000	10,687,000	547,000	11,234,000
6	2016	2,446,000	2,473,000	5,694,000	-	53,000	10,666,000	543,000	11,209,000
7	2017	2,428,000	2,420,000	5,731,000	-	52,000	10,631,000	539,000	11,170,000
8	2018	2,404,000	2,363,000	5,752,000	-	52,000	10,571,000	532,000	11,103,000
9	2019	2,349,000	2,247,000	5,747,000	-	51,000	10,394,000	520,000	10,914,000
10	2020	2,290,000	2,133,000	5,736,000		51,000	10,210,000	505,000	10,715,000

[a] Transportation includes railroads & railways.

[b] Other includes street & highway lighting, public authorities and interdepartmental sales.

[c] Years 0 through 10 is calculated by applying a loss factor to each class (Columns 1 - 3, 5) then summing the results. The loss factor accounts for transmission & distribution planned efficiency improvements through the Companies EE&PDR Portfolio Plan.

4901:5-5-05(B)(1)(b)

PUCO FORM FE-D1: System Service Area Energy Consumption Forecast (Megawatt Hours/Year)

Total Ohio

		(1)	(2)	(3)	(4)	(5)	(6) (1 +2+3+4+5)	(7)	(8) (6 + 7)
	Year	Residential	Commercial	Industrial	Transportation[a]	Other[b]	Total End-Use Delivery	Losses And Unaccounted For Company	Net Energy For Load
-5	2005	17,480,000	15,135,000	23,580,000	-	384,000	56,579,000	4,586,000	61,165,000
-4	2006	16,762,000	14,680,000	23,358,000	-	372,000	55,172,000	4,178,000	59,350,000
-3	2007	17,587,000	15,122,000	23,379,000	-	372,000	56,460,000	3,594,000	60,054,000
-2	2008	17,379,000	14,847,000	22,266,000	-	370,000	54,862,000	3,497,000	58,359,000
-1	2009	16,808,000	14,065,000	18,775,000	-	351,000	49,999,000	3,285,000	53,284,000
0	2010	17,295,000	14,623,000	19,211,000	-	356,000	51,485,000	3,808,000	55,293,000
1	2011	16,990,000	14,873,000	20,047,000	-	359,000	52,269,000	3,763,000	56,032,000
2	2012	17,102,000	15,152,000	20,362,000	-	356,000	52,972,000	3,726,000	56,698,000
3	2013	17,145,000	14,414,000	21,848,000	-	356,000	53,763,000	3,731,000	57,494,000
4	2014	17,044,000	14,201,000	23,058,000	-	354,000	54,657,000	3,763,000	58,420,000
5	2015	16,967,000	13,969,000	23,480,000	-	352,000	54,768,000	3,757,000	58,525,000
6	2016	16,887,000	13,745,000	23,581,000	-	351,000	54,564,000	3,734,000	58,298,000
7	2017	16,816,000	13,540,000	23,676,000	-	349,000	54,381,000	3,715,000	58,096,000
8	2018	16,715,000	13,315,000	23,748,000	-	348,000	54,126,000	3,690,000	57,816,000
9	2019	16,442,000	12,786,000	23,747,000	-	346,000	53,321,000	3,623,000	56,944,000
10	2020	16,163,000	12,235,000	23,730,000	-	345,000	52,473,000	3,550,000	56,023,000

[a] Transportation includes railroads & railways.

[b] Other includes street & highway lighting, public authorities and interdepartmental sales.

4901:5-5-05(B)(1)(b)

PUCO FORM FE-D2: **System Service Area Energy Consumption Forecast (Megawatt Hours/Year)** [c]

FirstEnergy System

		(1)	(2)	(3)	(4)	(5)	(6) (1 +2+3+4+5)	(7)	(8) (6 + 7)
	Year	Residential	Commercial	Industrial	Transportation[a]	Other[b]	Total End-Use Delivery	Losses And Unaccounted For Company	Net Energy For Load
-5	2005	19,144,000	16,502,000	25,209,000	-	391,000	61,246,000	4,969,000	66,215,000
-4	2006	18,372,000	16,036,000	25,055,000	-	379,000	59,842,000	4,484,000	64,326,000
-3	2007	19,277,000	16,536,000	25,006,000	-	378,000	61,197,000	4,365,000	65,562,000
-2	2008	19,046,000	16,251,000	23,880,000	-	376,000	59,553,000	4,114,000	63,667,000
-1	2009	18,442,000	15,432,000	20,004,000	-	357,000	54,235,000	3,539,000	57,774,000
0	2010	18,996,000	16,051,000	20,436,000	-	363,000	55,846,000	4,121,000	59,967,000
1	2011	18,698,000	16,281,000	21,260,000	-	365,000	56,604,000	4,076,000	60,680,000
2	2012	18,823,000	16,601,000	21,600,000	-	364,000	57,388,000	4,041,000	61,429,000
3	2013	18,859,000	15,914,000	23,219,000	-	362,000	58,354,000	4,054,000	62,408,000
4	2014	18,783,000	15,736,000	24,654,000	-	361,000	59,534,000	4,099,000	63,633,000
5	2015	18,734,000	15,527,000	25,150,000	-	359,000	59,770,000	4,099,000	63,869,000
6	2016	18,684,000	15,325,000	25,259,000	-	357,000	59,625,000	4,082,000	63,707,000
7	2017	18,642,000	15,146,000	25,362,000	-	356,000	59,506,000	4,067,000	63,573,000
8	2018	18,571,000	14,947,000	25,440,000	-	354,000	59,312,000	4,049,000	63,361,000
9	2019	18,328,000	14,443,000	25,446,000	-	353,000	58,570,000	3,985,000	62,555,000
10	2020	18,072,000	13,917,000	25,435,000	-	352,000	57,776,000	3,919,000	61,695,000

[a] Transportation includes railroads & railways.

[b] Other includes street & highway lighting, public authorities and interdepartmental sales.

[c] These data include energy for Pennsylvania Power as well as the 3 Ohio companies.

4901:5-5-05(B)(2)(a)

PUCO Form FE-D3: Electric rtility Ohio Seasonal Peak Load Demand Forecast (Megawatts)

The Ohio Edison Company

		Native Load		Internal Load [b]	
	Year	Summer	Winter[a]	Summer	Winter[a]
-5	2005	5,218	4,175	5,418	4,375
-4	2006	5,292	4,209	5,492	4,409
-3	2007	5,145	3,953	5,345	4,153
-2	2008	4,797	3,854	4,997	4,054
-1	2009	4,616	4,023	4,682	4,089
0	2010	4,827	3,884	4,893	3,950
1	2011	4,961	3,967	4,994	4,000
2	2012	5,030	4,007	5,063	4,040
3	2013	5,041	4,036	5,074	4,069
4	2014	5,087	4,071	5,087	4,071
5	2015	5,077	4,056	5,077	4,056
6	2016	5,061	4,042	5,061	4,042
7	2017	5,047	4,026	5,047	4,026
8	2018	5,027	4,008	5,027	4,008
9	2019	5,032	4,025	5,032	4,025
10	2020	5,049	4,043	5,049	4,043

[a] Winter load reference is to peak loads which follow the summer peak load.

[b] Internal Load equals Native plus Interruptible.

4901:5-5-05(B)(2)(a)

PUCO Form FE-D3: **Electric rtility Ohio Seasonal Peak Load Demand Forecast (Megawatts)**

The Cleveland Ilrminating Company

		Native Load		Internal Load [b]	
	Year	Summer	Winter[a]	Summer	Winter[a]
-5	2005	4,086	3,109	4,196	3,219
-4	2006	4,231	3,175	4,341	3,285
-3	2007	4,045	3,042	4,155	3,152
-2	2008	3,876	2,966	3,986	3,076
-1	2009	3,742	3,188	3,790	3,236
0	2010	3,787	2,999	3,835	3,047
1	2011	3,766	3,009	3,800	3,043
2	2012	3,763	2,978	3,797	3,012
3	2013	3,781	3,057	3,815	3,091
4	2014	3,903	3,150	3,903	3,150
5	2015	3,905	3,134	3,905	3,134
6	2016	3,890	3,120	3,890	3,120
7	2017	3,877	3,106	3,877	3,106
8	2018	3,861	3,093	3,861	3,093
9	2019	3,866	3,107	3,866	3,107
10	2020	3,881	3,124	3,881	3,124

[a] Winter load reference is to peak loads which follow the summer peak load.

[b] Internal Load equals Native plus Interruptible.

4901:5-5-05(B)(2)(a)

PUCO Form FE-D3: **Electric rtility Ohio Seasonal Peak Load Demand Forecast (Megawatts)**

The Toledo Edison Company

		Native Load		Internal Load [b]	
	Year	Summer	Winter[a]	Summer	Winter[a]
-5	2005	1,833	1,468	2,001	1,636
-4	2006	1,951	1,504	2,119	1,672
-3	2007	1,834	1,452	2,002	1,620
-2	2008	1,731	1,796	1,899	1,964
-1	2009	1,697	1,456	1,841	1,600
0	2010	1,812	1,529	1,956	1,673
1	2011	1,956	1,671	1,968	1,683
2	2012	1,967	1,692	1,979	1,704
3	2013	1,983	1,719	1,995	1,731
4	2014	2,018	1,749	2,018	1,749
5	2015	2,029	1,758	2,029	1,758
6	2016	2,037	1,765	2,037	1,765
7	2017	2,043	1,770	2,043	1,770
8	2018	2,047	1,775	2,047	1,775
9	2019	2,061	1,794	2,061	1,794
10	2020	2,080	1,812	2,080	1,812

[a] Winter load reference is to peak loads which follow the summer peak load.

