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PUBLIC VERSION

TO THE

PUBLIC UTILITIES COMMISSION OF OHIO

DUKE ENERGY OHIO, INC.

2011 ELECTRIC

LONG-TERM FORECAST REPORT

AND RESOURCE PLAN

CASE NO. 11-1439-EL-FOR

STATEMENT
OF
JULIA S. JANSON
PRESIDENT, DUKE ENERGY OHIO, INC.

I, Julia S. Janson, President of Duke Energy Ohio, Inc., hereby certify that the statement and modifications set forth in the 2011 DUKE ENERGY OHIO LONG-TERM ELECTRIC FORECAST REPORT AND RESOURCE PLAN as submitted to the Public Utilities Commission of Ohio are true and correct to the best of my knowledge and belief.

I further certify that the requirements of Ohio Administrative Code §4901:5-1-03, paragraphs (F) to (I) will be met.

Julia S. Janson
President
Duke Energy Ohio, Inc.

Libraries Receiving a Letter of Notification Regarding Duke Energy Ohio, Inc.'s 2011 Long-Term Forecast Report and Resource Plan

County	Library	Address
Adams	Manchester Branch Library	401 Pike St. Manchester, Ohio 45144
Brown	Mary P. Shelton Library	200 West Grant Avenue Georgetown, Ohio 45121
Butler	Lane Public Library	300 North Third Street Hamilton, Ohio 45011
Butler	Middletown Public Library	125 South Broad Street Middletown, Ohio 45044
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CERTIFICATE OF SERVICE

I hereby certify that a true and accurate copy of Duke Energy Ohio's Long-Term Forecast Report and Resource Plan was served by hand delivery, this 15th day of July, 2011 upon the following:

Office of the Ohio Consumers' Counsel

10 West Broad Street, Suite 1800

Columbus, OH 43215-3485

Furthermore, a Letter of Notification was sent by First Class U.S. Mail to each library listed in the Report.

Elizabeth H. Watts
Associate General Counsel
Duke Energy Business Services

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SECTION I – FORECAST REPORT REQUIREMENTS

A. SUMMARY OF THE LONG-TERM FORECAST REPORT

Duke Energy Ohio provides electric service to approximately 690,000 customers in an area covering some 2,500 square miles in Southwestern Ohio. Duke Energy Ohio's service territory includes the cities of Cincinnati and Middletown, Ohio. Duke Energy Kentucky provides electric service in the Northern Kentucky area contiguous to the Southwestern Ohio area served by Duke Energy Ohio. Duke Energy Kentucky serves approximately 136,000 electric customers in its 500 square mile service territory. Duke Energy Kentucky's service territory includes the cities of Covington and Newport, Kentucky. Duke Energy Ohio and Duke Energy Kentucky operate within the regional economy as defined by the Cincinnati Primary Metropolitan Statistical Area (PMSA). Therefore, the Company coordinates and prepares the forecast for the entire region encompassing both utility service areas. This consolidated forecast is then allocated to each service area. Subsequently, this report covers the forecast for Duke Energy Ohio only.

As of December 2010, the transmission system of Duke Energy Ohio consisted of approximately 403 circuit miles of 345 kV lines (including Duke Energy Ohio's share of jointly-owned transmission) and 724 circuit miles of 138 kV lines. Portions of the 345 kV transmission system are jointly owned with Columbus Southern Power Company and/or the Dayton Power & Light Company. Duke Energy Ohio is interconnected with five other transmission providers (including Duke Energy Indiana).

The electric energy and peak demand forecasts of the Duke Energy Ohio franchised service territory are prepared each year as part of the planning process.

The general framework of the Electric Energy and Peak Load Forecast involves a national economic forecast, a service area economic forecast, and the electric load forecast.

The national economic forecast provides information about the prospective growth of the national economy. This involves projections of national economic and demographic concepts such as population, employment, industrial production, inflation, wage rates, and income. The national economic forecast is obtained from Moody's Analytics, a national economic consulting firm.

Similarly, the history and forecast of key economic and demographic concepts for the service area economy is obtained from Moody's Analytics. The service area economic forecast is used along with the energy and peak models to produce the electric load forecast.

Energy sales projections are prepared for the residential, commercial, industrial, and other sectors. Those components plus electric system losses are aggregated to produce a forecast of net energy.

Table 1-1 below, provides information on the Duke Energy Ohio System projected annual growth rates in energy for the major customer classes as well as net energy and peak demand before and after implementation of any new or incremental energy efficiency programs. The growth rates are consistent with the forecast presented in the FE-D forms in Section 3 and represent the full distribution forecast regardless of who supplies the energy. The forecast incorporates impacts associated with the Energy Independence and Security Act of 2007 (EISA).

TABLE 1-1
Duke Energy Ohio System

ELECTRIC ENERGY AND PEAK LOAD

FORECAST: ANNUAL GROWTH RATES

2011 to 2021

	Before EE	After EE
Residential MWH	0.8%	-0.7%
Commercial MWH	1.5%	0.3%
Industrial MWH	1.6%	0.5%
Net Energy MWH	1.2%	-0.1%
Summer Peak MW	1.0%	0.2%
Winter Peak MW	0.9%	0.3%

Growth rates are computed as the compound annual rate of growth in total distribution loads for the years 2011-2021.

The forecast of energy is graphically depicted on Figure 1-1, and the summer and winter peak forecasts are shown on Figure 1-2.

Please note that the FE-T forms in Section II represent the load supplied by the regulated utility. These forecasts of energy and peak demand provide the starting point for the development of the Integrated Resource Plan. As such, the first year of the forecast reflects energy and peak reduced for current switching levels, i.e. default load supplied by the regulated utility. The remaining years of the forecast reflect the assumption that all load returns to the regulated utility at the end of the current ESP in 2011. This result follows from the assumption that the Company sets an electric generation price at a new market-based ESP price. With the establishment of an ESP price at a market level, it is assumed that the cost savings that encourages customer switching would disappear. As a result, in this event, all switched customers are expected to return to the regulated utility for generation service.

Changes In Methodology

The Company changed its approach regarding the development of its appliance stock variable to rely more completely on information from Itron, Inc. for estimates of historical appliance efficiency. The Company uses the latest historical data available and relies on recent economic data and forecasts from Moody's Analytics.

Figure 1.1: Total Energy Forecast (Before Implementation of Energy Efficiency Programs)

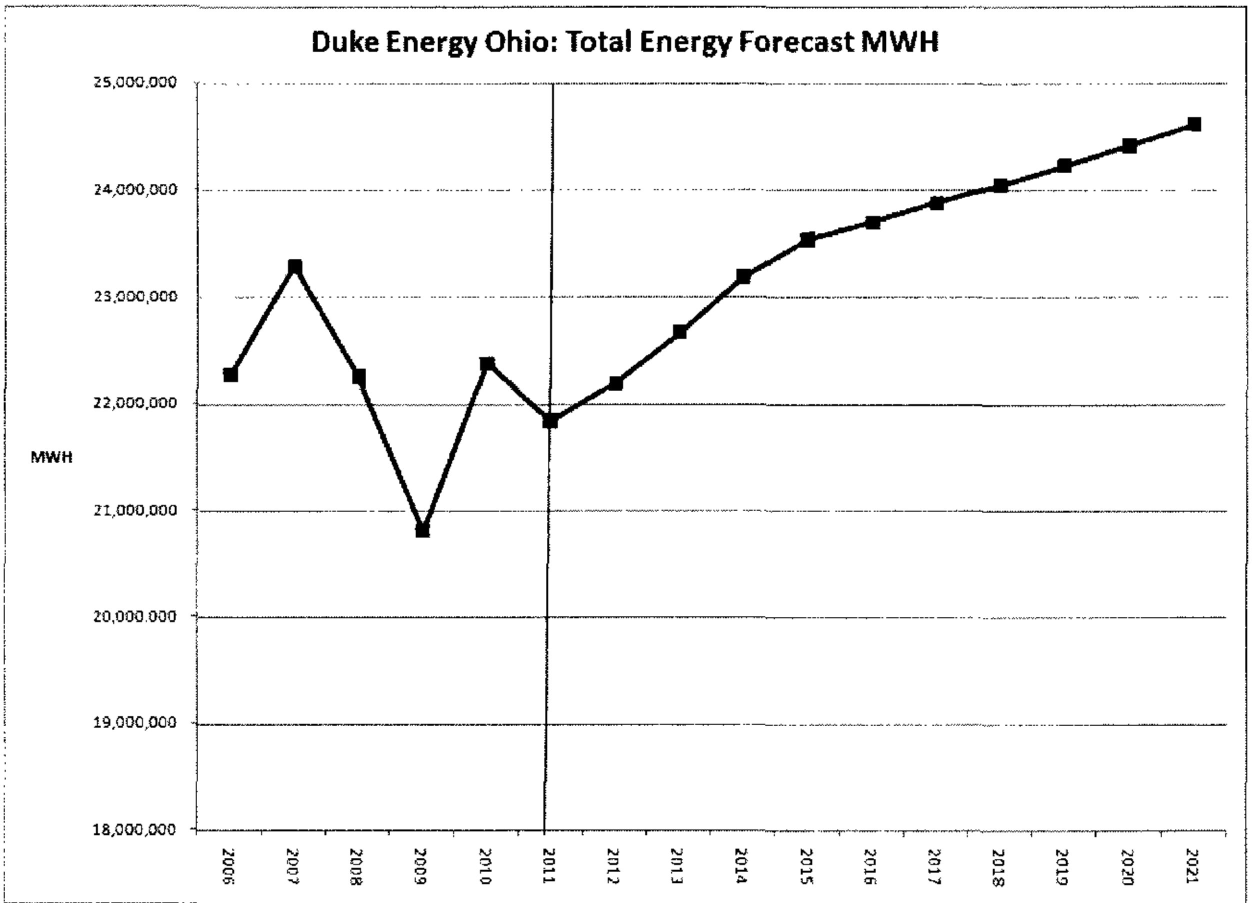
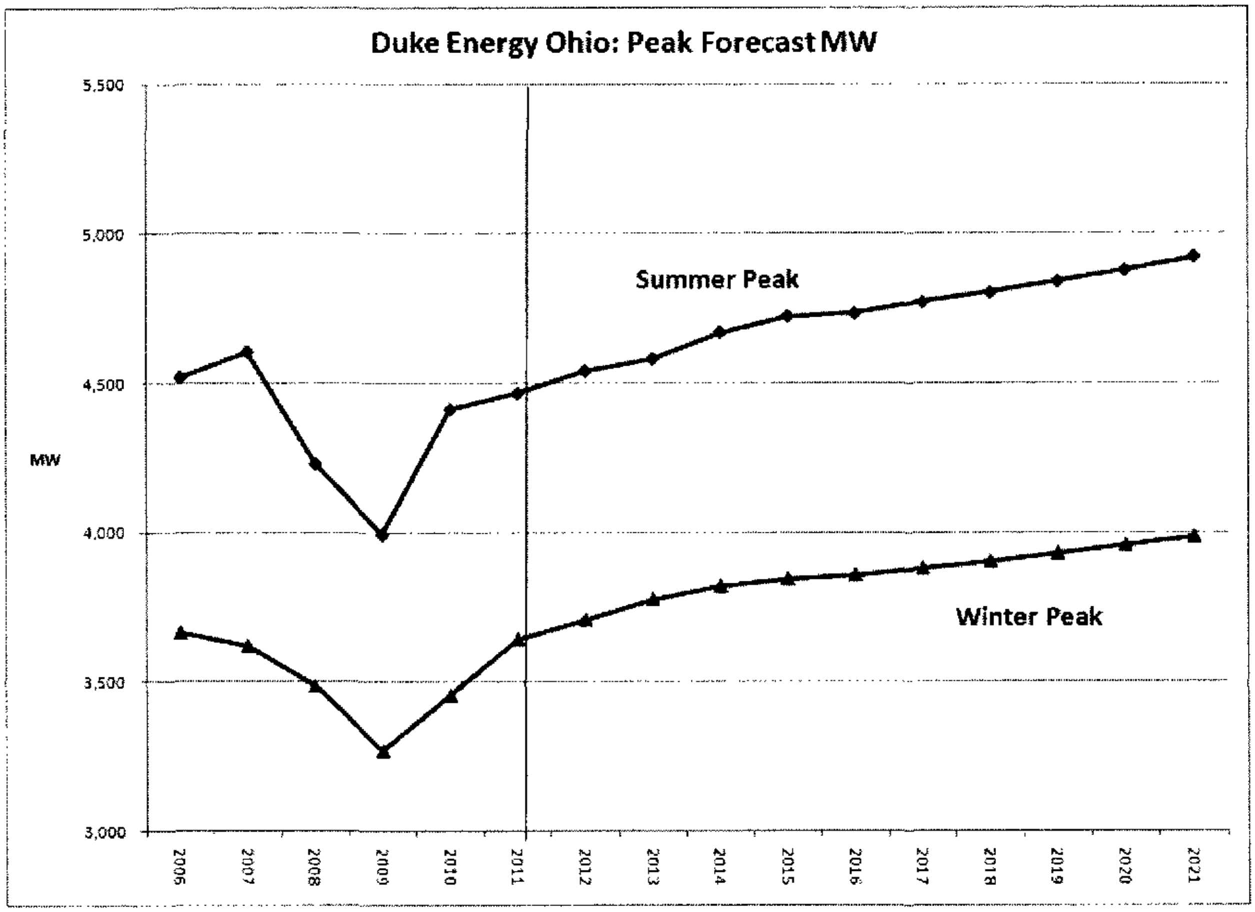


Figure 2.2: Peak Forecast (Before Implementation of Energy Efficiency Programs)



The electric energy and peak demand forecasts of the Duke Energy Ohio service territory are prepared each year as part of the planning process by a staff that is shared with the other Duke Energy affiliated utilities, using the same methodology. Duke Energy Ohio does not perform joint load forecasts with non-affiliated utility companies, and the forecast is prepared independently of the forecasting efforts of non-affiliated utilities.

B. FORECAST SUMMARY & ASSUMPTIONS

The forecast methodology is essentially the same as that presented in past Electric Long-Term Forecast Reports Plans filed with the Public Utilities Commission of Ohio (Commission). Energy is a key commodity linked to the overall level of economic activity. As residential, commercial, and industrial economic activity increases or decreases, the use of energy, or more specifically electricity, should increase or decrease, respectively. It is this linkage to economic activity that is important to the development of long-range energy forecasts. For that reason, forecasts of the national and local economies are key ingredients to energy forecasts.

The general framework of the Electric Energy and Peak Load Forecast involves a national economic forecast, a service area economic forecast, and the electric load forecast. The national economic forecast provides information about the prospective growth of the national economy. This involves projections of national economic and demographic concepts such as population, employment, industrial production, inflation, wage rates, and income. The national economic forecast is obtained from Moody's Analytics, a nationally recognized vendor of economic forecasts. In conjunction with the forecast of the national economy, the Company also obtains a forecast of the service area economy from Moody's Analytics.

The Duke Energy Ohio service area is located in southwestern Ohio adjacent to the service area of Duke Energy Kentucky. The economy of southwestern Ohio is contained within the Cincinnati Primary Metropolitan Statistical Area (PMSA) and is an integral part of the regional economy. The service area economic forecast is used along with the energy and peak models to produce the electric load forecast.

1. Service Area Economy

There are several sectors to the service area economy: employment, income, inflation, production, and population. Forecasts of employment are provided by North American Industry Classification System (NAICS) and aggregated to major sectors such as commercial and industrial. Income for the local economy is forecasted in several categories including wages, rents, proprietors' income, personal contributions for social insurance, and transfer payments. The forecasts of these items are summed to produce the forecast of income less personal contributions for social insurance. Inflation is measured by changes in the Consumer Price Index (CPI). Production is projected for each key NAICS group by multiplying the forecast of productivity (production per employee) by the forecast of employment. Population projections are aggregated from forecasts by age-cohort. This information serves as input into the energy and peak load forecast models.