[b] Internal Load equals Native plus Interruptible.

4901:5-5-05(B)(2)(a)

PUCO Form FE-D3: Electric Utility Ohio Seasonal Peak Load Demand Forecast (Megawatts)

Total Ohio

		Native Load		Internal Load [b]	
	Year	Summer	Winter[a]	Summer	Winter[a]
-5	2005	11,071	8,725	11,549	9,203
-4	2006	11,289	8,850	11,767	9,328
-3	2007	10,864	8,354	11,342	8,832
-2	2008	10,392	8,265	10,870	8,743
-1	2009	10,036	8,594	10,294	8,852
0	2010	11,179	9,225	11,437	9,483
1	2011	11,441	9,468	11,520	9,547
2	2012	11,527	9,507	11,606	9,586
3	2013	11,580	9,648	11,659	9,727
4	2014	11,788	9,813	11,788	9,813
5	2015	11,801	9,799	11,801	9,799
6	2016	11,786	9,786	11,786	9,786
7	2017	11,775	9,770	11,775	9,770
8	2018	11,752	9,750	11,752	9,750
9	2019	11,783	9,808	11,783	9,808
10	2020	11,840	9,867	11,840	9,867

[a] Winter load reference is to peak loads which follow the summer peak load.

[b] Internal Load equals Native plus Interruptible.

4901:5-5-05(B)(2)(b)

PUCO Form FE-D4: **Electric Utility Ohio Seasonal Peak Load Demand Forecast (Megawatts)**

FirstEnergy System

		Native Load		Internal Load [b]	
	Year	Summer	Winter [a]	Summer	Winter [a]
-5	2005	12,092	9,585	12,570	10,063
-4	2006	12,273	9,756	12,751	10,234
-3	2007	11,905	9,233	12,383	9,711
-2	2008	11,404	9,080	11,882	9,558
-1	2009	10,937	9,472	11,195	9,730
0	2010	11,114	9,151	11,372	9,409
1	2011	11,363	9,386	11,442	9,465
2	2012	11,448	9,428	11,527	9,507
3	2013	11,521	9,603	11,600	9,682
4	2014	11,768	9,796	11,768	9,796
5	2015	11,787	9,784	11,787	9,784
6	2016	11,774	9,774	11,774	9,774
7	2017	11,764	9,760	11,764	9,760
8	2018	11,743	9,743	11,743	9,743
9	2019	11,775	9,803	11,775	9,803
10	2020	11,834	9,864	11,834	9,864

[a] Winter load reference is to peak loads which follow the summer peak load.

[b] Internal Load equals Native plus Interruptible.

4901:5-5-05(B)(3)(a)

PUCO Form FE-D5: **Monthly Net Energy For Load Forecast (Megawatt Hours/Year) [a]**

Ohio Edison Company

	Monthly Net Energy For Load Forecast	
Year 0-2010	Ohio Service Area	System [b]
January*	2,306,000	5,492,000
February*	2,112,000	5,033,000
March	2,078,000	5,048,000
April	1,891,000	4,626,000
May	1,929,000	4,672,000
June	2,107,000	5,035,000
July	2,282,000	5,449,000
August	2,257,000	5,356,000
September	1,984,000	4,764,000
October	1,926,000	4,654,000
November	1,913,000	4,636,000
December	2,190,000	5,202,000
Year 1-2011		
January	2,266,000	5,381,000
February	2,115,000	5,026,000
March	2,147,000	5,130,000
April	1,952,000	4,689,000
May	1,991,000	4,729,000
June	2,167,000	5,088,000
July	2,342,000	5,496,000
August	2,323,000	5,411,000
September	2,059,000	4,841,000
October	2,026,000	4,777,000
November	2,055,000	4,853,000
December	2,238,000	5,259,000

[a] Actual data shall be indicated with an asterisk (*).

[b] These data include energy for Pennsylvania Power as well as the 3 Ohio companies.

4901:5-5-05(B)(3)(a)

PUCO Form FE-D5: **Monthly Net Energy For Load Forecast (Megawatt Hours/Year)** [a]

The Cleveland Illuminating Company

	Monthly Net Energy For Load Forecast	
Year 0-2010	Ohio Service Area	System [b]
January*	1,809,000	5,492,000
February*	1,628,000	5,033,000
March	1,687,000	5,048,000
April	1,547,000	4,626,000
May	1,548,000	4,672,000
June	1,651,000	5,035,000
July	1,797,000	5,449,000
August	1,745,000	5,356,000
September	1,559,000	4,764,000
October	1,537,000	4,654,000
November	1,531,000	4,636,000
December	1,702,000	5,202,000
Year 1-2011		
January	1,742,000	5,381,000
February	1,642,000	5,026,000
March	1,692,000	5,130,000
April	1,543,000	4,689,000
May	1,538,000	4,729,000
June	1,637,000	5,088,000
July	1,778,000	5,496,000
August	1,727,000	5,411,000
September	1,547,000	4,841,000
October	1,538,000	4,777,000
November	1,561,000	4,853,000
December	1,705,000	5,259,000

[a] Actual data shall be indicated with an asterisk (*).

[b] These data include energy for Pennsylvania Power as well as the 3 Ohio companies.

4901:5-5-05(B)(3)(a)

PUCO Form FE-D5: **Monthly Net Energy For Load Forecast (Megawatt Hours/Year)** [a]

The Toledo Edison Company

	Monthly Net Energy For Load Forecast	
Year 0-2010	Ohio Service Area	System [b]
January*	922,000	5,492,000
February*	864,000	5,033,000
March	878,000	5,048,000
April	826,000	4,626,000
May	838,000	4,672,000
June	883,000	5,035,000
July	968,000	5,449,000
August	958,000	5,356,000
September	872,000	4,764,000
October	841,000	4,654,000
November	824,000	4,636,000
December	903,000	5,202,000
Year 1-2011		
January	929,000	5,381,000
February	863,000	5,026,000
March	887,000	5,130,000
April	833,000	4,689,000
May	844,000	4,729,000
June	889,000	5,088,000
July	971,000	5,496,000
August	964,000	5,411,000
September	885,000	4,841,000
October	863,000	4,777,000
November	865,000	4,853,000
December	908,000	5,259,000

[a] Actual data shall be indicated with an asterisk (*).

[b] These data include energy for Pennsylvania Power as well as the 3 Ohio companies.

4901:5-5-05(B)(3)(a)

PUCO Form FE-D5: **Monthly Net Energy For Load Forecast (Megawatt Hours/Year) [a]**

Total Ohio

	Monthly Net Energy For Load Forecast	
Year 0-2010	Ohio Service Area	System [b]
January*	5,037,000	5,605,000
February*	4,604,000	5,100,000
March	4,643,000	5,231,000
April	4,264,000	4,829,000
May	4,315,000	4,963,000
June	4,641,000	5,379,000
July	5,047,000	5,774,000
August	4,960,000	5,833,000
September	4,415,000	5,143,000
October	4,304,000	5,106,000
November	4,268,000	4,986,000
December	4,795,000	5,583,000
Year 1-2011		
January	4,937,000	5,740,000
February	4,620,000	5,235,000
March	4,726,000	5,375,000
April	4,328,000	4,963,000
May	4,373,000	5,101,000
June	4,693,000	5,520,000
July	5,091,000	5,905,000
August	5,014,000	5,969,000
September	4,491,000	5,278,000
October	4,427,000	5,241,000
November	4,481,000	5,113,000
December	4,851,000	5,717,000

[a] Actual data shall be indicated with an asterisk (*).

[b] These data include energy for Pennsylvania Power as well as the 3 Ohio companies.

4901:5-5-05(B)(3)(b)

PUCO Form FE-D6: **Monthly Peak Load Forecast (Megawatts)** [a]

Ohio Edison Company

	Monthly Native Load Forecast		Monthly Internal Load Forecast	
Year 0-2010	Ohio Service Area	System [b]	Ohio Service Area	System [b]
January *	3,796	8,917	3,862	9,175
February *	3,704	8,703	3,770	8,961
March	3,533	8,423	3,599	8,681
April	3,340	8,034	3,406	8,292
May	3,652	8,753	3,718	9,011
June	4,443	10,356	4,509	10,614
July	4,648	10,905	4,714	11,163
August	4,827	11,114	4,893	11,372
September	3,926	9,418	3,992	9,676
October	3,366	8,060	3,432	8,318
November	3,344	8,079	3,410	8,337
December	3,760	8,911	3,826	9,169
Year 1-2011				
January	3,884	9,151	3,950	9,409
February	3,778	8,901	3,844	9,159
March	3,625	8,506	3,691	8,764
April	3,423	8,090	3,489	8,348
May	3,737	8,803	3,803	9,061
June	4,564	10,586	4,597	10,665
July	4,773	11,142	4,806	11,221
August	4,961	11,363	4,994	11,442
September	4,068	9,681	4,101	9,760
October	3,514	8,334	3,547	8,413
November	3,502	8,374	3,535	8,453
December	3,883	9,182	3,916	9,261

[a] Actual data shall be indicated with an asterisk (*).

[b] These data include energy for Pennsylvania Power as well as the 3 Ohio companies.

[c] Internal Load equals Native plus Interruptible.

4901:5-5-05(B)(3)(b)

PUCO Form FE-D6: **Monthly Peak Load Forecast (Megawatts)** [a]

The Cleveland Illuminating Company

	Monthly Native Load Forecast		Monthly Internal Load Forecast	
Year 0-2010	Ohio Service Area	System [b]	Ohio Service Area	System [b]
January *	2,992	8,917	3,040	9,175
February *	2,919	8,703	2,967	8,961
March	2,825	8,423	2,873	8,681
April	2,799	8,034	2,847	8,292
May	2,977	8,753	3,025	9,011
June	3,573	10,356	3,621	10,614
July	3,782	10,905	3,830	11,163
August	3,787	11,114	3,835	11,372
September	3,233	9,418	3,281	9,676
October	2,793	8,060	2,841	8,318
November	2,670	8,079	2,718	8,337
December	2,910	8,911	2,958	9,169
Year 1-2011				
January	2,999	9,151	3,047	9,409
February	2,912	8,901	2,960	9,159
March	2,813	8,506	2,861	8,764
April	2,772	8,090	2,820	8,348
May	2,942	8,803	2,990	9,061
June	3,551	10,586	3,585	10,665
July	3,760	11,142	3,794	11,221
August	3,766	11,363	3,800	11,442
September	3,213	9,681	3,247	9,760
October	2,777	8,334	2,811	8,413
November	2,657	8,374	2,691	8,453
December	2,911	9,182	2,945	9,261

[a] Actual data shall be indicated with an asterisk (*).

[b] These data include energy for Pennsylvania Power as well as the 3 Ohio companies.

[c] Internal Load equals Native plus Interruptible.

4901:5-5-05(B)(3)(b)

PUCO Form FE-D6: Monthly Peak Load Forecast (Megawatts)

The Toledo Edison Company

	Monthly Native Load Forecast		Monthly Internal Load Forecast	
Year 0-2010	Ohio Service Area	System [b]	Ohio Service Area	System [b]
January *	1,456	8,917	1,600	9,175
February *	1,329	8,703	1,473	8,961
March	1,459	8,423	1,603	8,681
April	1,396	8,034	1,540	8,292
May	1,485	8,753	1,629	9,011
June	1,737	10,356	1,881	10,614
July	1,762	10,905	1,906	11,163
August	1,812	11,114	1,956	11,372
September	1,589	9,418	1,733	9,676
October	1,440	8,060	1,584	8,318
November	1,427	8,079	1,571	8,337
December	1,512	8,911	1,656	9,169
Year 1-2011				
January	1,529	9,151	1,673	9,409
February	1,517	8,901	1,661	9,159
March	1,470	8,506	1,614	8,764
April	1,405	8,090	1,549	8,348
May	1,493	8,803	1,637	9,061
June	1,878	10,586	1,890	10,665
July	1,904	11,142	1,916	11,221
August	1,956	11,363	1,968	11,442
September	1,736	9,681	1,748	9,760
October	1,590	8,334	1,602	8,413
November	1,580	8,374	1,592	8,453
December	1,661	9,182	1,673	9,261

[a] Actual data shall be indicated with an asterisk (*).

[b] These data include energy for Pennsylvania Power as well as the 3 Ohio companies.

[c] Internal Load equals Native plus Interruptible.

APPENDIX E
RESOURCE FORECAST FORMS

4901-5-5-06(A)(6)(a)
PUCO Form FE-R1: **Monthly Forecast of Electric Utility's Ohio Service Area Peak Load and Resources Dedicated to Meet Ohio Service Area Peak Load (Megawatts)**

Ohio Edison Company

Current Calendar Year -2010

	Jan*	Feb*	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Net Demonstrated Capability	0	0	0	0	0	0	0	0	0	0	0	0
Net Seasonal Capability	0	0	0	0	0	0	0	0	0	0	0	0
Purchases [a]	4,069	3,972	3,792	3,588	3,917	4,712	4,926	5,113	4,172	3,586	3,564	3,998
Sales	0	0	0	0	0	0	0	0	0	0	0	0
Available Capability [b]	4,069	3,972	3,792	3,588	3,917	4,712	4,926	5,113	4,172	3,586	3,564	3,998
Native Load [c]	3,796	3,704	3,533	3,340	3,652	4,443	4,648	4,827	3,926	3,366	3,344	3,760
Available Reserve [d]	273	268	259	248	265	269	278	286	246	220	219	238
Internal Load [e]	3,862	3,770	3,599	3,406	3,718	4,509	4,714	4,893	3,992	3,432	3,410	3,826
Reserve [f]	207	202	193	182	199	203	212	220	180	154	153	172

Next Calendar Year -2011

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Net Demonstrated Capability	0	0	0	0	0	0	0	0	0	0	0	0
Net Seasonal Capability	0	0	0	0	0	0	0	0	0	0	0	0
Purchases [a]	4,128	4,017	3,857	3,646	3,975	4,785	5,003	5,199	4,269	3,692	3,680	4,077
Sales	0	0	0	0	0	0	0	0	0	0	0	0
Available Capability [b]	4,128	4,017	3,857	3,646	3,975	4,785	5,003	5,199	4,269	3,692	3,680	4,077
Native Load [c]	3,884	3,778	3,625	3,423	3,737	4,564	4,773	4,961	4,068	3,514	3,502	3,883
Available Reserve [d]	244	239	232	223	237	221	230	238	201	178	178	194
Internal Load [e]	3,950	3,844	3,691	3,489	3,803	4,597	4,806	4,994	4,101	3,547	3,535	3,916
Reserve [f]	178	173	166	157	171	188	197	205	168	145	145	161

The Companies have not owned or operated any generation in the state of Ohio since 2005. The energy and capacity requirements associated with the Companies Internal Load are supplied either by Competitive Retail Electric Service providers (CRES Providers), or by wholesale suppliers through master supplier agreements (SSO Suppliers) (With the exception of April-May 2009 when energy and capacity requirements were served by FirstEnergy Solutions). CRES Providers and the SSO Suppliers act as the load serving entity in the RTO's and as such are responsible for complying with all reserve requirements.

[a] Purchases are calculated by adding the Reserve amount to Internal Load. This amount represents the amount of capacity that the LSEs will have to have in order to serve the Companies' Internal Load. Available Reserve can be used to cover the LSE's reserve obligation if the interruptible customers have committed their capability to the LSE directly and the LSE's have registered the Available Reserve on either Module E in MISO or the Available Reserve has cleared through the PJM auction as submitted by the LSE.

[b] Available Capability is equal to Purchases since the Companies do not have any Net Demonstrated or Net Seasonal Capability.

[c] Native Load is Internal Load less Interruptible Capability.

[d] Available Reserve is equal to the Available Capability minus the Native Load.

[e] Internal Load is equal to Column 3 on PUCO Form FE-D6 for each Company.

[f] January 2010 through May 2011 is based upon the Non-coincident Planning Reserve Zone, as documented in MISO's Resource Adequacy Business Practice Manual; 5.35% January 2010 through May 2010 and 4.5% from June 2010 through May 2011 . June 2011 through December 2011 is as documented by PJM on its June 2009 PJM Reserve Requirement Study, Appendix F, ISO Reserve Requirement Comparison. Because the methodologies for determining the reserve requirement are so different between MISO and PJM, PJM has provided a percentage that would be considered the equivalent of the MISO methodology in this document.

* Actual data

4901-5-5-06(A)(6)(a)

PUCO Form FE-R1: **Monthly Forecast of Electric Utility's Ohio Service Area Peak Load and Resources Dedicated to Meet Ohio Service Area Peak Load (Megawatts)**

The Cleveland Electric Illuminating Company

Current Calendar Year -2010	Jan*	Feb*	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Net Demonstrated Capability												
Net Seasonal Capability												
Purchases [a]	3,203	3,126	3,027	2,999	3,186	3,784	4,002	4,008	3,428	2,969	2,840	3,091
Sales	0	0	0	0	0	0	0	0	0	0	0	0
Available Capability [b]	3,203	3,126	3,027	2,999	3,186	3,784	4,002	4,008	3,428	2,969	2,840	3,091
Native Load [c]	2,992	2,919	2,825	2,799	2,977	3,573	3,782	3,787	3,233	2,793	2,670	2,910
Available Reserve [d]	211	207	202	200	210	211	220	221	196	176	170	181
Internal Load [e]	3,040	2,967	2,873	2,847	3,025	3,621	3,830	3,835	3,281	2,841	2,718	2,958
Reserve [f]	163	159	154	152	162	163	172	173	148	128	122	133

Next Calendar Year -2011	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Net Demonstrated Capability												
Net Seasonal Capability												
Purchases [a]	3,184	3,094	2,990	2,947	3,125	3,732	3,949	3,956	3,380	2,926	2,802	3,066
Sales	0	0	0	0	0	0	0	0	0	0	0	0
Available Capability [b]	3,184	3,094	2,990	2,947	3,125	3,732	3,949	3,956	3,380	2,926	2,802	3,066
Native Load [c]	2,999	2,912	2,813	2,772	2,942	3,551	3,760	3,766	3,213	2,777	2,657	2,911
Available Reserve [d]	185	181	177	175	183	181	190	190	167	149	144	155
Internal Load [e]	3,047	2,960	2,861	2,820	2,990	3,585	3,794	3,800	3,247	2,811	2,691	2,945
Reserve [f]	137	133	129	127	135	147	156	156	133	115	110	121

The Companies have not owned or operated any generation in the state of Ohio since 2005. The energy and capacity requirements associated with the Companies Internal Load are supplied either by Competitive Retail Electric Service providers (CRES Providers), or by wholesale suppliers through master supplier agreements (SSO Suppliers) (With the exception of April-May 2009 when energy and capacity requirements were served by FirstEnergy Solutions). CRES Providers and the SSO Suppliers act as the load serving entity in the RTO's and as such are responsible for complying with all reserve requirements.