2. Electric Energy Forecast

The forecast methodology follows economic theory in that the use of energy is dependent upon key economic factors such as income, production, energy prices, and the weather. The projected energy requirements for Duke Energy Ohio's retail electric customers are determined through econometric analysis. Econometric models are a means of representing economic behavior through the use of statistical methods, such as regression analysis.

The Duke Energy Ohio forecast of energy requirements is included within the overall forecast of energy requirements of the Greater Cincinnati and Northern Kentucky region. The Duke Energy Ohio sales forecast is developed by allocating percentages of the total regional forecast for each customer group. These groups include residential, commercial, industrial, governmental or other public authority (OPA), and street lighting energy sectors. In addition, forecasts are also prepared for three minor categories: interdepartmental use (Gas Department), Company use, and losses. In a similar fashion, the Duke Energy Ohio peak load forecast is developed by allocating a share from the regional total. Historical percentages and judgment are used to develop the allocations of sales and peak demands.

With respect to energy-price relationships, the forecast methodology described below includes discussion on the incorporation of energy price variables in the model specification. The price variables are explicitly included in the forecast models to account for the effect that changes in real prices can have on the level of energy usage. The econometric models presented in the report provide estimates of price elasticity for specific customer groups. Load impacts from rising real prices are also examined relative to projected load impacts from energy efficiency programs to ascertain how much of the price elasticity impacts are already reflected through impacts from energy efficiency programs.

The following sections provide the specifications of the econometric equations developed to forecast electricity sales for the franchised service territory.

Residential Sector - There are two components to the residential sector energy forecast: the number of residential customers and kWh energy usage per customer. The forecast of total residential sales is developed by multiplying the forecasts of the two components. That is:

(1) Residential Sales =

Number of Residential Customers * Use per Residential Customer.

Econometric relationships are developed for each of the component pieces of total residential sales.

Customers - The number of electric residential customers (households) is affected by real per capita income. This is represented as follows:

(2) Residential Customers =

f (Real Per Capita Income)

Where: Real Per Capita Income = (Personal Income/Population/CPI).

While changes in per capita income are expected to alter the number of residential customers, the adjustment relating to real per capita income is not immediate. The number of customers will change gradually over time as a result of a change in real per capita income. This adjustment process is modeled using a lag structure.

Residential Use per Customer - The key ingredients that impact energy use per customer are per capita income, real electricity prices and the combined impact of numerous other determinants. These include the saturation of air conditioners, electric space heating, other appliances, the efficiency of those appliances, and weather.

(3) Energy usage per Customer =

f (Real Income per Capita * Efficient Appliance Stock,

Real Electricity Price * Efficient Appliance Stock,

Saturation of Electric Heating Customers,

Saturation of Customers with Central Air Conditioning,

Saturation of Window Air Conditioning Units, Efficiency of Space Conditioning Appliances,

Billed Cooling and Heating Degree Days).

The derivation of the efficient appliance stock variable and the forecast of appliance saturations are discussed in the data section.

Commercial Sector - Commercial electricity usage changes with the level of local commercial employment, real electricity price, and the impact of weather. The model is formulated as follows:

(4) Commercial Sales =

f (Commercial Employment,

Marginal Electric Price/Consumer Price Index,

Billed Cooling and Heating Degree Days).

Industrial Sector - Duke Energy Ohio produces industrial sales forecasts by NAICS classifications. Electricity use by industrial customers is primarily dependent upon the level of industrial production and the impacts of real electricity prices, electric price relative to alternate fuels, and weather. The general model of industrial sales is formulated as follows:

(5) Industrial Sales =

f (Industrial Production,

Real Electricity Price,

Electricity Price/Alternate Fuel Price,

Billed Cooling and Heating Degree Days).

Governmental Sector - The Company uses the term Other Public Authorities (OPA) to indicate those customers involved and/or affiliated with federal, state or local government. Two categories comprise the electricity sales in the Other Public Authority (OPA) sector: sales to OPA water pumping customers and sales to OPA non-water pumping customers.

In the case of OPA water pumping, electricity sales are related to the number of residential electricity customers, real price of electricity demand, precipitation levels, and heating and cooling degree days. That is:

(6) Water Pumping Sales =

f (Residential Electricity Customers,

Real Electricity Demand Price,

Precipitation,

Cooling Degree Days).

Electricity sales to the non-water pumping component of Other Public Authority is related to governmental employment, the real price of electricity, the real price of natural gas, and heating and cooling degree days. This relationship can be represented as follows:

(7) Non-Water Pumping Sales =

f (Governmental Employment,

Marginal Electric Energy Price/Natural Gas Price, Billed Cooling and Heating Degree Days).

The total OPA electricity sales forecast is the sum of the individual forecasts of sales to water pumping and non-water pumping customers.

Street Lighting Sector - For the street lighting sector, electricity usage varies with the number of street lights and the efficiency of the lighting fixtures used. The number of street lights is associated with the population of the service area. The efficiency of the street lights is related to the saturation of mercury and sodium vapor lights. That is:

(8) Street Lighting Sales =

f (Population,

Saturation of Mercury Vapor Lights,

Saturation of Sodium Vapor Lights).

Total Electric Sales - Once these separate components have been projected - Residential sales, Commercial sales, Industrial sales, Other Public Authority sales, and Street Lighting sales - they can be summed along with Inter-department sales to produce the projection of total electric sales.

Total System Sendout - Upon completion of the total electric sales forecast, the forecast of total energy can be prepared. This requires that all the individual sector forecasts be combined along with forecasts of Company use, and system losses. After the system sendout forecast is completed, the peak load forecast can be prepared.

Peak Load - Forecasts of summer and winter peak demands are developed using econometric models.

The peak forecasting model is designed to closely represent the relationship of weather to peak loads. Only days when the temperature equaled or exceeded 90 degrees are included in the summer peak model. For the winter, only those days with a temperature at or below 10 degrees are included in the winter peak model.

Summer Peak - Summer peak loads are influenced by the current level of economic activity and the weather conditions. The primary weather factors are temperature and humidity; however, not only are the temperature and humidity at the time of the peak important, but also the morning low temperature, and high temperature from the day before. These other temperature variables are important to capture effect of thermal buildup.

The summer equation can be specified as follows:

(9) Peak = f (Weather Normalized Sendout, Weather Factors).

Winter Peak - Winter peak loads are also influenced by the current level of economic activity and the weather conditions. The selection of winter weather factors depends upon whether the peak occurs in the morning or evening. For a morning peak, the primary weather factors are morning low temperature, wind speed, and the prior evening's low temperature. For an evening peak, the primary weather factors are the evening low temperature, wind speed, and the morning low temperature.

The winter equation is specified in a similar fashion as the summer:

(10) Peak = f (Weather Normalized Sendout, Weather Factors).

The summer and winter peak equations are estimated separately for the respective seasonal periods. Peak load forecasts are produced under specific assumptions regarding the type of weather conditions typically expected to cause a peak.

Weather-Normalized Sendout - The level of peak demand is related to economic activity. The best indicator of the combined influences of economic variables on peak demand is the level of base load demand exclusive of aberrations caused by non-normal weather. Thus, the first step in developing the peak equations is to weather normalize historical monthly sendout.

The procedure used to develop historical weather normalized sendout data involves two steps. First, instead of weather normalizing sendout in the aggregate, each component is weather normalized. In other words, residential, commercial, industrial, and other public authority, are individually adjusted for the difference between actual and normal weather. Street lighting sales are not weather normalized because they are not weather sensitive. Using the equations previously discussed, the adjustment process is performed as follows:

Let: $KWH(N) = f(W(N))g(E)$

$KWH(A) = f(W(A))g(E)$

Where: KWH(N) = electric sales - normalized

W(N) = weather variables - normal

E = economic variables

KWH(A) = electric sales - actual

W(A) = weather variables - actual

Then: $KWH(N) = KWH(A) * f(W(N))g(E)/f(W(A))g(E)$

$$=KWH(A) * f(W(N))/f(W(A))$$

With this process, weather normalized sales are computed by scaling actual sales for each class by a factor from the forecast equation that accounts for the impact of deviation from normal weather. Industrial sales are weather normalized using a factor from an aggregate industrial equation developed for that purpose.

Second, weather normalized sendout is computed by summing the weather normalized sales with non-weather sensitive sector sales. This weather adjusted sendout is then used as a variable in the summer and winter peak equations.

Peak Forecast Procedure - *The summer peak usually occurs in July or August in the* afternoon and the winter peak occurs the following January in the morning or evening. Since the energy model produces forecasts under the assumption of normal weather, the forecast of sendout is "weather normalized" by design. Thus, the forecast of sendout drives the forecast of the peaks. In the forecast, the weather variables are set to values determined to be normal peak-producing conditions. These values are derived using historical data on the worst weather conditions in each year (summer and winter).

National Economy

It is generally assumed that the Duke Energy Ohio service area economy will tend to react much like the national economy over the forecast period. Duke Energy Ohio uses a long-term forecast of the national and service area economy prepared by Moody's Analytics.

No major wars or energy embargoes are assumed to occur during the forecast period. Even if minor conflicts and/or energy supply disruptions, such as those caused by hurricanes, occur during the forecast period, the long-range path of the overall forecast would not be dramatically altered.

A major risk to the national and regional economic forecasts and hence the electric load forecast is the continued economic growth in the U.S. economy. While the national and local economies have been experiencing the effects of a decline in economic activity since the fourth quarter of 2007, there are strong signs that the economy is recovering. The ultimate outcome in the near term is dependent upon the success of the economy moving forward out of this slow period as well as managing recent increases in energy prices.

With extensive economic diversity, the Cincinnati area economy, including Northern Kentucky, is well structured to withstand an economic slowdown and make the adjustments necessary for growth. In the manufacturing sector, its major industries are food products, paper, printing, chemicals, steel, fabricated metals, machinery, and automotive and aircraft transportation equipment. In the non-manufacturing sector, its major industries are life insurance and finance. In addition, the Cincinnati area is the headquarters for major international and national market-oriented retailing establishments.

Local Economy

Forecasts of employment, local population, industrial production, and inflation are key indicators of economic and demographic trends for the Duke Energy Ohio service area. The majority of the employment growth over the forecast period occurs in the non-manufacturing sector. This reflects a continuation of the trend toward the service industries and the fundamental change that is occurring in manufacturing and other basic industries. The rate of growth in local employment expected over the forecast will be below the national level: 0.7 percent locally versus 1.3 percent nationally (2011-2021).

Duke Energy Ohio is also affected by national population trends. The average age of the U.S. population is rising. The primary reasons for this phenomenon are stagnant birth rates and lengthening life expectancies. As a result, the portion of the population of the Duke Energy Ohio service area that is "age 65 and older" increases over the forecast period. Over the period 2011 to 2021, Duke Energy Ohio's population is expected to increase at an annual average rate of 0.6 percent. Nationally, population is expected to grow at an annual rate of 1.0 percent over the same period.

For the forecast period, local industrial production is expected to increase at a 2.0 percent annual rate, while 1.4 percent is the expected growth rate for the nation.

The residential sector is the largest in terms of total existing customers and total new customers per year. Within the Duke Energy Ohio service area, many commercial customers serve local markets. Therefore, there is a close relationship between the growth in local residential customers and the growth in commercial customers. The number of new industrial customers added per year is relatively small.

3. Specific

Commercial Fuels - Natural gas and oil prices are expected to increase over the forecast period. The projected annual growth rate 2011 to 2021, in nominal terms, is 1.6 percent for the price of electricity, 7.3 percent for the price of natural gas and 2.1 percent for the price of oil (residual fuel oils.)

Regarding availability of the conventional fuels, nothing on the horizon indicates any severe limitations in their supply, although world reserves of natural gas and oil are believed to be dwindling. There are unknown potential impacts from future changes in legislation or a change in the pricing or supply policy of oil producing countries that might affect fuel supply. However, these cannot be quantified within the forecast. The only non-utility information source relied upon is Moody's Analytics.

Year End Residential Customers - In the following table, historical and projected total year-end residential customers for the entire Ohio service area are provided.

NUMBER OF YEAR-END RESIDENTIAL CUSTOMERS

2006	610,648
2007	612,766
2008	610,603
2009	610,482
2010	611,494
2011	610,113
2012	614,624
2013	619,122
2014	624,127
2015	629,155
2016	633, 770
2017	638,234
2018	642,604
2019	646, 947
2020	651,337

2021	655,814

Appliance Efficiencies - Trends in appliance efficiencies, saturations, and usage patterns have an impact on the projected use per residential customer. Overall, the forecast incorporates a projection of increasing saturation for many appliances including heat pumps, air conditioners, electric space heating equipment, electric water heaters, electric clothes dryers, dish washers, and freezers. In addition, the forecast embodies trends of increasing appliance efficiency, including lighting, consistent with standards established by the federal government.

D. FORECAST DOCUMENTATION

In the following sections, information on forecast related databases is provided for Duke Energy Ohio.

The first step in the forecasting process is the collection of relevant information and data. The database discussion is broken into three parts:

a) Economic Data,

b) Energy and Peak Data, and

c) Forecast Data.

1.Economic Data

The major groups of data in the economic forecast are employment, demographics, income, production, inflation and prices. National and local values for these concepts are available from Moody's Analytics and company data.

Employment - Employment numbers are required on both a national and service area basis. Quarterly national and local employment series by industry are obtained from Moody's Analytics. Employment series are available for manufacturing and non-manufacturing sectors.

Population - National and local values for total population and population by age-cohort groups are obtained from Moody's Analytics.

Income - Local income data series are obtained from Moody's Analytics. The data is available on a county level and summed to a service area level. This includes data for personal income; dividends, interest, and rent; transfer payments; wage and salary disbursements plus other labor income; personal contributions for social insurance; and non-farm proprietors' income.

Consumer Price Index - The local CPI is equivalent to the national CPI obtained from Moody's Analytics.

Electricity and Natural Gas Prices - The average price of electricity and natural gas is available from Company financial reports. Data on marginal electricity price (including fuel cost) is collected for each customer class. This information is obtained from Company records and rate schedules.

2. Energy and Peak Models

The majority of data required to develop the electricity sales and peak forecasts is obtained from the Duke Energy Ohio service area economic data provided by Moody's Analytics, from Duke Energy Ohio financial reports and research groups, and from national sources. With regard to the national sources of information, generally all national information is obtained from Moody's Analytics. However, local weather data are obtained from the National Oceanic and Atmospheric Administration (NOAA).

The major groups of data that are used in developing the energy forecasts are: kilowatt-hour sales by customer class, number of customers, use-per-customer, electricity prices, natural gas prices, appliance saturations, and local weather data. The following are descriptions of the adjustments performed on various groups of data to develop the final data series actually used in regression analysis.

Kilowatt hour Sales and Revenue - Duke Energy Ohio collects sales and revenue data monthly by rate class. For forecast purposes this information is aggregated into the following categories: residential, commercial, industrial, OPA, and the other sales categories. In the industrial sector, sales and revenue for each manufacturing NAICS are collected. From the sales and revenue information, average electricity prices by sector can be calculated.

The other public authorities (OPA) sales category is analyzed in two parts: water pumping and OPA less water-pumping sales.

Number of Customers - The number of customers by class is obtained on a monthly basis from Company records.

Use Per Customer - Average use per customer is computed on a monthly basis by dividing residential sales by total customers.

Local Weather Data - Local climatologic data are provided by NOAA for the Cincinnati/Covington airport reporting station. Cooling degree days and heating degree days are calculated on a monthly basis using temperature data. The degree day series are required on a billing cycle basis for use in regression analysis.