[a] Purchases are calculated by adding the Reserve amount to Internal Load. This amount represents the amount of capacity that the LSEs will have to have in order to serve the Companies' Internal Load. Available Reserve can be used to cover the LSE's reserve obligation if the interruptible customers have committed their capability to the LSE directly and the LSE's have registered the Available Reserve on either Module E in MISO or the Available Reserve has cleared through the PJM auction as submitted by the LSE.

[b] Available Capability is equal to Purchases since the Companies do not have any Net Demonstrated or Net Seasonal Capability.

[c] Native Load is Internal Load less Interruptible Capability.

[d] Available Reserve is equal to the Available Capability minus the Native Load.

[e] Internal Load is equal to Column 3 on PUCO Form FE-D6 for each Company.

[f] January 2010 through May 2011 is based upon the Non-coincident Planning Reserve Zone, as documented in MISO's Resource Adequacy Business Practice Manual; 5.35% January 2010 through May 2010 and 4.5% from June 2010 through May 2011 . June 2011 through December 2011 is as documented by PJM on its June 2009 PJM Reserve Requirement Study, Appendix F, ISO Reserve Requirement Comparison. Because the methodologies for determining the reserve requirement are so different between MISO and PJM, PJM has provided a percentage that would be considered the equivalent of the MISO methodology in this document.

* Actual data

PUCO Form FE-R1:

Monthly Forecast of Electric Utility's Ohio Service Area Peak Load and Resources Dedicated to Meet Ohio Service Area Peak Load (Megawatts)

The Toledo Edison Company

Current Calendar Year -2010	Jan*	Feb*	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Net Demonstrated Capability												
Net Seasonal Capability												
Purchases [a]	1,686	1,552	1,688	1,623	1,716	1,966	1,992	2,044	1,811	1,656	1,642	1,730
Sales	0	0	0	0	0	0	0	0	0	0	0	0
Available Capability [b]	1,686	1,552	1,688	1,623	1,716	1,966	1,992	2,044	1,811	1,656	1,642	1,730
Native Load [c]	1,456	1,329	1,459	1,396	1,485	1,737	1,762	1,812	1,589	1,440	1,427	1,512
Available Reserve [d]	230	223	230	226	231	229	230	232	222	215	215	219
Internal Load [e]	1,600	1,473	1,603	1,540	1,629	1,881	1,906	1,956	1,733	1,584	1,571	1,656
Reserve [f]	86	79	86	82	87	85	86	88	78	71	71	75

Next Calendar Year -2011	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Net Demonstrated Capability												
Net Seasonal Capability												
Purchases [a]	1,748	1,736	1,687	1,619	1,711	1,967	1,995	2,048	1,819	1,668	1,658	1,742
Sales	0	0	0	0	0	0	0	0	0	0	0	0
Available Capability [b]	1,748	1,736	1,687	1,619	1,711	1,967	1,995	2,048	1,819	1,668	1,658	1,742
Native Load [c]	1,529	1,517	1,470	1,405	1,493	1,878	1,904	1,956	1,736	1,590	1,580	1,661
Available Reserve [d]	219	219	217	214	218	89	91	93	84	78	77	81
Internal Load [e]	1,673	1,661	1,614	1,549	1,637	1,890	1,916	1,968	1,748	1,602	1,592	1,673
Reserve [f]	75	75	73	70	74	77	79	81	72	66	65	69

The Companies have not owned or operated any generation in the state of Ohio since 2005. The energy and capacity requirements associated with the Companies Internal Load are supplied either by Competitive Retail Electric Service providers (CRES Providers), or by wholesale suppliers through master supplier agreements (SSO Suppliers) (With the exception of April-May 2009 when energy and capacity requirements were served by FirstEnergy Solutions). CRES Providers and the SSO Suppliers act as the load serving entity in the RTO's and as such are responsible for complying with all reserve requirements.

[a] Purchases are calculated by adding the Reserve amount to Internal Load. This amount represents the amount of capacity that the LSEs will have to have in order to serve the Companies' Internal Load. Available Reserve can be used to cover the LSE's reserve obligation if the interruptible customers have committed their capability to the LSE directly and the LSE's have registered the Available Reserve on either Module E in MISO or the Available Reserve has cleared through the PJM auction as submitted by the LSE.

[b] Available Capability is equal to Purchases since the Companies do not have any Net Demonstrated or Net Seasonal Capability.

[c] Native Load is Internal Load less Interruptible Capability.

[d] Available Reserve is equal to the Available Capability minus the Native Load.

[e] Internal Load is equal to Column 3 on PUCO Form FE-D6 for each Company.

[f] January 2010 through May 2011 is based upon the Non-coincident Planning Reserve Zone, as documented in MISO's Resource Adequacy Business Practice Manual; 5.35% January 2010 through May 2010 and 4.5% from June 2010 through May 2011 . June 2011 through December 2011 is as documented by PJM on its June 2009 PJM Reserve Requirement Study, Appendix F, ISO Reserve Requirement Comparison. Because the methodologies for determining the reserve requirement are so different between MISO and PJM, PJM has provided a percentage that would be considered the equivalent of the MISO methodology in this document.

* Actual data

4901-5-5-06(A)(6)(b)

PUCO Form FE-R2: Monthly Forecast of System Peak Load and Resources Dedicated to Meet System Peak Load (Megawatts)

FirstEnergy System [g]

	Current Calendar Year -2010											
	Jan*	Feb*	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Net Demonstrated Capability	0	0	0	0	0	0	0	0	0	0	0	0
Net Seasonal Capability	0	0	0	0	0	0	0	0	0	0	0	0
Purchases [a]	9,666	9,440	9,145	8,735	9,493	11,091	11,666	11,884	10,112	8,692	8,712	9,581
Sales	0	0	0	0	0	0	0	0	0	0	0	0
Available Capability b	9,666	9,440	9,145	8,735	9,493	11,091	11,666	11,884	10,112	8,692	8,712	9,581
Native Load [c]	8,917	8,703	8,423	8,034	8,753	10,356	10,905	11,114	9,418	8,060	8,079	8,911
Available Reserve [d]	749	737	722	702	740	736	760	770	693	632	633	671
Internal Load [e]	9,175	8,961	8,681	8,292	9,011	10,614	11,163	11,372	9,676	8,318	8,337	9,169
Reserve [f]	491	479	464	444	482	478	502	512	435	374	375	413

	Next Calendar Year -2011											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Net Demonstrated Capability	0	0	0	0	0	0	0	0	0	0	0	0
Net Seasonal Capability	0	0	0	0	0	0	0	0	0	0	0	0
Purchases [a]	9,832	9,571	9,158	8,724	9,469	11,103	11,681	11,911	10,160	8,758	8,800	9,641
Sales	0	0	0	0	0	0	0	0	0	0	0	0
Available Capability b	9,832	9,571	9,158	8,724	9,469	11,103	11,681	11,911	10,160	8,758	8,800	9,641
Native Load [c]	9,151	8,901	8,506	8,090	8,803	10,586	11,142	11,363	9,681	8,334	8,374	9,182
Available Reserve [d]	681	670	652	634	666	516	539	548	479	424	426	459
Internal Load [e]	9,409	9,159	8,764	8,348	9,061	10,665	11,221	11,442	9,760	8,413	8,453	9,261
Reserve [f]	423	412	394	376	408	437	460	469	400	345	347	380

The Companies have not owned or operated any generation in the state of Ohio since 2005. The energy and capacity requirements associated with the Companies Internal Load are supplied either by Competitive Retail Electric Service providers (CRES Providers), or by wholesale suppliers through master supplier agreements (SSO Suppliers) (With the exception of April-May 2009 when energy and capacity requirements were served by FirstEnergy Solutions). CRES Providers and the SSO Suppliers act as the load serving entity in the RTO's and as such are responsible for complying with all reserve requirements.

[a] Purchases are calculated by adding the Reserve amount to Internal Load. This amount represents the amount of capacity that the LSEs will have to have in order to serve the Companies' Internal Load. Available Reserve can be used to cover the LSE's reserve obligation if the interruptible customers have committed their capability to the LSE directly and the LSE's have registered the Available Reserve on either Module E in MISO or the Available Reserve has cleared through the PJM auction as submitted by the LSE.

[b] Available Capability is equal to Purchases since the Companies do not have any Net Demonstrated or Net Seasonal Capability.

[c] Native Load is Internal Load less Interruptible Capability.

[d] Available Reserve is equal to the Available Capability minus the Native Load.

[e] Internal Load is equal to Column 3 on PUCO Form FE-D6 for each Company.