Appliance Stock - To account for the impact of appliance saturations and federal efficiency standards, an appliance stock variable is created. This variable is composed of three parts: appliance efficiencies, appliance saturations, and appliance energy consumption values.

The appliance stock variable is calculated as follows:

(11) Appliance $Stock_t$=

$$SUM\ (K_i * SAT_{i,t} * EFF_{i,t}) \text{ for all } i$$

Where: t = time period

i = end-use appliance

K_i = fixed energy consumption value for appliance i,

$SAT_{i,t}$ = saturation of appliance i in period t, and

$EFF_{i,t}$ = efficiency of appliance i in period t.

The appliances included in the calculation of the Appliance Stock variable are: electric range, frost-free refrigerator, manual-defrost refrigerator, food freezer, dish washer, clothes washer, clothes dryer, water heater, microwave, color television, black and white television, room air conditioner, central air conditioner, electric resistance heat, electric heat pump, and miscellaneous uses including lighting.

Appliance Saturation and Efficiency - In general, information on historical appliance saturations for all appliances is obtained from Company Appliance Saturation Surveys.

Data on historical appliance efficiency are obtained from Itron, Inc., a forecast consulting firm.

The forecast of appliance saturations and efficiencies is also obtained from data provided by Itron, Inc. They have developed Regional Statistically Adjusted End-use (SAE) Models, an end-use approach to electric forecasting that provides forward looking levels of appliance saturations and efficiencies.

Peak Weather Data - The weather conditions associated with the monthly peak load are collected from the hourly and daily data recorded by NOAA. The weather variables which influence the summer peak are maximum temperature on the peak day and the day before, morning low temperature, and humidity on the peak day. The weather influence on the winter peak is measured by the low temperatures and the associated wind speed. The variables selected are dependent upon whether it is a morning or evening winter peak load.

An average of extreme weather conditions is used as the basis for the weather component in the preparation of the peak load forecast. Using historical data for the single worst summer weather occurrence and the single worst winter weather occurrence in each year, an average extreme weather condition can be computed.

3. Forecast Data

Projections of exogenous variables in Duke Energy Ohio's models are required in the following areas: national and local employment, income, industrial production, and population, as well as natural gas and electricity prices.

Employment -The forecast of employment by industry is provided by Moody's Analytics.

Income -The forecast of income is provided by Moody's Analytics.

Industrial Production - The forecast of industrial production is also provided by Moody's Analytics.

Population - Duke Energy Ohio's population forecast is derived from data provided by Moody's Analytics. Population projections for the service area are prepared by first collecting county-level population forecasts for the counties in the Company's service area and then summing.

Prices - The projected change in electricity and natural gas prices over the forecast interval is provided by the Company's Financial Planning and Analysis department and Moody's Analytics.

4. Load Research and Market Research Efforts

Duke Energy Ohio is committed to the continued development and maintenance of a substantive class load database of typical customer electricity consumption patterns and the collection of primary market research data on customers.

Load Research – Complete load profile information, or 100% sample data, is maintained on commercial and industrial customers whose average annual demand is greater than 500 kW, served at primary distribution voltage or served at transmission voltage. Additionally, the Company continues to collect whole premise or building level electricity consumption patterns on representative samples of the various customer classes and rate groups whose annual demands are less than 500 kW.

Periodically, the Company monitors selected end-uses or systems associated with energy efficiency evaluations performed in conjunction with energy efficiency programs. These studies are performed as necessary and tend to be of a shorter duration.

Market Research - Primary research projects continue to be conducted as part of the on-going efforts to gain knowledge about the Company's customers. These projects include customer satisfaction studies, appliance saturation studies, end-use studies, studies to track competition (to monitor customer switching percentages in order to forecast future utility load), and related types of marketing research projects.

E. MODELS

Specific analytical techniques have been employed for development of the forecast models.

1. Specific Analytical Techniques

Regression Analysis - Ordinary least squares is the principle regression technique employed to estimate economic/behavioral relationships among the relevant variables. This econometric technique provides a method to perform quantitative analysis of economic behavior.

Ordinary least-squares techniques were used to model electric sales. Based upon their relationship with the dependent variable, several independent variables were tested in the regression models. The final models were chosen based upon their statistical strength and logical consistency.

Logarithmic Transformations - The projection of economic relationships over time requires the use of techniques that can account for non-linear relationships. By transforming the dependent variable and independent variables into their "natural logarithm", a non-linear relationship can be transformed into a linear relationship for model estimation purposes.

Polynomial Distributed Lag Structure - One method of accounting for the lag between a change in one variable and its ultimate impact on another variable is through the use of polynomial distributed lags. This technique is also referred to as Almon lags. Polynomial Distributed Lag Structures derive their name from the fact that the lag weights follow a polynomial of specified degree. That is, the lag weights all lie on a line, parabola, or higher order polynomial as required.

This technique is employed in developing econometric models for most of the energy equations.

Serial Correlation - It is often the case in forecasting an economic time series that residual errors in one period are related to those in a previous period. This is known as serial correlation. By correcting for this serial correlation of the estimated residuals, forecast error is reduced and the estimated coefficients are more efficient. The Marquardt algorithm is employed to correct for the existence of autocorrelation.

Qualitative Variables - In several equations, qualitative variables are employed. In estimating an econometric relation using time series data, it is quite often the case that "outliers" are present in the historic data. These unusual shifts or deviations in the data can be the result of problems such as errors in the reporting of data by particular companies and agencies, labor-management disputes, severe energy shortages or restrictions, and other perturbations that do not repeat with predictability. Therefore, in order to identify the true underlying economic relationship between the dependent variable and the other independent variables, qualitative variables are employed to account for the impact of the outliers. The coefficient for the qualitative variable must be statistically significant, have a sign in the expected direction, and make an improvement to model fit statistics.

2. Relationships Between The Specific Techniques

The manner in which specific methodologies for forecasting components of the total load are related is explained in the discussion of specific analytical techniques above.

3. Alternative Methodologies

The Company continues to use the current forecasting methodology as it has for the past several years. The Company considers the forecasting methods currently utilized to be adequate.

4. Changes In Methodology

There were no significant changes to the forecast methodology. The Company uses the latest historical data available and relies on recent economic data and forecasts from Moody's Analytics.

5. Equations

Following is a display of all the relevant equations used in the forecast. Specifically, for each of the equations in the Electric Energy Forecast Model and Electric Peak Load Model the following information is included:

Equation Estimation Results - The results of the estimation of each of the stochastic equations in the models is provided. Included are the estimated coefficients and the results of appropriate statistical tests. Those equations which required a correction for serial correlation are so indicated.

The computer output for each variable lists the estimated coefficient, standard error, and the t statistic. Lagged variables are denoted with the \-N symbol, "N" being the number of periods lagged.

The use of Polynomial Distributed Lags (PDL) is indicated by the expression:

PDL followed by a number signifying the PDL variable number. The PDL is defined using the degree of the polynomial, the length of lag, and the restrictions. The restrictions may constrain the PDL such that the end values of the distributed lag are close to zero. The computer output for each PDL variable lists the estimated lag weights and their associated standard errors. There is also a plot of the distributed lag. In addition to the individual lag weights, statistics are presented on the sum and average of the lag weights.

Mnemonic Definition - Following the equation estimation results is a definition list of the mnemonics for each variable used in the equation.

Forecast Error - Following the equation mnemonics definition is the forecast error as measured by the mean of the forecast standard errors over the forecast period.

EQUATIONS USED IN FORECAST

Service Area Electric Customers – Residential

Dependent Variable: LOG(CUSRES_OH_KY)
Method: Least Squares
Date: 02/22/11 Time: 12:53
Sample: 1989M10 2010M12
Included observations: 255
Convergence achieved after 7 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
@MONTH=1	14.77528	3.476269	4.250328	0.0000
@MONTH=2	14.77606	3.476271	4.250548	0.0000
@MONTH=3	14.77619	3.476272	4.250585	0.0000
@MONTH=4	14.77461	3.476271	4.250132	0.0000
@MONTH=5	14.77171	3.476268	4.249301	0.0000
@MONTH=7	14.76918	3.476263	4.248581	0.0000
@MONTH=8	14.76796	3.476261	4.248232	0.0000
@MONTH=9	14.76739	3.476259	4.248070	0.0000
@MONTH=10	14.76912	3.476263	4.248561	0.0000
(@MONTH=6)+(@MONTH=11)	14.77052	3.476265	4.248962	0.0000
@MONTH=12	14.77363	3.476264	4.249857	0.0000
@ISPERIOD("1994M05")	-0.005035	0.001281	-3.932009	0.0001
@ISPERIOD("2001m02")	0.028551	0.001652	17.28378	0.0000
@ISPERIOD("2001m03")	0.008740	0.002084	4.193195	0.0000
@ISPERIOD("2001m04")	0.007463	0.002210	3.377294	0.0009
@ISPERIOD("2001m05")	0.028774	0.002081	13.82542	0.0000
@ISPERIOD("2001m06")	0.015467	0.001637	9.451164	0.0000
@ISPERIOD("2003m12")	-0.004948	0.001474	-3.357548	0.0009
@ISPERIOD("2004m01")	0.003394	0.001476	2.298880	0.0224
@ISPERIOD("2005m02")	-0.003342	0.001281	-2.609005	0.0097
@ISPERIOD("2006m02")	-0.002619	0.001281	-2.044769	0.0420
@ISPERIOD("2007m04")	-0.002782	0.001279	-2.174691	0.0307
@ISPERIOD("2009m05")	-0.005493	0.001281	-4.287902	0.0000
PDL01	0.006679	0.003382	1.974954	0.0495
AR(1)	0.999353	0.002004	498.7187	0.0000

R-squared	0.999392	Mean dependent var	13.42009
Adjusted R-squared	0.999329	S.D. dependent var	0.067997
S.E. of regression	0.001761	Akaike info criterion	-9.752425
Sum squared resid	0.000714	Schwarz criterion	-9.405242
Log likelihood	1268.434	Hannan-Quinn criter.	-9.612773
Durbin-Watson stat	1.993809		

Inverted AR Roots	1.00

Lag Distribution of LOG(YP_OH_KY/N_OH_KY/CPI)	i	Coefficient	Std. Error	t-Statistic
. * |	0	0.00607	0.00307	1.97495
. * |	1	0.01093	0.00553	1.97495
. * |	2	0.01457	0.00738	1.97495
. * |	3	0.01700	0.00861	1.97495
. *|	4	0.01822	0.00922	1.97495
. *|	5	0.01822	0.00922	1.97495
. * |	6	0.01700	0.00861	1.97495
. * |	7	0.01457	0.00738	1.97495
. * |	8	0.01093	0.00553	1.97495
. * |	9	0.00607	0.00307	1.97495
	Sum of Lags	0.13358	0.06764	1.97495

KWH USE PER CUSTOMER – RESIDENTIAL

Dependent Variable: LOG(KWHRES_OH_KY/CUSRES_OH_KY)
Method: Least Squares
Date: 02/22/11 Time: 17:22
Sample: 1998M01 2010M12
Included observations: 156
Convergence achieved after 11 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.514845	1.115202	-0.461661	0.6451
LOG(APPLSTK_EFF_OH_KY*(YP_OH_KY/N_OH_KY/CPI))	0.917152	0.143311	6.399716	0.0000
(D_DJF)*(SAT_EH_EFF)*HDDB_OH_KY_59_0_500	0.003158	0.000126	25.03541	0.0000
(1-D_DJF)*(SAT_EH_EFF)*HDDB_OH_KY_59_0_500	0.002783	0.000149	18.67755	0.0000
(D_DJF)*(SAT_EH_EFF)*HDDB_OH_KY_59_500	0.002237	9.63E-05	23.23251	0.0000
(1-D_DJF)*(SAT_EH_EFF)*HDDB_OH_KY_59_500	0.003034	0.000238	12.73487	0.0000
(D_JJA)*(SAT_CAC_EFF)*CDDB_OH_KY_65_0_100	0.005602	0.000449	12.47811	0.0000
(1-D_JJA)*(SAT_CAC_EFF)*CDDB_OH_KY_65_0_100	0.007240	0.000359	20.14954	0.0000
(D_JJA)*(SAT_CAC_EFF)*CDDB_OH_KY_65_100	0.001446	0.000319	4.532283	0.0000
(1-D_JJA)*(SAT_CAC_EFF)*CDDB_OH_KY_65_100	0.001417	0.000404	3.506665	0.0006
(D_JJA+(@MONTH=5)+(@MONTH=9))*(SAT_RAC_EFF)*CDDB_OH_KY_65	0.003962	0.000411	9.636836	0.0000
@MONTH=1	0.103920	0.006545	15.87673	0.0000
@MONTH=5	-0.047385	0.009273	-5.110109	0.0000
@MONTH=7	0.076130	0.010368	7.342619	0.0000
@MONTH=8	0.061891	0.012905	4.795728	0.0000
@MONTH=12	0.061894	0.008190	7.557223	0.0000
@ISPERIOD("2001m04")	-0.048687	0.020563	-2.367680	0.0194
@ISPERIOD("2001m05")	-0.098768	0.021593	-4.574078	0.0000
@ISPERIOD("2002m05")+@ISPERIOD("2004m05")	-0.043707	0.014726	-2.967941	0.0036
@ISPERIOD("2005m01")	0.080274	0.018672	4.299069	0.0000
@ISPERIOD("2007m05")	-0.082077	0.019906	-4.123167	0.0001
@ISPERIOD("2007m10")	0.082826	0.020268	4.086511	0.0001
@ISPERIOD("2008m10")	-0.062908	0.019367	-3.248155	0.0015
@ISPERIOD("2010m10")	-0.044210	0.019111	-2.313270	0.0223
@ISPERIOD("2004m06")	0.052896	0.019490	2.713963	0.0076
@ISPERIOD("2010m05")	-0.068642	0.019277	-3.560903	0.0005
PDL01	-0.039970	0.022929	-1.743183	0.0837
AR(1)	0.524912	0.077534	6.770093	0.0000

R-squared	0.992259	Mean dependent var	6.887594
Adjusted R-squared	0.990626	S.D. dependent var	0.206988
S.E. of regression	0.020040	Akaike info criterion	-4.821019
Sum squared resid	0.051405	Schwarz criterion	-4.273609
Log likelihood	404.0395	Hannan-Quinn criter.	-4.598685
F-statistic	607.6934	Durbin-Watson stat	1.843885
Prob(F-statistic)	0.000000		

Inverted AR Roots	.52

Lag Distribution of LOG(APPLSTK_EFF_OH_KY*(MP_RES_OH_KY/CPI))	i	Coefficient	Std. Error	t-Statistic
* . |	0	-0.03997	0.02293	-1.74318
* . |	1	-0.01998	0.01146	-1.74318
	Sum of Lags	-0.05995	0.03439	-1.74318

KWH SALES – COMMERCIAL

Dependent Variable: LOG(KWHCOM_OH_KY)
Method: Least Squares
Date: 03/04/11 Time: 16:41
Sample: 1986M01 2010M12
Included observations: 300
Convergence achieved after 12 iterations
MA Backcast: 1985M12

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	10.03173	0.597318	16.79462	0.0000
LOG(ECOM_OH_KY)	1.472330	0.094699	15.54747	0.0000
LOG(DS_KWH_COM_OH_KY(-1)/CPI(-1))	-0.048246	0.023053	-2.092865	0.0373
(@MONTH=11)*HDDB_OH_KY_59	6.88E-05	2.64E-05	2.602332	0.0098
(@MONTH=12)*HDDB_OH_KY_59	0.000188	1.18E-05	15.85891	0.0000
(@MONTH=1)*HDDB_OH_KY_59	0.000192	8.38E-06	22.94841	0.0000
(@MONTH=2)*HDDB_OH_KY_59	0.000127	8.89E-06	14.34678	0.0000
(@MONTH=3)*HDDB_OH_KY_59	0.000108	1.09E-05	9.897655	0.0000
(@MONTH=4)*HDDB_OH_KY_59	8.00E-05	1.93E-05	4.146326	0.0000
(@MONTH=5)*CDDB_OH_KY_65	0.000975	0.000152	6.425203	0.0000
(@MONTH=6)*CDDB_OH_KY_65_0_100	0.001323	7.92E-05	16.69725	0.0000
(@MONTH=6)*CDDB_OH_KY_65_100	0.000716	7.60E-05	9.425939	0.0000
(@MONTH=7)*CDDB_OH_KY_65_0_100	0.001814	0.000153	11.82619	0.0000
(@MONTH=7)*CDDB_OH_KY_65_100	0.000467	7.42E-05	6.292792	0.0000
(@MONTH=8)*CDDB_OH_KY_65_0_100	0.001382	0.000130	10.64329	0.0000
(@MONTH=8)*CDDB_OH_KY_65_100	0.000617	4.98E-05	12.39518	0.0000
(@MONTH=9)*CDDB_OH_KY_65_0_100	0.001748	0.000106	16.44290	0.0000
(@MONTH=9)*CDDB_OH_KY_65_100	0.000457	5.68E-05	8.045500	0.0000
(@MONTH=10)*CDDB_OH_KY_65	0.000703	8.58E-05	8.195241	0.0000
@MONTH=10	0.027646	0.009710	2.847026	0.0048
@ISPERIOD("1991m04")	0.097466	0.016830	5.791198	0.0000
@ISPERIOD("1991m11")	0.058418	0.017119	3.412397	0.0007
@ISPERIOD("1993m09")	-0.120572	0.017595	-6.852518	0.0000
@ISPERIOD("1993m10")+@ISPERIOD("2004m12")+@ISPERIOD("2007m04")	0.044787	0.010405	4.304534	0.0000
@ISPERIOD("1995m04")	0.054237	0.018635	2.910520	0.0039
@ISPERIOD("1995M05")	-0.086021	0.018781	-4.580158	0.0000
@ISPERIOD("1998m05")	0.063831	0.016709	3.820069	0.0002
@ISPERIOD("1998m07")	0.053064	0.016868	3.145907	0.0018
@ISPERIOD("2000m01")+@ISPERIOD("2000m07")	-0.060989	0.012729	-4.791479	0.0000
@ISPERIOD("2000m08")	0.043076	0.018058	2.385449	0.0178
@ISPERIOD("2000m10")	0.086526	0.016861	5.131709	0.0000
@ISPERIOD("1993m11")+@ISPERIOD("2002m08")+@ISPERIOD("2004m11")+@ISPERIOD("2004m03") +@ISPERIOD("2005m02")+@ISPERIOD("2005m08")	-0.050026	0.007274	-6.877750	0.0000
@ISPERIOD("2002m04")	0.055491	0.016838	3.295599	0.0011
@ISPERIOD("2005m03")+@ISPERIOD("1999m02")	-0.028477	0.011880	-2.397000	0.0172
@ISPERIOD("2010m02")	-0.092050	0.017152	-5.366674	0.0000
AR(2)	0.797924	0.049527	16.11088	0.0000
MA(1)	0.829177	0.045827	18.09353	0.0000

R-squared	0.991621	Mean dependent var	20.05652
Adjusted R-squared	0.990474	S.D. dependent var	0.219772
S.E. of regression	0.021450	Akaike info criterion	-4.731100
Sum squared resid	0.121012	Schwarz criterion	-4.274300
Log likelihood	746.6650	Hannan-Quinn criter.	-4.548288
F-statistic	864.5352	Durbin-Watson stat	2.213320
Prob(F-statistic)	0.000000		

Inverted AR Roots	.89	-.89
Inverted MA Roots	-.83	

MWH SALES – INDUSTRIAL – FOOD, BEVERAGE AND TOBACCO

Dependent Variable: LOG(MWHN311_312_OH_KY)
Method: Least Squares
Date: 02/18/11 Time: 12:58
Sample: 1980Q1 2010Q4
Included observations: 124
Convergence achieved after 14 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	10.50195	0.424660	24.73025	0.0000
LOG(JQINDN311_312_OH_KY(-3))	0.349835	0.194308	1.800411	0.0745
LOG(DS_KWH_IND_OH_KY/CPI)	-0.114501	0.048419	-2.364800	0.0198
CDDB_OH_KY_65	0.000165	1.31E-05	12.64796	0.0000
HDDB_OH_KY_59	-3.05E-05	5.27E-06	-5.777112	0.0000
D_1965Q1_1990Q4	-0.295112	0.046512	-6.344824	0.0000
@ISPERIOD("1991q1")+@ISPERIOD("2000q3")	-0.152495	0.031910	-4.778932	0.0000
@ISPERIOD("2007q4")	0.141740	0.042345	3.347297	0.0011
@ISPERIOD("2008q4")+@ISPERIOD("2009q1")	0.149226	0.043009	3.469609	0.0007
D_1976Q1_1989Q2+D_1987Q1_1991Q3	-0.086445	0.027814	-3.107943	0.0024
@ISPERIOD("1993q2")	-0.108494	0.042446	-2.556059	0.0120
@ISPERIOD("1992q2")	-0.162981	0.042087	-3.872467	0.0002
D_1980Q1_2005Q2	-0.076237	0.032984	-2.311303	0.0227
AR(1)	0.719013	0.074756	9.618118	0.0000

R-squared	0.970883	Mean dependent var	11.31940
Adjusted R-squared	0.967441	S.D. dependent var	0.285979
S.E. of regression	0.051602	Akaike info criterion	-2.984504
Sum squared resid	0.292905	Schwarz criterion	-2.666085
Log likelihood	199.0393	Hannan-Quinn criter.	-2.855155
F-statistic	282.1387	Durbin-Watson stat	2.010146
Prob(F-statistic)	0.000000		

Inverted AR Roots	.72

MWH SALES – INDUSTRIAL – PAPER, PLASTIC AND RUBBER

Dependent Variable: LOG(MWHN322_326_OH_KY)
Method: Least Squares
Date: 02/22/11 Time: 08:40
Sample: 1979Q1 2010Q4
Included observations: 128
Convergence achieved after 13 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOG(JQINDN322_326_OH_KY)	0.309810	0.168334	1.840453	0.0683
@ISPERIOD("1992q1")+@ISPERIOD("1993q1")	0.051513	0.016989	3.032060	0.0030
@ISPERIOD("2001q2")	-0.203553	0.024566	-8.285811	0.0000
@ISPERIOD("2003q4")+@ISPERIOD("1996q3")	-0.088605	0.016437	-5.390512	0.0000
@ISPERIOD("2005q1")	0.124963	0.023737	5.264399	0.0000
HDDB_OH_KY_59*D_1999Q1_2001Q2	-2.15E-05	8.14E-06	-2.639061	0.0095
@ISPERIOD("2000q3")	0.093176	0.023828	3.910416	0.0002
@ISPERIOD("1990q2")+@ISPERIOD("2010q2")	-0.053079	0.016964	-3.128934	0.0022
@QUARTER=1	9.894756	0.852062	11.61272	0.0000
@QUARTER=2	9.945191	0.852586	11.66474	0.0000
@QUARTER=3	9.961354	0.852341	11.68705	0.0000
@QUARTER=4	9.930137	0.852097	11.65377	0.0000
PDL01	-0.061645	0.029480	-2.091070	0.0388
PDL02	-0.024528	0.013997	-1.752412	0.0824
AR(1)	1.083638	0.097795	11.08066	0.0000
AR(2)	-0.165519	0.096048	-1.723287	0.0876

R-squared	0.957649	Mean dependent var	11.97044
Adjusted R-squared	0.951977	S.D. dependent var	0.156135
S.E. of regression	0.034216	Akaike info criterion	-3.795786
Sum squared resid	0.131121	Schwarz criterion	-3.439282
Log likelihood	258.9303	Hannan-Quinn criter.	-3.650937
Durbin-Watson stat	1.994581		

Inverted AR Roots	.90	.18

Lag Distribution of LOG(DS_KW_IND_OH_KY/CPI)	i	Coefficient	Std. Error	t-Statistic
* . |	0	-0.08219	0.03931	-2.09107
* . |	1	-0.06165	0.02948	-2.09107
* . |	2	-0.04110	0.01965	-2.09107
* . |	3	-0.02055	0.00983	-2.09107
	Sum of Lags	-0.20548	0.09827	-2.09107

Lag Distribution of LOG(DS_KWH_IND_OH_KY/CPI)	i	Coefficient	Std. Error	t-Statistic
* . |	0	-0.04292	0.02449	-1.75241
* . |	1	-0.03679	0.02099	-1.75241
* . |	2	-0.03066	0.01750	-1.75241
* . |	3	-0.02453	0.01400	-1.75241
* . |	4	-0.01840	0.01050	-1.75241
* . |	5	-0.01226	0.00700	-1.75241
* . |	6	-0.00613	0.00350	-1.75241
	Sum of Lags	-0.17169	0.09798	-1.75241

MWH SALES – INDUSTRIAL – CHEMICALS

Dependent Variable: LOG(MWHN325_OH_KY)
Method: Least Squares
Date: 02/18/11 Time: 13:04
Sample: 1978Q1 2010Q4
Included observations: 132
Convergence achieved after 20 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	10.28476	0.792054	12.98493	0.0000
LOG(JQINDN325_OH_KY)	0.486093	0.124505	3.904195	0.0002
CDDB_OH_KY_65	9.97E-05	8.17E-06	12.19917	0.0000
@ISPERIOD("1994q1")	-0.077933	0.036333	-2.144959	0.0339
@ISPERIOD("2003q4")	0.091963	0.037040	2.482807	0.0144
@ISPERIOD("2000q4")	0.080947	0.037184	2.176911	0.0314
@ISPERIOD("2009q2")	-0.131512	0.038205	-3.442319	0.0008
PDL01	-0.043777	0.017428	-2.511874	0.0133
AR(1)	0.569665	0.094034	6.058096	0.0000
AR(2)	0.352997	0.096003	3.676941	0.0004

R-squared	*0.964301*	*Mean dependent var*	*12.33676*
Adjusted R-squared	0.961668	S.D. dependent var	0.220981
S.E. of regression	0.043265	Akaike info criterion	-3.370200
Sum squared resid	0.228369	Schwarz criterion	-3.151806
Log likelihood	232.4332	Hannan-Quinn criter.	-3.281455
F-statistic	366.1631	Durbin-Watson stat	1.953791
Prob(F-statistic)	*0.000000*		

Inverted AR Roots	.94	-.37

Lag Distribution of LOG(TS_KWH_IND_OH_KY/CPI)	i	Coefficient	Std. Error	t-Statistic
* .|	0	-0.06567	0.02614	-2.51187
* .|	1	-0.05472	0.02179	-2.51187
* .|	2	-0.04378	0.01743	-2.51187
* .|	3	-0.03283	0.01307	-2.51187
* .|	4	-0.02189	0.00871	-2.51187
* .|	5	-0.01094	0.00436	-2.51187
	Sum of Lags	-0.22983	0.09150	-2.51187

MWH SALES – INDUSTRIAL – PRIMARY METALS – BUTLER

Dependent Variable: LOG(MWHN331_BUTLER-BASE)
Method: Least Squares
Date: 02/18/11 Time: 13:05
Sample: 1985Q1 2010Q4
Included observations: 104
Convergence achieved after 11 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	11.54289	0.475030	24.29927	0.0000
(1-D_1965Q1_1985Q4)*LOG(TS_KWH_IND_OH_KY/CPI)	-0.008049	0.004027	-1.999083	0.0487
LOG(TS_KWH_IND_OH_KY(-5)/APGIND_OH_KY(-5))	-0.070697	0.023743	-2.977573	0.0038
@ISPERIOD("2009q2")	-0.380330	0.035585	-10.68799	0.0000
@ISPERIOD("2009q1")	-0.185576	0.034136	-5.436410	0.0000
D_1965Q1_1995Q4	-0.151179	0.033208	-4.552514	0.0000
@ISPERIOD("1998q3")	-0.118403	0.028031	-4.224004	0.0001
@ISPERIOD("1990q2")	-0.083181	0.028377	-2.931266	0.0043
@ISPERIOD("2008q4")	-0.111339	0.032228	-3.454775	0.0009
@ISPERIOD("1991q3")	-0.094316	0.029815	-3.163375	0.0021
@ISPERIOD("1986q3")	-0.071409	0.028216	-2.530772	0.0132
@ISPERIOD("1991q4")	0.056292	0.029192	1.928352	0.0571
@ISPERIOD("2001q1")	-0.078628	0.028031	-2.805044	0.0062
PDL01	0.196650	0.045579	4.314501	0.0000
PDL02	-0.112835	0.064230	-1.756746	0.0825
AR(1)	0.607956	0.105443	5.765747	0.0000
AR(2)	0.361086	0.104754	3.446999	0.0009

R-squared	0.979879	Mean dependent var	12.61955
Adjusted R-squared	0.976178	S.D. dependent var	0.221847
S.E. of regression	0.034241	Akaike info criterion	-3.762375
Sum squared resid	0.102000	Schwarz criterion	-3.330118
Log likelihood	212.6435	Hannan-Quinn criter.	-3.587255
F-statistic	264.7997	Durbin-Watson stat	1.944391
Prob(F-statistic)	0.000000		

Inverted AR Roots	.98	-.37

Lag Distribution of LOG(JQINDN331_BUTLER)	i	Coefficient	Std. Error	t-Statistic
. * |	0	0.19665	0.04558	4.31450
. * |	1	0.09832	0.02279	4.31450
	Sum of Lags	0.29497	0.06837	4.31450

Lag Distribution of LOG(TS_KW_IND_OH_KY/CPI)	i	Coefficient	Std. Error	t-Statistic
* . |	0	-0.11284	0.06423	-1.75675
* . |	1	-0.05642	0.03211	-1.75675
	Sum of Lags	-0.16925	0.09634	-1.75675

MWH SALES – INDUSTRIAL – PRIMARY METALS – LESS BUTLER

Dependent Variable: LOG(MWHN331LBUTLER_OH_KY)
Method: Least Squares
Date: 02/18/11 Time: 13:07
Sample: 1987Q1 2010Q4
Included observations: 96
Convergence achieved after 9 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.245961	0.959964	7.548156	0.0000
@ISPERIOD("1999q1")	-0.402581	0.071569	-5.625043	0.0000
@ISPERIOD("1988q4")	-0.203375	0.071421	-2.847565	0.0055
@ISPERIOD("1996q3")+@ISPERIOD("1997q3")	-0.252081	0.050789	-4.963296	0.0000
D_1998Q3_2001Q2	0.774640	0.054284	14.27017	0.0000
D_1965Q1_1998Q2	1.097773	0.040415	27.16255	0.0000
@ISPERIOD("2002q2")	-0.326168	0.072427	-4.503412	0.0000
@ISPERIOD("2003q1")	-0.155829	0.072110	-2.160995	0.0335
PDL01	0.300736	0.073052	4.116739	0.0001
PDL02	-0.113535	0.031400	-3.615828	0.0005
AR(1)	0.611689	0.092466	6.615247	0.0000
AR(3)	-0.191377	0.079864	-2.396267	0.0188