[f] January 2010 through May 2011 is based upon the Non-coincident Planning Reserve Zone, as documented in MISO's Resource Adequacy Business Practice Manual; 5.35% January 2010 through May 2010 and 4.5% from June 2010 through May 2011 . June 2011 through December 2011 is as documented by PJM on its June 2009 PJM Reserve Requirement Study, Appendix F, ISO Reserve Requirement Comparison. Because the methodologies for determining the reserve requirement are so different between MISO and PJM, PJM has provided a percentage that would be considered the equivalent of the MISO methodology in this document.

[g] These data include energy for Pennsylvania Power as well as the 3 Ohio companies.

* Actual data

4901-5-5-06(A)(6)(c)

PUCO Form FE-R3: **Summary of Existing Electric Generation Facilities for the System [a]**
(as of 12/31/2009)

Station Name & Location	Unit No.	Type of Units	Date of First On-Line Service	Expected Retirement Date	Generation Summer (MW)	Generation Winter (MW)	Environmental Protection Measures

[a] The companies do not own or operate generation, nor intend to, for the duration of this forecast. Please see section 4901:5-5-06(A)(1) for further information

4901-5-5-06(A)(6)(d)(i)

PUCO Form FE-R4: **Actual Generating Capability Dedicated to Meet Ohio Peak Load [a]**
(as of 12/31/2009)

	Unit Designation		Seasonal
Year/Season	Unit Name	Description	Total

[a] The companies do not own or operate generation, nor intend to, for the duration of this forecast. Please see section 4901:5-5-06(A)(1) for further information

4901-5-5-06(A)(6)(d)(ii)

PUCO Form FE-R5: **Projected Generating Capability Changes To Meet Future Future Ohio Peak Load a**

	Unit Designation		Capability	Seasonal
Year/Season	Unit Name	Description	Changes	Total

[a] The companies do not own or operate generation, nor intend to, for the duration of this forecast. Please see section 4901:5-5-06(A)(1) for further information

4901-5-5-06(A)(6)(d)(iii)

PUCO Form FE-R6: **Electric Utility's Actual and Forecast Ohio Peak Load and Resources Dedicated to Meet Electric Utility's Ohio Peak Load (Megawatts) - Summer Season**

Ohio Edison Company

	(-5) 2005	(-4) 2006	(-3) 2007	(-2) 2008	(-1) 2009	(0) 2010	(1) 2011	(2) 2012
Net Demonstrated Capability	0	0	0	0	0	0	0	0
Net Seasonal Capability	0	0	0	0	0	0	0	0
Purchases [a]	5,609	5,678	5,558	5,197	4,869	5,110	5,198	5,261
Sales	0	0	0	0	0	0	0	0
Available Capability [b]	5,609	5,678	5,558	5,197	4,869	5,110	5,198	5,261
Native Load [c]	5,193	5,259	5,145	4,797	4,616	4,827	4,961	5,030
Available Reserve [d]	416	418	414	400	253	283	236	231
Internal Load [e]	5,393	5,459	5,345	4,997	4,682	4,893	4,994	5,063
Reserve [f]	216	218	214	200	187	217	203	198

	(3) 2013	(4) 2014	(5) 2015	(6) 2016	(7) 2017	(8) 2018	(9) 2019	(10) 2020
Net Demonstrated Capability	0	0	0	0	0	0	0	0
Net Seasonal Capability	0	0	0	0	0	0	0	0
Purchases [a]	5,268	5,281	5,270	5,254	5,240	5,219	5,224	5,242
Sales	0	0	0	0	0	0	0	0
Available Capability [b]	5,268	5,281	5,270	5,254	5,240	5,219	5,224	5,242
Native Load [c]	5,041	5,087	5,077	5,061	5,047	5,027	5,032	5,049
Available Reserve [d]	227	194	194	193	193	192	192	193
Internal Load [e]	5,074	5,087	5,077	5,061	5,047	5,027	5,032	5,049
Reserve [f]	194	194	194	193	193	192	192	193

The Companies have not owned or operated any generation in the state of Ohio since 2005. The energy and capacity requirements associated with the Companies Internal Load are supplied either by Competitive Retail Electric Service providers (CRES Providers), or by wholesale suppliers through master supplier agreements (SSO Suppliers) (With the exception of April-May 2009 when energy and capacity requirements were served by FirstEnergy Solutions). CRES Providers and the SSO Suppliers act as the load serving entity in the RTO's and as such are responsible for complying with all reserve requirements.

[a] Purchases are calculated by adding the Reserve amount to Internal Load. This amount represents the amount of capacity that the LSEs will have to have in order to serve the Companies' Internal Load. Available Reserve can be used to cover the LSE's reserve obligation if the interruptible customers have committed their capability to the LSE directly and the LSE's have registered the Available Reserve on either Module E in MISO or the Available Reserve has cleared through the PJM auction as submitted by the LSE.
[b] Available Capability is equal to Net Seasonal Capability plus Purchases minus Sales.
[c] Native Load is Internal Load less Interruptible Capability.
[d] All of the Companies native load and internal load is served by Load Serving Entities (LSE), either as a Certified Retail Electric Supplier (CRES) or as suppliers for the Standard Service Offer (SSO). The reserves above are theoretical. The Companies currently are not, nor intend to become an LSE, therefore, do not have any reserves. Reserve requirements are supplied by the LSE.
[e] Internal Load is equal to Column 3 on PUCO Form FE-D6 for each Company.

[f] For 2005 and 2006, MISO resource adequacy requirements called for the LSEs to meet their current NERC sub-region Planning Reserve Margin (PRM) requirements. The Companies had belonged to ECAR, but ECAR did not have a PRM requirement so MISO adopted the 4% Operating Reserve requirement as the interim requirement for ECAR LSEs. The 4% requirement was dropped in 2007, and in 2008, a 13.7% PRM requirement was established. For the sake of simplicity and continuity, the Companies have used a 4% reserve requirement from 2005 through 2008. Between January 2009 and May of 2011, the Companies used the Non-coincident Planning Reserve Zone of 4.5% for 2009 and 5.35% for 2010, as documented in MISO's Resource Adequacy Business Practice Manual. Reserve requirement for June 2011 through 2014 is as documented by PJM on its June 2009 PJM Reserve Requirement Study, Appendix F, ISO Reserve Requirement Comparison. Because the methodologies for determining the reserve requirement are so different between MISO and PJM, PJM has provided a percentage that would be considered the equivalent of the MISO methodology. The reserve requirement for 2014 was held constant for the remainder of th

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PUCO Form FE-R6: **Electric Utility's Actual and Forecast Ohio Peak Load and Resources Dedicated to Meet Electric Utility's Ohio Peak Load (Megawatts) - Summer Season**

The Cleveland Electric Illuminating Company

	(-5) 2005	(-4) 2006	(-3) 2007	(-2) 2008	(-1) 2009	(0) 2010	(1) 2011	(2) 2012
Net Demonstrated Capability	0	0	0	0	0	0	0	0
Net Seasonal Capability	0	0	0	0	0	0	0	0
Purchases [a]	4,364	4,515	4,321	4,141	3,941	4,008	3,956	3,947
Sales	0	0	0	0	0	0	0	0
Available Capability [b]	4,364	4,515	4,321	4,141	3,941	4,008	3,956	3,947
Native Load [c]	4,086	4,231	4,045	3,872	3,726	3,787	3,766	3,763
Available Reserve [d]	278	284	276	269	216	221	190	183
Internal Load [e]	4,196	4,341	4,155	3,982	3,790	3,835	3,800	3,797
Reserve [f]	168	174	166	159	152	173	156	149

	(3) 2013	(4) 2014	(5) 2015	(6) 2016	(7) 2017	(8) 2018	(9) 2019	(10) 2020
Net Demonstrated Capability								
Net Seasonal Capability								
Purchases [a]	3,961	4,052	4,055	4,039	4,025	4,009	4,013	4,029
Sales	0	0	0	0	0	0	0	0
Available Capability [b]	3,961	4,052	4,055	4,039	4,025	4,009	4,013	4,029
Native Load [c]	3,781	3,903	3,905	3,890	3,877	3,861	3,866	3,881
Available Reserve [d]	180	149	149	149	148	147	148	148
Internal Load [e]	3,815	3,903	3,905	3,890	3,877	3,861	3,866	3,881
Reserve [f]	146	149	149	149	148	147	148	148

The Companies have not owned or operated any generation in the state of Ohio since 2005. The energy and capacity requirements associated with the Companies Internal Load are supplied either by Competitive Retail Electric Service providers (CRES Providers), or by wholesale suppliers through master supplier agreements (SSO Suppliers) (With the exception of April-May 2009 when energy and capacity requirements were served by FirstEnergy Solutions). CRES Providers and the SSO Suppliers act as the load serving entity in the RTO's and as such are responsible for complying with all reserve requirements.