R-squared	0.976734	Mean dependent var	11.09645
Adjusted R-squared	0.973687	S.D. dependent var	0.518957
S.E. of regression	0.084181	Akaike info criterion	-1.995227
Sum squared resid	0.595261	Schwarz criterion	-1.674683
Log likelihood	107.7709	Hannan-Quinn criter.	-1.865658
F-statistic	320.5839	Durbin-Watson stat	2.242857
Prob(F-statistic)	0.000000		

Inverted AR Roots	.52-.42i	.52+.42i	-.43

Lag Distribution of LOG(JQINDN331_CMSA)	i	Coefficient	Std. Error	t-Statistic
. * |	0	0.30074	0.07305	4.11674
* |	1	0.15037	0.03653	4.11674
	Sum of Lags	0.45110	0.10958	4.11674

Lag Distribution of LOG(TS_KWH_IND_OH_KY/CPI)	i	Coefficient	Std. Error	t-Statistic
* . |	0	-0.15138	0.04187	-3.61583
* . |	1	-0.11354	0.03140	-3.61583
* . |	2	-0.07569	0.02093	-3.61583
* . |	3	-0.03785	0.01047	-3.61583
	Sum of Lags	-0.37845	0.10467	-3.61583

MWH SALES – INDUSTRIAL – FABRICATED METALS

Dependent Variable: LOG(MWHN332_OH_KY)
Method: Least Squares
Date: 05/06/11 Time: 11:46
Sample: 1984Q1 2010Q4
Included observations: 108
Convergence achieved after 7 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	10.92849	0.180443	60.56472	0.0000
LOG(JQINDN332_OH_KY)	0.449144	0.149219	3.009954	0.0033
LOG(DS_KWH_IND_OH_KY/WPI0561)	-0 035225	0.014375	-2.450477	0.0160
D_2000Q3_2001Q2	0.184784	0.021119	8.749484	0.0000
@ISPERIOD("2009q1")+@ISPERIOD("2009q2")	-0.114032	0.022081	-5.164267	0.0000
CDDB_OH_KY_65	6.27E-05	5.86E-06	10.69503	0.0000
@ISPERIOD("2000q1")+@ISPERIOD("1988q3")	-0.042499	0.015110	-2.812634	0.0059
@ISPERIOD("1986q3")	-0.074790	0.021510	-3.476921	0.0008
@ISPERIOD("2001q1")	0.083925	0.021116	3.974499	0.0001
AR(1)	0.966756	0.032927	29.36071	0.0000

R-squared	0.940692	Mean dependent var	11.27337
Adjusted R-squared	*0.935245*	*S.D. dependent var*	*0.115249*
S.E. of regression	0.029328	Akaike info criterion	-4.132559
Sum squared resid	0.084290	Schwarz criterion	-3.884214
Log likelihood	233.1582	Hannan-Quinn criter.	-4.031864
F-statistic	172.7091	Durbin-Watson stat	2.009184
Prob(F-statistic)	0.000000		

Inverted AR Roots	.97

MWH SALES – INDUSTRIAL – MACHINERY

Dependent Variable: LOG(MWHN333_OH_KY)
Method: Least Squares
Date: 02/18/11 Time: 13:11
Sample: 1982Q4 2010Q4
Included observations: 113
Convergence achieved after 9 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOG(JQINDN333_OH_KY)	0.503092	0.120403	4.178396	0.0001
LOG(DS_KW_IND_OH_KY(-8)/CPI(-8))	-0.322183	0.129203	-2.493630	0.0143
LOG(DS_KWH_IND_OH_KY/APGIND_OH_KY)	-0.047762	0.026667	-1.791068	0.0763
CDDB_OH_KY_65*(1-D_1965Q1_1986Q4)	8.27E-05	1.95E-05	4.248634	0.0000
@ISPERIOD("1998q4")	0.065967	0.030046	2.195512	0.0305
D_1965Q1_2001Q2	0.152257	0.038175	3.988430	0.0001
@ISPERIOD("2009q1")	-0.081080	0.030330	-2.673219	0.0088
@ISPERIOD("2000q2")	-0.281998	0.034988	-8.059888	0.0000
@ISPERIOD("2000q1")	-0.075197	0.034782	-2.161935	0.0330
@QUARTER=1	9.423331	0.466364	20.20596	0.0000
@QUARTER=2	9.414453	0.465468	20.22577	0.0000
@QUARTER=3	9.434672	0.462262	20.40980	0.0000
@QUARTER=4	9.414505	0.465407	20.22853	0.0000
AR(1)	0.890755	0.046713	19.06876	0.0000

R-squared	0.931419	Mean dependent var	10.82105
Adjusted R-squared	0.922414	S.D. dependent var	0.141517
S.E. of regression	0.039419	Akaike info criterion	-3.513634
Sum squared resid	0.153829	Schwarz criterion	-3.175728
Log likelihood	212.5203	Hannan-Quinn criter.	-3.376515
Durbin-Watson stat	1.869360		

Inverted AR Roots	.89

MWH SALES – INDUSTRIAL – COMPUTER AND ELECTRONICS

Dependent Variable: LOG(MWHN334_OH_KY)
Method: Least Squares
Date: 02/18/11 Time: 13:12
Sample: 1980Q1 2010Q4
Included observations: 124
Convergence achieved after 14 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.636820	0.785829	9.718169	0.0000
LOG(JQINDN334_OH_KY)	0.068654	0.023298	2.946718	0.0039
CDDB_OH_KY_65	0.000110	8.49E-06	12.96695	0.0000
@ISPERIOD("1986q3")	-0.075276	0.033735	-2.231351	0.0276
@ISPERIOD("1992q2")	-0.114736	0.033268	-3.448810	0.0008
@ISPERIOD("1988q4")	0.128977	0.033545	3.844941	0.0002
@ISPERIOD("2002q1")	-0.102444	0.033293	-3.077074	0.0026
@ISPERIOD("2010q2")	-0.176752	0.044545	-3.967914	0.0001
1-@ISPERIOD("2010q3")-@ISPERIOD("2010q4")	0.348847	0.059188	5.893851	0.0000
@ISPERIOD("2009Q1")	-0.110379	0.033326	-3.312139	0.0012
PDL01	-0.054523	0.015581	-3.499310	0.0007
AR(1)	0.835586	0.057735	14.47272	0.0000

R-squared	0.963975	Mean dependent var	10.76919
Adjusted R-squared	0.960437	S.D. dependent var	0.217775
S.E. of regression	0.043316	Akaike info criterion	-3.348802
Sum squared resid	0.210147	Schwarz criterion	-3.075871
Log likelihood	219.6257	Hannan-Quinn criter.	-3.237931
F-statistic	272.4499	Durbin-Watson stat	1.768787
Prob(F-statistic)	0.000000		

Inverted AR Roots .84

Lag Distribution of LOG(DS_KWH_IND_OH_KY/CPI)	i	Coefficient	Std. Error	t-Statistic
* . |	0	-0.04544	0.01298	-3.49931
* . |	1	-0.07270	0.02077	-3.49931
* . |	2	-0.08178	0.02337	-3.49931
* . |	3	-0.07270	0.02077	-3.49931
* . |	4	-0.04544	0.01298	-3.49931
	Sum of Lags	-0.31805	0.09089	-3.49931

MWH SALES – INDUSTRIAL – ELEC. EQUIPMENT, APPLIANCE & COMPONENT

Dependent Variable: LOG(MWHN335_OH_KY)
Method: Least Squares
Date: 02/18/11 Time: 13:13
Sample: 1984Q1 2010Q4
Included observations: 108
Convergence achieved after 11 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOG(DS_KWH_IND_OH_KY/WPI0561)	-0.045043	0.016224	-2.776292	0.0067
@ISPERIOD("1988q3")	-0.083343	0.020768	-4.013147	0.0001
@ISPERIOD("1998q3")	-0.066663	0.020910	-3.188013	0.0020
@ISPERIOD("2009q1")+@ISPERIOD("2009q2")	-0.235459	0.029168	-8.072589	0.0000
@ISPERIOD("2008q4")	-0.099709	0.026210	-3.804251	0.0003
@ISPERIOD("1986q3")+@ISPERIOD("1992q2")	-0.073565	0.014501	-5.073269	0.0000
@ISPERIOD("2002q3")	*0.065103*	*0.020910*	*3.113398*	*0.0025*
@ISPERIOD("1999q1")	-0.057785	0.020907	-2.763877	0.0069
@QUARTER=1	8.052516	1.216334	6.620316	0.0000
@QUARTER=2	8.059279	1.216439	6.625307	0.0000
@QUARTER=3	8.083518	1.216455	6.645142	0.0000
@QUARTER=4	8.062102	1.216512	6.627227	0.0000
PDL01	0.096288	0.050134	1.920602	0.0579
PDL02	-0.012352	0.006802	-1.816043	0.0726
AR(1)	1.147741	0.114382	10.03425	0.0000
AR(2)	-0.235883	0.113489	-2.078473	0.0405

R-squared	0.965821	Mean dependent var	10.54494
Adjusted R-squared	0.960248	S.D. dependent var	0.156964
S.E. of regression	0.031295	Akaike info criterion	-3.954751
Sum squared resid	0.090104	Schwarz criterion	-3.557398
Log likelihood	229.5565	Hannan-Quinn criter.	-3.793639
Durbin-Watson stat	1.904155		

Inverted AR Roots	.88	.27

Lag Distribution of LOG(JQINDN335_OH_KY)	i	Coefficient	Std. Error	t-Statistic
. * |	0	0.12838	0.06685	1.92060
. * |	1	0.09629	0.05013	1.92060
. * |	2	0.06419	0.03342	1.92060
. * |	3	0.03210	0.01671	1.92060
Sum of Lags		0.32096	0.16711	1.92060

Lag Distribution of LOG(DS_KWH_IND_OH_KY/CPI)	i	Coefficient	Std. Error	t-Statistic
* . |	0	-0.01123	0.00618	-1.81604
* . |	1	-0.02021	0.01113	-1.81604
* . |	2	-0.02695	0.01484	-1.81604
* . |	3	-0.03144	0.01731	-1.81604
* . |	4	*-0.03369*	*0.01855*	*-1.81604*
* . |	5	-0.03369	0.01855	-1.81604
* . |	6	-0.03144	0.01731	-1.81604
* . |	7	-0.02695	0.01484	-1.81604
* . |	8	-0.02021	0.01113	-1.81604
* . |	9	-0.01123	0.00618	-1.81604
Sum of Lags		-0.24704	0.13603	-1.81604

MWH SALES – INDUSTRIAL – MOTOR VEHICLES AND PARTS

Dependent Variable: LOG(MWHN3361_62_63_OH_KY)
Method: Least Squares
Date: 02/18/11 Time: 13:15
Sample: 1983Q1 2010Q4
Included observations: 112
Convergence achieved after 5 iterations
MA Backcast: 1982Q2 1982Q4

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	8.051917	0.520185	15.47896	0.0000
LOG(TS_KWH_IND_OH_KY(-6)/WPI0561(-6))	-0.063659	0.032882	-1.935967	0.0558
CDDB_OH_KY_65	9.43E-05	1.49E-05	6.346838	0.0000
@ISPERIOD("1999q1")	0.541207	0.058225	9.295131	0.0000
@ISPERIOD("2000q1")	0.195837	0.059601	3.285824	0.0014
@ISPERIOD("2004q4")	-0.270881	0.058810	-4.605995	0.0000
D_1965Q1_2005Q1	0.230177	0.048607	4.735464	0.0000
@ISPERIOD("2008q3")	-0.219970	0.064779	-3.395720	0.0010
@ISPERIOD("2008q4")	-0.241327	0.068775	-3.508926	0.0007
@ISPERIOD("2009q1")	-0.296137	0.066781	-4.434421	0.0000
@ISPERIOD("1991q1")	-0.131337	0.058181	-2.257392	0.0262
PDL01	0.081793	0.024827	3.294454	0.0014
PDL02	-0.174030	0.030342	-5.735555	0.0000
AR(1)	0.441367	0.097294	4.536622	0.0000
MA(3)	0.479336	0.097863	4.898011	0.0000

R-squared	0.888195	Mean dependent var	11.43920
Adjusted R-squared	0.872058	S.D. dependent var	0.197459
S.E. of regression	0.070629	Akaike info criterion	-2.338684
Sum squared resid	0.483880	Schwarz criterion	-1.974599
Log likelihood	145.9663	Hannan-Quinn criter.	-2.190963
F-statistic	55.04158	Durbin-Watson stat	2.131481
Prob(F-statistic)	0.000000		

Inverted AR Roots	.44		
Inverted MA Roots	.39-.68i	.39+.68i	-.78

Lag Distribution of LOG(JQINDN3361_62_63_OH_KY)	i	Coefficient	Std. Error	t-Statistic
. * |	0	0.12269	0.03724	3.29445
. * |	1	0.08179	0.02483	3.29445
. * |	2	0.04090	0.01241	3.29445
	Sum of Lags	0.24538	0.07448	3.29445

Lag Distribution of LOG(TS_KWH_IND_OH_KY/APGIND_OH_KY)	i	Coefficient	Std. Error	t-Statistic
* . |	0	-0.17403	0.03034	-5.73555
* . |	1	-0.08701	0.01517	-5.73555
	Sum of Lags	-0.26104	0.04551	-5.73555

MWH SALES – INDUSTRIAL – AEROSPACE PRODUCTS AND PARTS

Dependent Variable: LOG(MWHN3364_OH_KY)
Method: Least Squares
Date: 02/18/11 Time: 13:17
Sample (adjusted): 1976Q3 2010Q4
Included observations: 138 after adjustments
Convergence achieved after 9 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	10.40620	0.301767	34.48198	0.0000
LOG(TS_KWH_IND_OH_KY/CPI)	-0.077685	0.034073	-2.279933	0.0243
CDDB_OH_KY_65	0.000122	8.06E-06	15.17080	0.0000
@ISPERIOD("1986q2")+@ISPERIOD("1991q4")	0.129654	0.025078	5.170028	0.0000
@ISPERIOD("1991q1")+@ISPERIOD("1999q4")	-0.084145	0.025266	-3.330377	0.0011
@ISPERIOD("1992q1")+@ISPERIOD("2000q3")	*-0.280391*	*0.025243*	*-11.10777*	*0.0000*
@ISPERIOD("2008q2")+@ISPERIOD("2002q3")	0.164495	0.025305	6.500603	0.0000
@ISPERIOD("2001q2")	0.219082	0.036720	5.966257	0.0000
@ISPERIOD("2001q4")+@ISPERIOD("2004q1")	0.127053	0.026964	4.711866	0.0000
@ISPERIOD("2003q3")	-0.159349	0.037565	-4.241923	0.0000
@ISPERIOD("2003q4")	-0.403937	0.036510	-11.06362	0.0000
PDL01	0.159517	0.055972	2.849946	0.0051
AR(1)	0.475000	0.083613	5.680911	0 0000
AR(2)	0.458309	0.083692	5.476172	0.0000

R-squared	0.922112	Mean dependent var	11.13682
Adjusted R-squared	0.913946	S.D. dependent var	0.144033
S.E. of regression	0.042252	Akaike info criterion	-3.394411
Sum squared resid	0 221367	Schwarz criterion	-3.097443
Log likelihood	248.2144	Hannan-Quinn criter.	-3.273731
F-statistic	112.9252	Durbin-Watson stat	1.928903
Prob(F-statistic)	0.000000		

Inverted AR Roots	.95	-.48

Lag Distribution of LOG(JQINDN3364_OH_KY)	i	Coefficient	Std. Error	t-Statistic
. *|	0	0.15952	0.05597	2.84995
. * |	1	0.07976	0.02799	2.84995
	Sum of Lags	0.23928	0.08396	2.84995

MWH SALES – INDUSTRIAL – MISCELLANEOUS

Dependent Variable: LOG(MWHNAOI_OH_KY)
Method: Least Squares
Date: 02/18/11 Time: 13:16
Sample: 1979Q1 2010Q4
Included observations: 128
Convergence achieved after 8 iterations
MA Backcast: 1978Q3 1978Q4

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	11.88779	0.501920	23.68465	0.0000
LOG(JQINDNAOI_OH_KY)	0.437354	0.202024	2.164859	0.0325
CDDB_OH_KY_65	0.000152	5.82E-06	26.08549	0.0000
D_1965Q1_2001Q3	0.239000	0.034977	6.832993	0.0000
@ISPERIOD("1993q1")+@ISPERIOD("1993q2")	-0.112249	0.022882	-4.905591	0.0000
@ISPERIOD("1996q2")	-0.100633	0.024413	-4.122139	0.0001
@ISPERIOD("2003q4")	-0.064136	0.024469	-2.621110	0.0100
@ISPERIOD("2004q4")	0.131309	0.027091	4.846902	0.0000
@ISPERIOD("2005q1")	-0.166456	0.027212	-6.117062	0.0000
@ISPERIOD("2000q2")	-0.153083	0.029028	-5.273714	0.0000
@ISPERIOD("2000q3")+@ISPERIOD("2000q4")	-0.105271	0.027091	-3.885913	0.0002
@ISPERIOD("2001q2")+@ISPERIOD("2005q4")	-0.069407	0.017390	-3.991301	0.0001
@ISPERIOD("2008q3")+@ISPERIOD("2008q4")	0.133541	0.023910	5.585172	0.0000
PDL01	-0.055260	0.031283	-1.766453	0.0800
AR(1)	0.980983	0.012992	75.50632	0.0000
MA(2)	0.150976	0.000364	414.8660	0.0000

R-squared	0.986800	Mean dependent var	12.43838
Adjusted R-squared	0.985032	S.D. dependent var	0.282311
S.E. of regression	0.034539	Akaike info criterion	-3.776990
Sum squared resid	0.133609	Schwarz criterion	-3.420486
Log likelihood	257.7274	Hannan-Quinn criter.	-3.632141
F-statistic	558.1851	Durbin-Watson stat	1.906248
Prob(F-statistic)	0.000000		

Inverted AR Roots	.98

Lag Distribution of LOG(DS_KWH_IND_OH_KY(-4)/CPI(-4))	i	Coefficient	Std. Error	t-Statistic
* . |	0	-0.05526	0.03128	-1.76645
* . |	1	-0.02763	0.01564	-1.76645
	Sum of Lags	-0.08289	0.04692	-1.76645

KWH SALES – OTHER PUBLIC AUTHORITIES – WATER PUMPING

Dependent Variable: LOG(KWHOPAWP_OH_KY)
Method: Least Squares
Date: 02/22/11 Time: 17:19
Sample: 1976M01 2010M12
Included observations: 420

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.343583	0.815592	9.003991	0.0000
D_1965M01_2001M12*LOG(CUSRES_OH_KY)	0.666205	0.059001	11.29152	0.0000
(1-D_1965M01_2001M12)*LOG(CUSRES_OH_KY)	0.623779	0.058028	10.74957	0.0000
LOG(DS_KW_OPA_OH_KY/CPI)	-0.041952	0.020836	-2.013434	0.0448
((@MONTH=5)+(@MONTH=6)+(@MONTH=7)+(@MONTH=8))*(PRECIP_OH_KY+PRECIP_OH_KY(-1))	-0.003603	0.001357	-2.654939	0.0083
((@MONTH=4)+(@MONTH=9)+(@MONTH=10)+(@MONTH=11))*(PRECIP_OH_KY+PRECIP_OH_KY(-1))	-0.002277	0.001320	-1.725192	0.0853
((@MONTH=6)+(@MONTH=7))*CDD_OH_KY_65	0.000684	5.08E-05	13.47076	0.0000
(@MONTH=8)*CDD_OH_KY_65	0.000774	5.67E-05	13.65227	0.0000
(1-((@MONTH=6)+(@MONTH=7)+(@MONTH=8)))*CDD_OH_KY_65	0.001241	0.000101	12.33444	0.0000
@ISPERIOD("1982m06")	0.832372	0.081478	10.21594	0.0000
@ISPERIOD("1998m10")	-0.559534	0.081309	-6.881549	0.0000
@ISPERIOD("2000m01")	-0.803448	0.081575	-9.849237	0.0000
@ISPERIOD("2000m06")	0.354003	0.081863	4.324362	0.0000
@ISPERIOD("2000m05")	-0.691377	0.082285	-8.402177	0.0000
@ISPERIOD("2000m07")	-1.272906	0.081849	-15.55187	0.0000
D_2000M08_2001M12	-0.485575	0.024621	-19.72236	0.0000
@ISPERIOD("2001m07")	-0.879371	0.084491	-10.40782	0.0000
D_2001M09_2002M06	-0.144578	0.028124	-5.140731	0.0000
D_2002M07_2003M01	0.365595	0.038160	9.580551	0.0000
@ISPERIOD("2002m10")	-0.453355	0.089081	-5.089212	0.0000
@ISPERIOD("2003m01")	0.476502	0.088909	5.359416	0.0000
@ISPERIOD("2004m01")	0.424579	0.081677	5.198297	0.0000
@ISPERIOD("2004m03")	0.833829	0.081677	10.20890	0.0000
@ISPERIOD("2006m09")	-0.530826	0.081833	-6.486693	0.0000
@ISPERIOD("2006m10")	0.298049	0.082239	3.624159	0.0003
@ISPERIOD("2010m03")	0.601023	0.082044	7.325577	0.0000
D_1965M01_2007M09	0.219629	0.017147	12.80855	0.0000

R-squared	0.921765	Mean dependent var	16.43708
Adjusted R-squared	0.916589	S.D. dependent var	0.279638
S.E. of regression	0.080762	Akaike info criterion	-2.132488
Sum squared resid	2.563358	Schwarz criterion	-1.872757
Log likelihood	474.8225	Hannan-Quinn criter.	-2.029831
F-statistic	178.0885	Durbin-Watson stat	1.729098
Prob(F-statistic)	0.000000		

KWH SALES – OTHER PUBLIC AUTHORITIES – LESS WATER PUMPING

Dependent Variable: LOG(KWHOPALWP_OH_KY)
Method: Least Squares
Date: 02/18/11 Time: 11:07
Sample: 1978M01 2010M12
Included observations: 396
Convergence achieved after 6 iterations
MA Backcast: 1977M01 1977M12

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	9.177343	0.464818	19.74395	0.0000
LOG(DS_KWH_OPA_OH_KY/CPI)	-0.153704	0.036853	-4.170683	0.0000
LOG(DS_KWH_OPA_OH_KY(-11)/APGOPA_OH_KY(-11))	-0.086142	0.021786	-3.953931	0.0001
CDDB_OH_KY_65*D_1976M01_1984M12	0.000266	0.000101	2.642251	0.0086
CDDB_OH_KY_65*(1-D_1976M01_1984M12)	0.000578	5.45E-05	10.59282	0.0000
HDDB_OH_KY_59*D_1976M01_1984M12	0.000107	3.18E-05	3.358502	0.0009
HDDB_OH_KY_59*(1-D_1976M01_1984M12)	8.33E-05	2.13E-05	3.912876	0.0001
@MONTH=6	0.044197	0.011728	3.768620	0.0002
@MONTH=11	-0.048075	0.011843	-4.059367	0.0001
@ISPERIOD("1994m02")	0.271680	0.053263	5.100765	0.0000
@ISPERIOD("1995m08")	-0.228265	0.053677	-4.252564	0.0000
@ISPERIOD("1999m06")	-0.239280	0.053810	-4.446751	0.0000
@ISPERIOD("1999m10")	0.263578	0.053521	4.924797	0.0000
@ISPERIOD("1999m12")	0.271471	0.054635	4.968812	0.0000
@ISPERIOD("2000m04")	-0.485594	0.054471	-8.914713	0.0000
@ISPERIOD("2000m12")	0.289804	0.060753	4.770228	0.0000
@ISPERIOD("2001m01")	-0.237152	0.059899	-3.959179	0.0001
@ISPERIOD("2001m04")	-0.280704	0.054442	-5.156055	0.0000
@ISPERIOD("2002m12")	-0.196509	0.053360	-3.682695	0.0003
PDL01	0.498819	0.045765	10.89966	0.0000
AR(1)	0.559005	0.044939	12.43909	0.0000
MA(12)	0.211711	0.052362	4.043206	0.0001

R-squared	0.941059	Mean dependent var	18.51108
Adjusted R-squared	0.937750	S.D. dependent var	0.249366
S.E. of regression	0.062217	Akaike info criterion	-2.662435
Sum squared resid	1.447722	Schwarz criterion	-2.441245
Log likelihood	549.1621	Hannan-Quinn criter.	-2.574806
F-statistic	284.3511	Durbin-Watson stat	2.160948
Prob(F-statistic)	0.000000		

Inverted AR Roots	.56			
Inverted MA Roots	.85+.23i	.85-.23i	.62+.62i	.62+.62i
	.23+.85i	.23-.85i	-.23-.85i	-.23+.85i
	-.62+.62i	-.62+.62i	-.85-.23i	-.85+.23i

Lag Distribution of LOG(E90X_OH_KY)	i	Coefficient	Std. Error	t-Statistic
. * |	0	0.74823	0.06865	10.8997
. * |	1	0.49882	0.04576	10.8997
. * |	2	0.24941	0.02288	10.8997
	Sum of Lags	1.49646	0.13729	10.8997

KWH SALES – STREET LIGHTING

Dependent Variable: LOG(KWHSL_OH_KY)
Method: Least Squares
Date: 02/18/11 Time: 11:10
Sample (adjusted): 1976M03 2010M12
Included observations: 418 after adjustments
Convergence achieved after 13 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6.634622	0.817873	8.112046	0.0000
LOG(N_OH_KY)	1.187030	0.093199	12.73652	0.0000
D_1965M01_2002M12*@MONTH=1	0.129729	0.005804	22.34983	0.0000
D_1965M01_2002M12*@MONTH=2	-0.017364	0.005586	-3.108402	0.0020
D_1965M01_2002M12*@MONTH=4	-0.125481	0.005380	-23.32294	0.0000
D_1965M01_2002M12*@MONTH=5	-0.183103	0.005853	-31.28516	0.0000
D_1965M01_2002M12*@MONTH=6	-0.272574	0.006585	-41.39356	0.0000
D_1965M01_2002M12*@MONTH=7	-0.227443	0.006769	-33.60018	0.0000
D_1965M01_2002M12*@MONTH=8	-0.144261	0.006805	-21.19983	0.0000
D_1965M01_2002M12*@MONTH=9	-0.079487	0.006838	-11.62400	0.0000
D_1965M01_2002M12*@MONTH=10	0.026083	0.006776	3.849203	0.0001
D_1965M01_2002M12*@MONTH=11	0.080469	0.006638	12.12199	0.0000
D_1965M01_2002M12*@MONTH=12	0.143832	0.006298	22.83764	0.0000
@ISPERIOD("1980m02")	-0.163252	0.022107	-7.384568	0.0000
@ISPERIOD("1991m06")	-0.366945	0.023674	-15.49977	0.0000
@ISPERIOD("1999m06")	0.526448	0.022075	23.84800	0.0000
@ISPERIOD("1999m11")	-0.215151	0.022062	-9.752211	0.0000
@ISPERIOD("2001m02")	-0.751729	0.022988	-32.70043	0.0000
@ISPERIOD("2001m03")	0.419849	0.023222	18.08003	0.0000
@ISPERIOD("2001m05")	-0.314116	0.022717	-13.82746	0.0000
@ISPERIOD("2001m07")+@ISPERIOD("2002m07")	0.194966	0.016484	11.82759	0.0000
@ISPERIOD("2002m06")	-0.146027	0.022475	-6.497423	0.0000
@ISPERIOD("1991m03")	-0.137568	0.022208	-6.194428	0.0000
@ISPERIOD("2007m02")	-0.134596	0.021717	-6.197862	0.0000
@ISPERIOD("2007m05")	-0.106050	0.022853	-4.640490	0.0000
@ISPERIOD("2007m06")	0.054432	0.022445	2.425113	0.0158
@ISPERIOD("2002m02")	0.106135	0.022361	4.746497	0.0000
@ISPERIOD("2006m02")	0.084365	0.021746	3.879554	0.0001
D_1965M01_2007M09	0.067105	0.012236	5.484119	0.0000
PDL01	-0.148257	0.052585	-2.819371	0.0051
AR(1)	0.411845	0.055537	7.415701	0.0000
AR(2)	0.220771	0.053764	4.106317	0.0000

R-squared	0.978873	Mean dependent var	15.94102
Adjusted R-squared	0.977176	S.D. dependent var	0.157949
S.E. of regression	0.023862	Akaike info criterion	-4.559575
Sum squared resid	0.219790	Schwarz criterion	-4.250639
Log likelihood	984.9512	Hannan-Quinn criter.	-4.437446
F-statistic	576.9154	Durbin-Watson stat	2.042699
Prob(F-statistic)	0.000000		

Inverted AR Roots	.72	-.31

Lag Distribution of LOG(SAT_SL_OH_KY)	i	Coefficient	Std. Error	t-Statistic
* . |	0	-0.19768	0.07011	-2.81937
* . |	1	-0.14826	0.05259	-2.81937
* . |	2	-0.09884	0.03506	-2.81937
* . |	3	-0.04942	0.01753	-2.81937
	Sum of Lags	-0.49419	0.17528	-2.81937

SERVICE AREA – SUMMER PEAK

Dependent Variable: LOG(MWSPEAK_OH_KY)
Method: Least Squares
Date: 03/02/11 Time: 17:36
Sample: 1/01/1974 12/31/2010 IF WEEKDAY<=5
Included observations: 374

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D_072180_091498*MJUN	-3.011771	0.321205	-9.376481	0.0000
(1-D_072180_091498)*MJUN	-3.124540	0.319518	-9.778925	0.0000
D_072180_091498*MJUL	-3.287855	0.290345	-11.32395	0.0000
(1-D_072180_091498)*MJUL	-3.623843	0.184254	-19.66766	0.0000
D_072180_091498*MAUG	-1.598406	0.243600	-6.561600	0.0000
(1-D_072180_091498)*MAUG	-4.460045	0.229457	-19.43742	0.0000
MSEP	-3.635690	0.260506	-13.95628	0.0000
(D_072180_091498)*(MJUN+MSEP)*LOG(KWHSEND_OH_KY_WN/1000/DAYS)	0.909660	0.018172	50.05902	0.0000
(1-D_072180_091498)*(MJUN+MSEP)*LOG(KWHSEND_OH_KY_WN/1000/DAYS)	0.920730	0.017986	51.19140	0.0000
(D_072180_091498)*(MJUL)*LOG(KWHSEND_OH_KY_WN/1000/DAYS)	0.915842	0.024645	37.16087	0.0000
(1-D_072180_091498)*(MJUL)*LOG(KWHSEND_OH_KY_WN/1000/DAYS)	0.943693	0.013466	70.08135	0.0000
(D_072180_091498)*(MAUG)*LOG(KWHSEND_OH_KY_WN/1000/DAYS)	0.749686	0.020357	36.82746	0.0000
(1-D_072180_091498)*(MAUG)*LOG(KWHSEND_OH_KY_WN/1000/DAYS)	1.007129	0.018754	53.70340	0.0000
(MJUN)*PMHIGH	0.006528	0.002595	2.516140	0.0123
(MJUL+MAUG+MSEP)*PMHIGH	0.010185	0.001090	9.341020	0.0000
(MJUN+MJUL+MAUG+MSEP)*PREVPMHIGH	0.002587	0.000596	4.339495	0.0000
(MJUN+MAUG)*AMLOW	0.005175	0.000788	6.569148	0.0000
MJUL*AMLOW	0.003140	0.000945	3.322639	0.0010
MSEP*AMLOW	0.009130	0.002129	4.288536	0.0000
(MJUN+MJUL+MAUG+MSEP)*PMHUMIDATHIGH	0.000754	0.000302	2.497370	0.0130
JULY4WEEK*PMHIGH	-0.000318	7.53E-05	-4.226065	0.0000
@ISPERIOD("6/11/1976")	-0.097349	0.036540	-2.664175	0.0081
@ISPERIOD("6/18/1976")	-0.124767	0.036541	-3.414419	0.0007
@ISPERIOD("7/5/1993")	-0.109721	0.035655	-3.077264	0.0023
@ISPERIOD("7/5/99")	-0.122669	0.035685	-3.437554	0.0007
@ISPERIOD("8/13/1999")	0.105063	0.035423	2.965939	0.0032
@ISPERIOD("8/17/1999")	0.104280	0.035654	2.924797	0.0037
D_080107_082907	-0.093970	0.010804	-8.697776	0.0000
@ISPERIOD("7/7/10")	-0.384991	0.035580	-10.82035	0.0000