[a] Purchases are calculated by adding the Reserve amount to Internal Load. This amount represents the amount of capacity that the LSEs will have to have in order to serve the Companies' Internal Load. Available Reserve can be used to cover the LSE's reserve obligation if the interruptible customers have committed their capability to the LSE directly and the LSE's have registered the Available Reserve on either Module E in MISO or the Available Reserve has cleared through the PJM auction as submitted by the LSE.
[b] Available Capability is equal to Net Seasonal Capability plus Purchases minus Sales.
[c] Native Load is Internal Load less Interruptible Capability.
[d] All of the Companies native load and internal load is served by Load Serving Entities (LSE), either as a Certified Retail Electric Supplier (CRES) or as suppliers for the Standard Service Offer (SSO). The reserves above are theoretical. The Companies currently are not, nor intend to become an LSE, therefore, do not have any reserves. Reserve requirements are supplied by the LSE.
[e] Internal Load is equal to Column 3 on PUCO Form FE-D6 for each Company.

[f] For 2005 and 2006, MISO resource adequacy requirements called for the LSEs to meet their current NERC sub-region Planning Reserve Margin (PRM) requirements. The Companies had belonged to ECAR, but ECAR did not have a PRM requirement so MISO adopted the 4% Operating Reserve requirement as the interim requirement for ECAR LSEs. The 4% requirement was dropped in 2007, and in 2008, a 13.7% PRM requirement was established. For the sake of simplicity and continuity, the Companies have used a 4% reserve requirement from 2005 through 2008. Between January 2009 and May of 2011, the Companies used the Non-coincident Planning Reserve Zone of 4.5% for 2009 and 5.35% for 2010, as documented in MISO's Resource Adequacy Business Practice Manual. Reserve requirement for June 2011 through 2014 is as documented by PJM on its June 2009 PJM Reserve Requirement Study, Appendix F, ISO Reserve Requirement Comparison. Because the methodologies for determining the reserve requirement are so different between MISO and PJM, PJM has provided a percentage that would be considered the equivalent of the MISO methodology. The reserve requirement for 2014 was held constant for the remainder of th

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PUCO Form FE-R6: **Electric Utility's Actual and Forecast Ohio Peak Load and Resources Dedicated to Meet Electric Utility's Ohio Peak Load (Megawatts) - Summer Season**

The Toledo Edison Company

	(-5) 2005	(-4) 2006	(-3) 2007	(-2) 2008	(-1) 2009	(0) 2010	(1) 2011	(2) 2012
Net Demonstrated Capability	0	0	0	0	0	0	0	0
Net Seasonal Capability	0	0	0	0	0	0	0	0
Purchases [a]	2,050	2,185	2,083	1,975	1,915	2,044	2,048	2,057
Sales	0	0	0	0	0	0	0	0
Available Capability [b]	2,050	2,185	2,083	1,975	1,915	2,044	2,048	2,057
Native Load [c]	1,803	1,933	1,834	1,731	1,697	1,812	1,956	1,967
Available Reserve [d]	247	252	248	244	218	232	93	90
Internal Load [e]	1,971	2,101	2,002	1,899	1,841	1,956	1,968	1,979
Reserve [f]	79	84	80	76	74	88	81	78

	(3) 2013	(4) 2014	(5) 2015	(6) 2016	(7) 2017	(8) 2018	(9) 2019	(10) 2020
Net Demonstrated Capability	0	0	0	0	0	0	0	0
Net Seasonal Capability	0	0	0	0	0	0	0	0
Purchases [a]	2,072	2,095	2,107	2,115	2,121	2,126	2,140	2,159
Sales	0	0	0	0	0	0	0	0
Available Capability [b]	2,072	2,095	2,107	2,115	2,121	2,126	2,140	2,159
Native Load [c]	1,983	2,018	2,029	2,037	2,043	2,047	2,061	2,080
Available Reserve [d]	88	77	78	78	78	78	79	79
Internal Load [e]	1,995	2,018	2,029	2,037	2,043	2,047	2,061	2,080
Reserve [f]	76	77	78	78	78	78	79	79

The Companies have not owned or operated any generation in the state of Ohio since 2005. The energy and capacity requirements associated with the Companies Internal Load are supplied either by Competitive Retail Electric Service providers (CRES Providers), or by wholesale suppliers through master supplier agreements (SSO Suppliers) (With the exception of April-May 2009 when energy and capacity requirements were served by FirstEnergy Solutions). CRES Providers and the SSO Suppliers act as the load serving entity in the RTO's and as such are responsible for complying with all reserve requirements.

[a] Purchases are calculated by adding the Reserve amount to Internal Load. This amount represents the amount of capacity that the LSEs will have to have in order to serve the Companies' Internal Load. Available Reserve can be used to cover the LSE's reserve obligation if the interruptible customers have committed their capability to the LSE directly and the LSE's have registered the Available Reserve on either Module E in MISO or the Available Reserve has cleared through the PJM auction as submitted by the LSE.
[b] Available Capability is equal to Net Seasonal Capability plus Purchases minus Sales.
[c] Native Load is Internal Load less Interruptible Capability.
[d] All of the Companies native load and internal load is served by Load Serving Entities (LSE), either as a Certified Retail Electric Supplier (CRES) or as suppliers for the Standard Service Offer (SSO). The reserves above are theoretical. The Companies currently are not, nor intend to become an LSE, therefore, do not have any reserves. Reserve requirements are supplied by the LSE.
[e] Internal Load is equal to Column 3 on PUCO Form FE-D6 for each Company.

[f] For 2005 and 2006, MISO resource adequacy requirements called for the LSEs to meet their current NERC sub-region Planning Reserve Margin (PRM) requirements. The Companies had belonged to ECAR, but ECAR did not have a PRM requirement so MISO adopted the 4% Operating Reserve requirement as the interim requirement for ECAR LSEs. The 4% requirement was dropped in 2007, and in 2008, a 13.7% PRM requirement was established. For the sake of simplicity and continuity, the Companies have used a 4% reserve requirement from 2005 through 2008. Between January 2009 and May of 2011, the Companies used the Non-coincident Planning Reserve Zone of 4.5% for 2009 and 5.35% for 2010, as documented in MISO's Resource Adequacy Business Practice Manual. Reserve requirement for June 2011 through 2014 is as documented by PJM on its June 2009 PJM Reserve Requirement Study, Appendix F, ISO Reserve Requirement Comparison. Because the methodologies for determining the reserve requirement are so different between MISO and PJM, PJM has provided a percentage that would be considered the equivalent of the MISO methodology. The reserve requirement for 2014 was held constant for the remainder of th

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PUCO Form FE-R7: Actual and Forecast System Peak Load and Resources Dedicated to Meet System Peak Load (Megawatts) - Summer Season

FirstEnergy System [g]

	(-5) 2005	(-4) 2006	(-3) 2007	(-2) 2008	(-1) 2009	(0) 2010	(1) 2011	(2) 2012
Net Demonstrated Capability	0	0	0	0	0	0	0	0
Net Seasonal Capability	12,594	12,778	12,400	11,879	11,385	11,626	11,832	11,901
Purchases [a]	0	0	0	0	0	0	0	0
Sales	12,594	12,778	12,400	11,879	11,385	11,626	11,832	11,901
Available Capability [b]	12,092	12,268	11,905	11,404	10,937	11,114	11,363	11,448
Native Load [c]	503	510	495	475	448	512	469	453
Available Reserve [d]	12,570	12,746	12,383	11,882	11,195	11,372	11,442	11,527
Internal Load [e]	503	510	495	475	448	512	469	453
Reserve [f]								

	(3) 2013	(4) 2014	(5) 2015	(6) 2016	(7) 2017	(8) 2018	(9) 2019	(10) 2020
Net Demonstrated Capability	0	0	0	0	0	0	0	0
Net Seasonal Capability	0	0	0	0	0	0	0	0
Purchases [a]	11,964	12,217	12,238	12,224	12,214	12,192	12,225	12,286
Sales	0	0	0	0	0	0	0	0
Available Capability [b]	11,964	12,217	12,238	12,224	12,214	12,192	12,225	12,286
Native Load [c]	11,521	11,768	11,787	11,774	11,764	11,743	11,775	11,834
Available Reserve [d]	443	450	450	450	449	449	450	452
Internal Load [e]	11,600	11,768	11,787	11,774	11,764	11,743	11,775	11,834
Reserve [f]	443	450	450	450	449	449	450	452

The Companies have not owned or operated any generation in the state of Ohio since 2005. The energy and capacity requirements associated with the Companies Internal Load are supplied either by Competitive Retail Electric Service providers (CRES Providers), or by wholesale suppliers through master supplier agreements (SSO Suppliers) (With the exception of April-May 2009 when energy and capacity requirements were served by FirstEnergy Solutions). CRES Providers and the SSO Suppliers act as the load serving entity in the RTO's and as such are responsible for complying with all reserve requirements.

[a] Purchases are calculated by adding the Reserve amount to Internal Load. This amount represents the amount of capacity that the LSEs will have to have in order to serve the Companies' Internal Load. Available Reserve can be used to cover the LSE's reserve obligation if the interruptible customers have committed their capability to the LSE directly and the LSE's have registered the Available Reserve on either Module E in MISO or the Available Reserve has cleared through the PJM auction as submitted by the LSE.

[b] Available Capability is equal to Net Seasonal Capability plus Purchases minus Sales.

[c] Native Load is Internal Load less Interruptible Capability.

[d] All of the Companies native load and internal load is served by Load Serving Entities (LSE), either as a Certified Retail Electric Supplier (CRES) or as suppliers for the Standard Service Offer (SSO). The reserves above are theoretical. The Companies currently are not, nor intend to become an LSE, therefore, do not have any reserves. Reserve requirements are

[e] Internal Load is equal to Column 3 on PUCO Form FE-D6 for each Company.