R-squared	0.980720	Mean dependent var	8.264019
Adjusted R-squared	0.979155	S.D. dependent var	0.240056
S.E. of regression	0.034659	Akaike info criterion	-3.812170
Sum squared resid	0.414422	Schwarz criterion	-3.507882
Log likelihood	741.8757	Hannan-Quinn criter.	-3.691354
Durbin-Watson stat	0.689958		

SERVICE AREA – WINTER PEAK

Dependent Variable: LOG(MWWPEAK_OH_KY)
Method: Least Squares
Date: 03/03/11 Time: 12:36
Sample: 1/01/1974 12/31/2010 IF WEEKDAY<=5
Included observations: 258

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AMPEAK*(MDEC+MJAN+MFEB+MMAR)	-1.609170	0.284221	-5.661692	0.0000
AMPEAK*(MDEC+MJAN+MFEB+MMAR)*LOG(KWHSEND_OH_KY_WN/1000/DAYS)	0.882089	0.025989	33.94138	0.0000
AMPEAK*(MDEC+MJAN+MFEB+MMAR)*AMLOW	-0.002167	0.001165	-1.859507	0.0641
AMPEAK*(MDEC+MJAN+MMAR)*WINDAM	0.006007	0.001457	4.122567	0.0001
AMPEAK*(MJAN+MFEB+MMAR)*PREVPMLOW	-0.002277	0.001045	-2.178155	0.0303
PMPEAK*(MDEC+MJAN+MFEB+MMAR)	-0.936795	0.372091	-2.517650	0.0125
PMPEAK*(MDEC+MMAR)*LOG(KWHSEND_OH_KY_WN/1000/DAYS)	0.826439	0.034517	23.94265	0.0000
PMPEAK*(MJAN+MFEB)*LOG(KWHSEND_OH_KY_WN/1000/DAYS)	0.822818	0.034252	24.02242	0.0000
PMPEAK*(MDEC+MJAN+MFEB+MMAR)*PMLOW	-0.003700	0.001386	-2.669020	0.0081
@ISPERIOD("1/27/1977")+@ISPERIOD("1/28/1977")	-0.253712	0.058986	-4.301214	0.0000
PMPEAK*XMAS	-0.083042	0.029656	-2.800147	0.0055
@ISPERIOD("1/23/2003")	-0.165564	0.085684	-1.932259	0.0545

R-squared	0.883007	Mean dependent var	8.026330
Adjusted R-squared	0.877776	S.D. dependent var	0.235440
S.E. of regression	0.082311	Akaike info criterion	-2.111221
Sum squared resid	1.666687	Schwarz criterion	-1.945968
Log likelihood	284.3476	Hannan-Quinn criter.	-2.044772
Durbin-Watson stat	0.565187		

VARIABLE	*DESCRIPTION*
@ISPERIOD("6/11/1976")	QUALITATIVE VARIABLE - JUNE 11, 1976
@ISPERIOD("6/18/1976")	QUALITATIVE VARIABLE - JUNE 18, 1976
@ISPERIOD("1/27/1977")	QUALITATIVE VARIABLE - JANUARY 27, 1977
@ISPERIOD("1/28/1977")	QUALITATIVE VARIABLE - JANUARY 28, 1977
@ISPERIOD("7/5/1993")	QUALITATIVE VARIABLE - JULY 5, 1993
@ISPERIOD("7/5/1999")	QUALITATIVE VARIABLE - JULY 5, 1999
@ISPERIOD("8/13/1999")	QUALITATIVE VARIABLE - AUGUST 13, 1999
@ISPERIOD("8/17/1999")	QUALITATIVE VARIABLE - AUGUST 17, 1999
@ISPERIOD("1/23/2003")	QUALITATIVE VARIABLE - JANUARY 23, 2003
@ISPERIOD("7/7/2010")	QUALITATIVE VARIABLE - JULY 7, 2010
@ISPERIOD("1980M02")	QUALITATIVE VARIABLE - FEBRUARY, 1980
@ISPERIOD("1982M06")	QUALITATIVE VARIABLE - JUNE, 1982
@ISPERIOD("1986Q2")	QUALITATIVE VARIABLE - SECOND QUARTER, 1986
@ISPERIOD("1986Q3")	QUALITATIVE VARIABLE - THIRD QUARTER, 1986
@ISPERIOD("1988Q3")	QUALITATIVE VARIABLE - THIRD QUARTER, 1988
@ISPERIOD("1988Q4")	QUALITATIVE VARIABLE - FOURTH QUARTER, 1988
@ISPERIOD("1990Q2")	QUALITATIVE VARIABLE - SECOND QUARTER, 1990
@ISPERIOD("1991M03")	QUALITATIVE VARIABLE - MARCH, 1991
@ISPERIOD("1991M04")	QUALITATIVE VARIABLE - APRIL, 1991
@ISPERIOD("1991M06")	QUALITATIVE VARIABLE - JUNE, 1991
@ISPERIOD("1991M11")	QUALITATIVE VARIABLE - NOVEMBER, 1991
@ISPERIOD("1991Q1")	*QUALITATIVE VARIABLE - FIRST QUARTER, 1991*
@ISPERIOD("1991Q3")	QUALITATIVE VARIABLE - THIRD QUARTER, 1991
@ISPERIOD("1991Q4")	QUALITATIVE VARIABLE - FOURTH QUARTER, 1991
@ISPERIOD("1992Q1")	QUALITATIVE VARIABLE - FIRST QUARTER, 1992
@ISPERIOD("1992Q2")	QUALITATIVE VARIABLE - SECOND QUARTER, 1992
@ISPERIOD("1993M09")	QUALITATIVE VARIABLE - SEPTEMBER, 1993
@ISPERIOD("1993M10")	QUALITATIVE VARIABLE - OCTOBER, 1993
@ISPERIOD("1993M11")	QUALITATIVE VARIABLE - NOVEMBER, 1993
@ISPERIOD("1993Q1")	QUALITATIVE VARIABLE - FIRST QUARTER, 1993
@ISPERIOD("1993Q2")	QUALITATIVE VARIABLE - SECOND QUARTER, 1993
@ISPERIOD("1994M02")	QUALITATIVE VARIABLE - FEBRUARY, 1994
@ISPERIOD("1994M05")	QUALITATIVE VARIABLE - MAY, 1994
@ISPERIOD("1994Q1")	QUALITATIVE VARIABLE - FIRST QUARTER, 1994
@ISPERIOD("1995M04")	QUALITATIVE VARIABLE - APRIL, 1995
@ISPERIOD("1995M05")	QUALITATIVE VARIABLE - MAY, 1995
@ISPERIOD("1995M08")	QUALITATIVE VARIABLE - AUGUST, 1995
@ISPERIOD("1996Q2")	QUALITATIVE VARIABLE – SECOND QUARTER, 1996
@ISPERIOD("1996Q3")	QUALITATIVE VARIABLE - THIRD QUARTER, 1996
@ISPERIOD("1997Q3")	QUALITATIVE VARIABLE - THIRD QUARTER, 1997
@ISPERIOD("1998M05")	QUALITATIVE VARIABLE - MAY, 1998
@ISPERIOD("1998M07")	QUALITATIVE VARIABLE - JULY, 1998
@ISPERIOD("1998M10")	QUALITATIVE VARIABLE - OCTOBER, 1998
@ISPERIOD("1998Q3")	QUALITATIVE VARIABLE - THIRD QUARTER, 1998
@ISPERIOD("1998Q4")	QUALITATIVE VARIABLE - FOURTH QUARTER, 1998
@ISPERIOD("1999M02")	QUALITATIVE VARIABLE - FEBRUARY, 1999
@ISPERIOD("1999M06")	QUALITATIVE VARIABLE - JUNE, 1999
@ISPERIOD("1999M10")	QUALITATIVE VARIABLE - OCTOBER, 1999
@ISPERIOD("1999M11")	QUALITATIVE VARIABLE - NOVEMBER, 1999
@ISPERIOD("1999M12")	QUALITATIVE VARIABLE - DECEMBER, 1999
@ISPERIOD("1999Q1")	QUALITATIVE VARIABLE - FIRST QUARTER, 1999
@ISPERIOD("1999Q4")	QUALITATIVE VARIABLE - FOURTH QUARTER, 1999
@ISPERIOD("2000M01")	QUALITATIVE VARIABLE - JANUARY, 2000
@ISPERIOD("2000M04")	QUALITATIVE VARIABLE - APRIL, 2000
@ISPERIOD("2000M05")	QUALITATIVE VARIABLE - MAY, 2000
@ISPERIOD("2000M06")	QUALITATIVE VARIABLE - JUNE, 2000
@ISPERIOD("2000M07")	QUALITATIVE VARIABLE - JULY, 2000
@ISPERIOD("2000M08")	QUALITATIVE VARIABLE - AUGUST, 2000
@ISPERIOD("2000M10")	QUALITATIVE VARIABLE - OCTOBER, 2000
@ISPERIOD("2000M12")	QUALITATIVE VARIABLE - DECEMBER, 2000
@ISPERIOD("2000Q1")	QUALITATIVE VARIABLE - FIRST QUARTER, 2000
@ISPERIOD("2000Q2")	QUALITATIVE VARIABLE - SECOND QUARTER, 2000
@ISPERIOD("2000Q3")	QUALITATIVE VARIABLE - THIRD QUARTER, 2000
@ISPERIOD("2000Q4")	QUALITATIVE VARIABLE - FOURTH QUARTER, 2000
@ISPERIOD("2001M01")	QUALITATIVE VARIABLE - JANUARY, 2001
@ISPERIOD("2001M02")	QUALITATIVE VARIABLE - FEBRUARY, 2001
@ISPERIOD("2001M03")	*QUALITATIVE VARIABLE - MARCH, 2001*
@ISPERIOD("2001M04")	QUALITATIVE VARIABLE - APRIL, 2001
@ISPERIOD("2001M05")	QUALITATIVE VARIABLE - MAY, 2001
@ISPERIOD("2001M06")	QUALITATIVE VARIABLE - JUNE, 2001
@ISPERIOD("2001M07")	QUALITATIVE VARIABLE - JULY, 2001
@ISPERIOD("2001Q1")	QUALITATIVE VARIABLE - FIRST QUARTER, 2001
@ISPERIOD("2001Q2")	QUALITATIVE VARIABLE - SECOND QUARTER, 2001
@ISPERIOD("2001Q4")	QUALITATIVE VARIABLE - FOURTH QUARTER, 2001
@ISPERIOD("2002M02")	QUALITATIVE VARIABLE - FEBRUARY, 2002
@ISPERIOD("2002M04")	QUALITATIVE VARIABLE - APRIL, 2002
@ISPERIOD("2002M05")	QUALITATIVE VARIABLE - MAY, 2002
@ISPERIOD("2002M06")	QUALITATIVE VARIABLE - JUNE, 2002