[f] For 2005 and 2006, MISO resource adequacy requirements called for the LSEs to meet their current NERC sub-region Planning Reserve Margin (PRM) requirements. The Companies had belonged to ECAR, but ECAR did not have a PRM requirement so MISO adopted the 4% Operating Reserve requirement as the interim requirement for ECAR LSEs. The 4% requirement was dropped in 2007, and in 2008, a 13.7% PRM requirement was established. For the sake of simplicity and continuity, the Companies have used a 4% reserve requirement from 2005 through 2008. Between January 2009 and May of 2011, the Companies used the Non-coincident Planning Reserve Zone of 4.5% for 2009 and 5.35% for 2010, as documented in MISO's Resource Adequacy Business Practice Manual. Reserve requirement for June 2011 through 2014 is as documented by PJM on its June 2009 PJM Reserve Requirement Study, Appendix F, ISO Reserve Requirement Comparison. Because the methodologies for determining the reserve requirement are so different between MISO and PJM, PJM has provided a percentage that would be considered the equivalent of the MISO methodology. The reserve requirement

g These data include energy for Pennsylvania Power as well as the 3 Ohio companies.

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PUCO Form FE-R8: **Electric Utility's Actual and Forecast Ohio Peak Load and Resources Dedicated to Meet Electric Utility's Ohio Peak Load (Megawatts) - Winter Season**

Ohio Edison Company

	(-5) 2005	(-4) 2006	(-3) 2007	(-2) 2008	(-1) 2009	(0) 2010	(1) 2011	(2) 2012
Net Demonstrated Capability	0	0	0	0	0	0	0	0
Net Seasonal Capability	0	0	0	0	0	0	0	0
Purchases [a]	4,550	4,585	4,319	4,216	4,273	4,128	4,164	4,199
Sales	0	0	0	0	0	0	0	0
Available Capability [b]	4,550	4,585	4,319	4,216	4,273	4,128	4,164	4,199
Native Load [c]	4,175	4,209	3,953	3,854	4,023	3,884	3,967	4,007
Available Reserve [d]	375	376	366	362	250	244	197	192
Internal Load [e]	4,375	4,409	4,153	4,054	4,089	3,950	4,000	4,040
Reserve [f]	175	176	166	162	184	178	164	159

	(3) 2013	(4) 2014	(5) 2015	(6) 2016	(7) 2017	(8) 2018	(9) 2019	(10) 2020
Net Demonstrated Capability	0	0	0	0	0	0	0	0
Net Seasonal Capability	0	0	0	0	0	0	0	0
Purchases [a]	4,224	4,227	4,211	4,196	4,180	4,161	4,179	4,197
Sales	0	0	0	0	0	0	0	0
Available Capability [b]	4,224	4,227	4,211	4,196	4,180	4,161	4,179	4,197
Native Load [c]	4,036	4,071	4,056	4,042	4,026	4,008	4,025	4,043
Available Reserve [d]	188	156	155	154	154	153	154	154
Internal Load [e]	4,069	4,071	4,056	4,042	4,026	4,008	4,025	4,043
Reserve [f]	155	156	155	154	154	153	154	154

The Companies have not owned or operated any generation in the state of Ohio since 2005. The energy and capacity requirements associated with the Companies Internal Load are supplied either by Competitive Retail Electric Service providers (CRES Providers), or by wholesale suppliers through master supplier agreements (SSO Suppliers) (With the exception of April-May 2009 when energy and capacity requirements were served by FirstEnergy Solutions). CRES Providers and the SSO Suppliers act as the load serving entity in the RTO's and as such are responsible for complying with all reserve requirements.

[a] Purchases are calculated by adding the Reserve amount to Internal Load. This amount represents the amount of capacity that the LSEs will have to have in order to serve the Companies' Internal Load. Available Reserve can be used to cover the LSE's reserve obligation if the interruptible customers have committed their capability to the LSE directly and the LSE's have registered the Available Reserve on either Module E in MISO or the Available Reserve has cleared through the PJM auction as submitted by the LSE.

[b] Available Capability is equal to Purchases since the Companies do not have any Net Demonstrated or Net Seasonal Capability.

[c] Native Load is Internal Load less Interruptible Capability

[d] Available Reserve is equal to the Available Capability minus the Native Load.

[e] Internal Load is equal to Column 3 on PUCO Form FE-D6 for each Company

[f] For 2005 and 2006, MISO resource adequacy requirements called for the LSEs to meet their current NERC sub-region Planning Reserve Margin (PRM) requirements. The Companies had belonged to ECAR, but ECAR did not have a PRM requirement so MISO adopted the 4% Operating Reserve requirement as the interim requirement for ECAR LSEs. The 4% requirement was dropped in 2007, and in 2008, a 13.7% PRM requirement was established. For the sake of simplicity and continuity, the Companies have used a 4% reserve requirement from 2005 through 2008. Between January 2009 and May of 2011, the Companies used the Non-coincident Planning Reserve Zone of 4.5% for 2009 and 5.35% for 2010, as documented in MISO's Resource Adequacy Business Practice Manual. Reserve requirement for June 2011 through 2014 is as documented by PJM on its June 2009 PJM Reserve Requirement Study, Appendix F, ISO Reserve Requirement Comparison. Because the methodologies for determining the reserve requirement are so different between MISO and PJM, PJM has provided a percentage that would be considered the equivalent of the MISO methodology. The reserve requirement for 2014 was held constant for the re

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PUCO Form FE-R8: Electric Utility's Actual and Forecast Ohio Peak Load and Resources Dedicated to Meet Electric Utility's Ohio Peak Load (Megawatts) - Winter Season

The Cleveland Electric Illuminating Company

	(-5) 2005	(-4) 2006	(-3) 2007	(-2) 2008	(-1) 2009	(0) 2010	(1) 2011	(2) 2012
Net Demonstrated Capability	0	0	0	0	0	0	0	0
Net Seasonal Capability	0	0	0	0	0	0	0	0
Purchases [a]	3,348	3,417	3,278	3,199	3,365	3,184	3,168	3,130
Sales	0	0	0	0	0	0	0	0
Available Capability [b]	3,348	3,417	3,278	3,199	3,365	3,184	3,168	3,130
Native Load [c]	3,109	3,175	3,042	2,966	3,188	2,999	3,009	2,978
Available Reserve [d]	239	241	236	233	177	185	159	152
Internal Load [e]	3,219	3,285	3,152	3,076	3,236	3,047	3,043	3,012
Reserve [f]	129	131	126	123	129	137	125	118

	(3) 2013	(4) 2014	(5) 2015	(6) 2016	(7) 2017	(8) 2018	(9) 2019	(10) 2020
Net Demonstrated Capability	0	0	0	0	0	0	0	0
Net Seasonal Capability	0	0	0	0	0	0	0	0
Purchases [a]	3,209	3,270	3,254	3,239	3,225	3,211	3,226	3,243
Sales	0	0	0	0	0	0	0	0
Available Capability [b]	3,209	3,270	3,254	3,239	3,225	3,211	3,226	3,243
Native Load [c]	3,057	3,150	3,134	3,120	3,106	3,093	3,107	3,124
Available Reserve [d]	152	120	120	119	119	118	119	119
Internal Load [e]	3,091	3,150	3,134	3,120	3,106	3,093	3,107	3,124
Reserve [f]	118	120	120	119	119	118	119	119

The Companies have not owned or operated any generation in the state of Ohio since 2005. The energy and capacity requirements associated with the Companies Internal Load are supplied either by Competitive Retail Electric Service providers (CRES Providers), or by wholesale suppliers through master supplier agreements (SSO Suppliers) (With the exception of April-May 2009 when energy and capacity requirements were served by FirstEnergy Solutions). CRES Providers and the SSO Suppliers act as the load serving entity in the RTO's and as such are responsible for complying with all reserve requirements.

[a] Purchases are calculated by adding the Reserve amount to Internal Load. This amount represents the amount of capacity that the LSEs will have to have in order to serve the Companies' Internal Load. Available Reserve can be used to cover the LSE's reserve obligation if the interruptible customers have committed their capability to the LSE directly and the LSE's have registered the Available Reserve on either Module E in MISO or the Available Reserve has cleared through the PJM auction as submitted by the LSE.

[b] Available Capability is equal to Purchases since the Companies do not have any Net Demonstrated or Net Seasonal Capability.

[c] Native Load is Internal Load less Interruptible Capability

[d] Available Reserve is equal to the Available Capability minus the Native Load.

[e] Internal Load is equal to Column 3 on PUCO Form FE-D6 for each Company

[f] For 2005 and 2006, MISO resource adequacy requirements called for the LSEs to meet their current NERC sub-region Planning Reserve Margin (PRM) requirements. The Companies had belonged to ECAR, but ECAR did not have a PRM requirement so MISO adopted the 4% Operating Reserve requirement as the interim requirement for ECAR LSEs. The 4% requirement was dropped in 2007, and in 2008, a 13.7% PRM requirement was established. For the sake of simplicity and continuity, the Companies have used a 4% reserve requirement from 2005 through 2008. Between January 2009 and May of 2011, the Companies used the Non-coincident Planning Reserve Zone of 4.5% for 2009 and 5.35% for 2010, as documented in MISO's Resource Adequacy Business Practice Manual. Reserve requirement for June 2011 through 2014 is as documented by PJM on its June 2009 PJM Reserve Requirement Study, Appendix F, ISO Reserve Requirement Comparison. Because the methodologies for determining the reserve requirement are so different between MISO and PJM, PJM has provided a percentage that would be considered the equivalent of the MISO methodology. The reserve requirement for 2014 was held constant for the re

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PUCO Form FE-R8: **Electric Utility's Actual and Forecast Ohio Peak Load and Resources Dedicated to Meet Electric Utility's Ohio Peak Load (Megawatts) - Winter Season**

The Toledo Edison Company

	(-5) 2005	(-4) 2006	(-3) 2007	(-2) 2008	(-1) 2009	(0) 2010	(1) 2011	(2) 2012
Net Demonstrated Capability	0	0	0	0	0	0	0	0
Net Seasonal Capability	0	0	0	0	0	0	0	0
Purchases [a]	1,702	1,739	1,685	1,889	1,667	1,748	1,752	1,771
Sales	0	0	0	0	0	0	0	0
Available Capability [b]	1,702	1,739	1,685	1,889	1,667	1,748	1,752	1,771
Native Load [c]	1,468	1,504	1,452	1,648	1,459	1,529	1,671	1,692
Available Reserve [d]	233	235	233	241	208	219	81	79
Internal Load [e]	1,636	1,672	1,620	1,816	1,603	1,673	1,683	1,704
Reserve [f]	65	67	65	73	64	75	69	67

	(3) 2013	(4) 2014	(5) 2015	(6) 2016	(7) 2017	(8) 2018	(9) 2019	(10) 2020
Net Demonstrated Capability	0	0	0	0	0	0	0	0
Net Seasonal Capability	0	0	0	0	0	0	0	0
Purchases [a]	1,797	1,815	1,825	1,832	1,838	1,843	1,862	1,881
Sales	0	0	0	0	0	0	0	0
Available Capability [b]	1,797	1,815	1,825	1,832	1,838	1,843	1,862	1,881
Native Load [c]	1,719	1,749	1,758	1,765	1,770	1,775	1,794	1,812
Available Reserve [d]	78	67	67	67	68	68	69	69
Internal Load [e]	1,731	1,749	1,758	1,765	1,770	1,775	1,794	1,812
Reserve [f]	66	67	67	67	68	68	69	69

The Companies have not owned or operated any generation in the state of Ohio since 2005. The energy and capacity requirements associated with the Companies Internal Load are supplied either by Competitive Retail Electric Service providers (CRES Providers), or by wholesale suppliers through master supplier agreements (SSO Suppliers) (With the exception of April-May 2009 when energy and capacity requirements were served by FirstEnergy Solutions). CRES Providers and the SSO Suppliers act as the load serving entity in the RTO's and as such are responsible for complying with all reserve requirements.

[a] Purchases are calculated by adding the Reserve amount to Internal Load. This amount represents the amount of capacity that the LSEs will have to have in order to serve the Companies' Internal Load. Available Reserve can be used to cover the LSE's reserve obligation if the interruptible customers have committed their capability to the LSE directly and the LSE's have registered the Available Reserve on either Module E in MISO or the Available Reserve has cleared through the PJM auction as submitted by the LSE.

[b] Available Capability is equal to Net Seasonal Capability plus Purchases minus Sales.

[c] Native Load is Internal Load less Interruptible Capability.

[d] All of the Companies native load and internal load is served by Load Serving Entities (LSE), either as a Certified Retail Electric Supplier (CRES) or as suppliers for the Standard Service Offer (SSO). The reserves above are theoretical. The Companies currently are not, nor intend to become an LSE, therefore, do not have any reserves. Reserve requirements are supplied by the

[e] Internal Load is equal to Column 3 on PUCO Form FE-D6 for each Company.

[f] For 2005 and 2006, MISO resource adequacy requirements called for the LSEs to meet their current NERC sub-region Planning Reserve Margin (PRM) requirements. The Companies had belonged to ECAR, but ECAR did not have a PRM requirement so MISO adopted the 4% Operating Reserve requirement as the interim requirement for ECAR LSEs. The 4% requirement was dropped in 2007, and in 2008, a 13.7% PRM requirement was established. For the sake of simplicity and continuity, the Companies have used a 4% reserve requirement from 2005 through 2008. Between January 2009 and May of 2011, the Companies used the Non-coincident Planning Reserve Zone of 4.5% for 2009 and 5.35% for 2010, as documented in MISO's Resource Adequacy Business Practice Manual. Reserve requirement for June 2011 through 2014 is as documented by PJM on its June 2009 PJM Reserve Requirement Study, Appendix F, ISO Reserve Requirement Comparison. Because the methodologies for determining the reserve requirement are so different between MISO and PJM, PJM has provided a percentage that would be considered the equivalent of the MISO methodology. The reserve requirement for 2014 was held constant for the re

4901-5-5-06(A)(6)(d)(vi)
PUCO Form FE-R9: **Actual and Forecast System Peak Load and Resources Dedicated to Meet System Peak Load (Megawatts) - Winter Season**

FirstEnergy System [g]

	(-5) 2005	(-4) 2006	(-3) 2007	(-2) 2008	(-1) 2009	(0) 2010	(1) 2011	(2) 2012
Net Demonstrated Capability								
Net Seasonal Capability								
Purchases [a]	10,466	10,643	10,099	9,941	10,168	9,832	9,853	9,880
Sales								
Available Capability [b]	10,466	10,643	10,099	9,941	10,168	9,832	9,853	9,880
Native Load [c]	9,585	9,756	9,233	9,080	9,472	9,151	9,386	9,428
Available Reserve [d]	881	887	866	860	696	681	467	453
Internal Load [e]	10,063	10,234	9,711	9,558	9,730	9,409	9,465	9,507
Reserve [f]	403	409	388	382	438	423	388	374

	(3) 2013	(4) 2014	(5) 2015	(6) 2016	(7) 2017	(8) 2018	(9) 2019	(10) 2020
Net Demonstrated Capability								
Net Seasonal Capability								
Purchases [a]	10,052	10,171	10,158	10,147	10,133	10,115	10,178	10,241
Sales								
Available Capability [b]	10,052	10,171	10,158	10,147	10,133	10,115	10,178	10,241
Native Load [c]	9,603	9,796	9,784	9,774	9,760	9,743	9,803	9,864
Available Reserve [d]	449	374	374	373	373	372	374	377
Internal Load [e]	9,682	9,796	9,784	9,774	9,760	9,743	9,803	9,864
Reserve [f]	370	374	374	373	373	372	374	377

The Companies have not owned or operated any generation in the state of Ohio since 2005. The energy and capacity requirements associated with the Companies Internal Load are supplied either by Competitive Retail Electric Service providers (CRES Providers), or by wholesale suppliers through master supplier agreements (SSO Suppliers) (With the exception of April-May 2009 when energy and capacity requirements were served by FirstEnergy Solutions). CRES Providers and the SSO Suppliers act as the load serving entity in the RTO's and as such are responsible for complying with all reserve requirements.

[a] Purchases are calculated by adding the Reserve amount to Internal Load. This amount represents the amount of capacity that the LSEs will have to have in order to serve the Companies' Internal Load. Available Reserve can be used to cover the LSE's reserve obligation if the interruptible customers have committed their capability to the LSE directly and the LSE's have registered the Available Reserve on either Module E in MISO or the Available Reserve has cleared through the PJM auction as submitted by the LSE.

[b] Available Capability is equal to Net Seasonal Capability plus Purchases minus Sales.

[c] Native Load is Internal Load less Interruptible Capability.

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[e] Internal Load is equal to Column 3 on PUCO Form FE-D6 for each Company.

[f] For 2005 and 2006, MISO resource adequacy requirements called for the LSEs to meet their current NERC sub-region Planning Reserve Margin (PRM) requirements. The Companies had belonged to ECAR, but ECAR did not have a PRM requirement so MISO adopted the 4% Operating Reserve requirement as the interim requirement for ECAR LSEs. The 4% requirement was dropped in 2007, and in 2008, a 13.7% PRM requirement was established. For the sake of simplicity and continuity, the Companies have used a 4% reserve requirement from 2005 through 2008. Between January 2009 and May of 2011, the Companies used the Non-coincident Planning Reserve Zone of 4.5% for 2009 and 5.35% for 2010, as documented in MISO's Resource Adequacy Business Practice Manual. Reserve requirement for June 2011 through 2014 is as documented by PJM on its June 2009 PJM Reserve Requirement Study, Appendix F, ISO Reserve Requirement Comparison. Because the methodologies for determining the reserve requirement are so different between MISO and PJM, PJM has provided a percentage that would be considered the equivalent of the MISO methodology. The reserve requirement for 2014 was held con

g These data include energy for Pennsylvania Power as well as the 3 Ohio companies.

4901-5-5-06(A)(6)(e)

PUCO Form FE-R10: Specifications of Planned Electric Generation Facilities [a]

1. Facility Name
2. Facility Location
3. Facility Type
4. Anticipated Capability
5. Anticipated Capital Cost
6. Application Timing
7. Construction Timing
8. Planned Pollution Control Measures
9. Fuel
10. Miscellaneous

[a] The companies do not own or operate generation, nor intend to, for the duration of this forecast. Please see section 4901:5-5-06(A)(1) for further information