@ISPERIOD("2002M07")	QUALITATIVE VARIABLE - JULY, 2002
@ISPERIOD("2002M08")	QUALITATIVE VARIABLE - AUGUST, 2002
@ISPERIOD("2002M10")	QUALITATIVE VARIABLE - OCTOBER, 2002
@ISPERIOD("2002M12")	QUALITATIVE VARIABLE - DECEMBER, 2002
@ISPERIOD("2002Q1")	QUALITATIVE VARIABLE - FIRST QUARTER, 2002
@ISPERIOD("2002Q2")	QUALITATIVE VARIABLE - SECOND QUARTER, 2002
@ISPERIOD("2002Q3")	QUALITATIVE VARIABLE - THIRD QUARTER, 2002
@ISPERIOD("2003M01")	QUALITATIVE VARIABLE - JANUARY, 2003
@ISPERIOD("2003M12")	QUALITATIVE VARIABLE - DECEMBER, 2003
@ISPERIOD("2003Q1")	QUALITATIVE VARIABLE - FIRST QUARTER, 2003
@ISPERIOD("2003Q3")	QUALITATIVE VARIABLE - THIRD QUARTER, 2003
@ISPERIOD("2003Q4")	QUALITATIVE VARIABLE - FOURTH QUARTER, 2003
@ISPERIOD("2004M01")	QUALITATIVE VARIABLE - JANUARY, 2004
@ISPERIOD("2004M03")	QUALITATIVE VARIABLE - MARCH, 2004
@ISPERIOD("2004M05")	QUALITATIVE VARIABLE - MAY, 2004
@ISPERIOD("2004M06")	QUALITATIVE VARIABLE - JUNE, 2004
@ISPERIOD("2004M11")	QUALITATIVE VARIABLE - NOVEMBER, 2004
@ISPERIOD("2004M12")	QUALITATIVE VARIABLE - DECEMBER, 2004
@ISPERIOD("2004Q1")	QUALITATIVE VARIABLE - FIRST QUARTER, 2004
@ISPERIOD("2004Q4")	QUALITATIVE VARIABLE - FOURTH QUARTER, 2004
@ISPERIOD("2005M01")	QUALITATIVE VARIABLE - JANUARY, 2005
@ISPERIOD("2005M02")	QUALITATIVE VARIABLE - FEBRUARY, 2005
@ISPERIOD("2005M03")	QUALITATIVE VARIABLE - MARCH, 2005
@ISPERIOD("2005M08")	QUALITATIVE VARIABLE - AUGUST, 2005
@ISPERIOD("2005Q1")	QUALITATIVE VARIABLE - FIRST QUARTER, 2005
@ISPERIOD("2005Q4")	QUALITATIVE VARIABLE - FOURTH QUARTER, 2005
@ISPERIOD("2006M02")	QUALITATIVE VARIABLE - FEBRUARY, 2006
@ISPERIOD("2006M09")	QUALITATIVE VARIABLE - SEPTEMBER, 2006
@ISPERIOD("2006M10")	QUALITATIVE VARIABLE - OCTOBER, 2006
@ISPERIOD("2007M02")	QUALITATIVE VARIABLE - FEBRUARY, 2007
@ISPERIOD("2007M04")	QUALITATIVE VARIABLE - APRIL, 2007
@ISPERIOD("2007M05")	QUALITATIVE VARIABLE - MAY, 2007
@ISPERIOD("2007M06")	QUALITATIVE VARIABLE - JUNE, 2007
@ISPERIOD("2007M10")	QUALITATIVE VARIABLE - OCTOBER, 2007
@ISPERIOD("2007Q4")	QUALITATIVE VARIABLE - FOURTH QUARTER, 2007
@ISPERIOD("2008M10")	QUALITATIVE VARIABLE - OCTOBER, 2008
@ISPERIOD("2008Q2")	QUALITATIVE VARIABLE - SECOND QUARTER, 2008
@ISPERIOD("2008Q3")	QUALITATIVE VARIABLE - THIRD QUARTER, 2008
@ISPERIOD("2008Q4")	QUALITATIVE VARIABLE - FOURTH QUARTER, 2008
@ISPERIOD("2009M05")	QUALITATIVE VARIABLE - MAY, 2009
@ISPERIOD("2009Q1")	QUALITATIVE VARIABLE - FIRST QUARTER, 2009
@ISPERIOD("2009Q2")	QUALITATIVE VARIABLE - SECOND QUARTER, 2009
@ISPERIOD("2010M02")	QUALITATIVE VARIABLE - FEBRUARY, 2010
@ISPERIOD("2010M03")	QUALITATIVE VARIABLE - MARCH, 2010
@ISPERIOD("2010M05")	QUALITATIVE VARIABLE - MAY, 2010
@ISPERIOD("2010M10")	QUALITATIVE VARIABLE - OCTOBER, 2010
@ISPERIOD("2010Q2")	QUALITATIVE VARIABLE - SECOND QUARTER, 2010
@ISPERIOD("2010Q3")	QUALITATIVE VARIABLE - THIRD QUARTER, 2010
@ISPERIOD("2010Q4")	QUALITATIVE VARIABLE - FOURTH QUARTER, 2010
@MONTH=1	QUALITATIVE VARIABLE - JANUARY
@MONTH=10	QUALITATIVE VARIABLE - OCTOBER
@MONTH=11	QUALITATIVE VARIABLE - NOVEMBER
@MONTH=12	QUALITATIVE VARIABLE - DECEMBER
@MONTH=2	QUALITATIVE VARIABLE - FEBRUARY
@MONTH=3	QUALITATIVE VARIABLE - MARCH
@MONTH=4	QUALITATIVE VARIABLE - APRIL
@MONTH=5	QUALITATIVE VARIABLE - MAY
@MONTH=6	QUALITATIVE VARIABLE - JUNE
@MONTH=7	QUALITATIVE VARIABLE - JULY
@MONTH=8	QUALITATIVE VARIABLE - AUGUST
@MONTH=9	QUALITATIVE VARIABLE – SEPTEMBER
@QUARTER=1	QUALITATIVE VARIABLE - FIRST QUARTER
@QUARTER=2	QUALITATIVE VARIABLE - SECOND QUARTER
@QUARTER=3	QUALITATIVE VARIABLE - THIRD QUARTER
@QUARTER=4	QUALITATIVE VARIABLE - FOURTH QUARTER
AMLOW	MINIMUM HOURLY TEMPERATURE - MORNING
AMPEAK	QUALITATIVE VARIABLE - MORNING PEAK
APGIND_OH_KY	SERVICE AREA AVERAGE PRICE OF GAS FOR INDUSTRIAL CUSTOMERS
APGOPA_OH_KY	SERVICE AREA AVERAGE PRICE OF GAS FOR OPA CUSTOMERS
APPLSTK_EFF_OH_KY	EFFICIENT APPLIANCE STOCK
BASE	BUTLER COUNTY BASE AMOUNT OF MWH SALES - INDUSTRIAL - PRIMARY METAL INDUSTRIES
CDD_OH_KY_65	COOLING DEGREE DAYS
CDDB_OH_KY_65	BILLING COOLING DEGREE DAYS
CDDB_OH_KY_65_0_100	=MINIMUM(CDDB_OH_KY,100)
CDDB_OH_KY_65_100	=MAXIMUM(CDDB_OH_KY-100,0)
CPI	CONSUMER PRICE INDEX (ALL URBAN) - ALL ITEMS
CUSRES_OH_KY	SERVICE AREA ELECTRIC CUSTOMERS - RESIDENTIAL
D_072180_091498	QUALITATIVE VARIABLE - JULY 21, 1980 TO SEPTEMBER 14, 1998
D_080107_082907	QUALITATIVE VARIABLE - AUGUST 1, 2007 TO AUGUST 29, 2007
D_1965M01_2001M12	QUALITATIVE VARIABLE - JANUARY, 1965 THRU DECEMBER, 2001
D_1965M01_2002M12	QUALITATIVE VARIABLE - JANUARY, 1965 THRU DECEMBER, 2002
D_1965M01_2007M09	QUALITATIVE VARIABLE - JANUARY, 1965 THRU SEPTEMBER, 2007
D_1965Q1_1985Q4	QUALITATIVE VARIABLE - FIRST QUARTER, 1965 TO FOURTH QUARTER, 1985

D_1965Q1_1986Q4	QUALITATIVE VARIABLE - FIRST QUARTER, 1965 THRU FOURTH QUARTER, 1986
D_1965Q1_1990Q4	QUALITATIVE VARIABLE - FIRST QUARTER, 1965 THRU FOURTH QUARTER, 1990
D_1965Q1_1995Q4	QUALITATIVE VARIABLE - FIRST QUARTER, 1965 TO FOURTH QUARTER, 1995
D_1965Q1_1998Q2	QUALITATIVE VARIABLE - FIRST QUARTER, 1965 TO SECOND QUARTER, 1998
D_1965Q1_2001Q2	QUALITATIVE VARIABLE - FIRST QUARTER, 1965 TO SECOND QUARTER, 2001
D_1965Q1_2001Q3	QUALITATIVE VARIABLE - FIRST QUARTER, 1965 THRU THIRD QUARTER, 2001
D_1965Q1_2005Q1	QUALITATIVE VARIABLE - FIRST QUARTER, 1965 THRU FIRST QUARTER, 2005
D_1976M01_1984M12	QUALITATIVE VARIABLE - JANUARY, 1976 THRU DECEMBER, 1984
D_1976Q1_1989Q2	QUALITATIVE VARIABLE - FIRST QUARTER, 1976 TO SECOND QUARTER, 1989
D_1980Q1_2005Q2	QUALITATIVE VARIABLE - FIRST QUARTER, 1980 TO SECOND QUARTER, 2005
D_1987Q1_1991Q3	QUALITATIVE VARIABLE - FIRST QUARTER, 1987 THRU THIRD QUARTER, 1991
D_1998Q3_2001Q2	QUALITATIVE VARIABLE - THIRD QUARTER, 1998 THRU SECOND QUARTER, 2001
D_1999Q1_2001Q2	QUALITATIVE VARIABLE - FIRST QUARTER, 1999 THRU SECOND QUARTER, 2001
D_2000M08_2001M12	QUALITATIVE VARIABLE - AUGUST, 2000 THRU DECEMBER, 2001
D_2000Q3_2001Q2	QUALITATIVE VARIABLE - THIRD QUARTER, 2000 THRU SECOND QUARTER, 2001
D_2001M09_2002M06	QUALITATIVE VARIABLE - SEPTEMBER, 2001 THRU JUNE, 2002
D_2002M07_2003M01	QUALITATIVE VARIABLE - JULY, 2002 THRU JANUARY, 2003
D_DJF	=(@MONTH=12+@MONTH=1+@MONTH=2)
D_JJA	=(@MONTH=6+@MONTH=7+@MONTH=8)
DAYS	NUMBER OF DAYS IN THE MONTH
DS_KW_IND_OH_KY	SERVICE AREA DS RATE FOR DEMAND FOR INDUSTRIAL CUSTOMERS
DS_KW_OPA_OH_KY	SERVICE AREA DS RATE FOR DEMAND FOR OTHER PUBLIC AUTHORITIES CUSTOMERS
DS_KWH_COM_OH_KY	SERVICE AREA DS RATE FOR USAGE FOR COMMERCIAL CUSTOMERS
DS_KWH_IND_OH_KY	SERVICE AREA DS RATE FOR USAGE FOR INDUSTRIAL CUSTOMERS
DS_KWH_OPA_OH_KY	SERVICE AREA DS RATE FOR USAGE FOR OTHER PUBLIC AUTHORITIES CUSTOMERS
E90X_OH_KY	SERVICE AREA EMPLOYMENT - STATE AND LOCAL GOVERNMENT
ECOM_OH_KY	SERVICE AREA EMPLOYMENT - COMMERCIAL
EFF_CAC_OH_KY	EFFICIENCY OF CENTRAL AIR CONDITIONING UNITS IN SERVICE AREA
EFF_EHP_OH_KY	EFFICIENCY OF ELECTRIC HEAT PUMP UNITS IN SERVICE AREA
EFF_RAC_OH_KY	EFFICIENCY OF WINDOW AIR CONDITIONING UNITS IN SERVICE AREA
HDDB_OH_KY_59	BILLING HEATING DEGREE DAYS
HDDB_OH_KY_59_0_500	=MINIMUM(HDDB_OH_KY,500)
HDDB_OH_KY_59_500	=MAXIMUM(HDDB_OH_KY-500,0)
JQINDN311_312_OH_KY	SERVICE AREA INDUSTRIAL PRODUCTION INDEX - FOOD AND PRODUCTS
JQINDN322_326_OH_KY	SERVICE AREA INDUSTRIAL PRODUCTION INDEX - PAPER AND PRODUCTS
JQINDN325_OH_KY	SERVICE AREA INDUSTRIAL PRODUCTION INDEX - CHEMICALS AND PRODUCTS
JQINDN331_BUTLER	BUTLER COUNTY INDUSTRIAL PRODUCTION INDEX - PRIMARY METAL INDUSTRIES
JQINDN331_CMSA	CINCINNATI CMSA INDUSTRIAL PRODUCTION INDEX - PRIMARY METAL INDUSTRIES
JQINDN332_OH_KY	SERVICE AREA INDUSTRIAL PRODUCTION INDEX - FABRICATED METALS
JQINDN333_OH_KY	SERVICE AREA INDUSTRIAL PRODUCTION INDEX - INDUSTRIAL MACHINERY & EQUIPMENT
JQINDN334_OH_KY	SERVICE AREA INDUSTRIAL PRODUCTION INDEX - COMPUTER AND ELECTRONICS
JQINDN335_OH_KY	SERVICE AREA INDUSTRIAL PRODUCTION INDEX - ELECTRICAL EQUIPMENT
JQINDN3364_OH_KY	SERVICE AREA INDUSTRIAL PRODUCTION INDEX - AIRCRAFT AND PARTS
JQINDN361_62_63_OH_KY	SERVICE AREA INDUSTRIAL PRODUCTION INDEX - MOTOR VEHICLES AND PARTS
JQINDNAOI_OH_KY	SERVICE AREA INDUSTRIAL PRODUCTION - ALL OTHER INDUSTRIES
JULY4WEEK	QUALITATIVE VARIABLE FOR THE WEEK OF JULY 4TH
KWHCOM_OH_KY	SERVICEA KWH SALES - COMMERCIAL
KWHOPALWP_OH_KY	SERVICE AREA KWH SALES - OPA LESS WATER PUMPING
KWHOPAWP_OH_KY	SERVICE AREA KWH SALES - OPA WATER PUMPING
KWHRES_OH_KY	SERVICE AREA KWH SALES - RESIDENTIAL
KWHSEND_OH_KY_WN	SERVICE AREA KWH SENDOUT – WEATHER NORMALIZED
KWHSL_OH_KY	SERVICE AREA KWH SALES – STREET LIGHTING
MAUG	QUALITATIVE VARIABLE - AUGUST
MDEC	QUALITATIVE VARIABLE - DECEMBER
MFEB	QUALITATIVE VARIABLE - FEBRUARY
MJAN	QUALITATIVE VARIABLE - JANUARY
MJUL	QUALITATIVE VARIABLE - JULY
MJUN	QUALITATIVE VARIABLE - JUNE
MMAR	QUALITATIVE VARIABLE - MARCH
MP_RES_OH_KY	MARGINAL PRICE OF ELECTRICITY - RESIDENTIAL
MSEP	QUALITATIVE VARIABLE - SEPTEMBER
MWHN311_312_OH_KY	SERVICE AREA MWH SALES - INDUSTRIAL - FOOD AND PRODUCTS
MWHN322_326_OH_KY	SERVICE AREA MWH SALES - INDUSTRIAL - PAPER AND PRODUCTS
MWHN325_OH_KY	SERVICE AREA MWH SALES - INDUSTRIAL - CHEMICALS AND PRODUCTS
MWHN331_BUTLER	BUTLER COUNTY MWH SALES - INDUSTRIAL - PRIMARY METAL INDUSTRIES
MWHN331LBUTLER_OH_KY	SERVICE AREA MWH SALES LESS BUTLER COUNTY - INDUSTRIAL - PRIMARY METAL INDUSTRIES
MWHN332_OH_KY	SERVICE AREA MWH SALES - INDUSTRIAL - FABRICATED METALS
MWHN333_OH_KY	SERVICE AREA MWH SALES - INDUSTRIAL - INDUSTRIAL MACHINERY AND EQUIPMENT
MWHN334_OH_KY	SERVICE AREA MWH SALES - INDUSTRIAL - COMPUTER AND ELECTRONICS
MWHN335_OH_KY	SERVICE AREA MWH SALES - INDUSTRIAL - ELECTRICAL EQUIPMENT
MWHN3361_62_63_OH_KY	SERVICE AREA MWH SALES - INDUSTRIAL - MOTOR VEHICLES AND PARTS
MWHN3364_OH_KY	SERVICE AREA MWH SALES - INDUSTRIAL - TRANSPORTATION EQUIPMENT OTHER THAN MOTOR VEHICLES AND PARTS
MWHNAOI_OH_KY	SERVICE AREA MWH SALES - INDUSTRIAL - ALL OTHER INDUSTRIES
MWSPEAK_OH_KY	SERVICE AREA MW PEAK - SUMMER
MWWPEAK_OH_KY	SERVICE AREA MW PEAK - WINTER
N_OH_KY	SERVICE AREA TOTAL POPULATION
PMHIGH	MAXIMUM HOURLY TEMPERATURE - AFTERNOON
PMHUMIDATHIGH	HUMIDITY - AFTERNOON
PMLOW	MINIMUM HOURLY TEMPERATURE - EVENING
PMPEAK	QUALITATIVE VARIABLE - EVENING PEAK
PRECIP_OH_KY	SERVICE AREA PRECIPITATION
PREVPMHIGH	MAXIMUM HOURLY TEMPERATURE - PREVIOUS AFTERNOON

PREVPMLOW	MINIMUM HOURLY TEMPERATURE - PREVIOUS AFTERNOON
SAT_CAC_EFF	=EFF_CAC_OH_KY*(SAT_EHP_OH_KY+SAT_CACNHP_OH_KY)
SAT_CACNHP_OH_KY	SERVICE AREA SATURATION OF CENTRAL AIR CONDITIONING WITHOUT HEAT PUMP
SAT_EH_EFF	=(SAT_ER_OH_KY+(SAT_EHP_OH_KY*EFF_EHP_OH_KY))
SAT_EHP_OH_KY	SERVICE AREA SATURATION OF ELECTRIC HEAT PUMPS - RESIDENTIAL
SAT_ER_OH_KY	SATURATION RATE OF ELECTRIC RESISTANCE HEATERS IN SERVICE AREA
SAT_RAC_EFF	=EFF_RAC_OH_KY*SAT_RAC_OH_KY
SAT_RAC_OH_KY	SERVICE AREA SATURATION OF WINDOW AIR CONDITIONING SERVICE AREA
SAT_SL_OH_KY	=(0.5*SATMERC_OH_KY)+(0.5*SATSODVAP_OH_KY)
SATMERC_OH_KY	SERVICE AREA SATURATION OF MERCURY VAPOR STREET LIGHTING
SATSODVAP_OH_KY	SERVICE AREA SATURATION OF SODIUM VAPOR STREET LIGHTING
TS_KW_IND_OH_KY	SERVICE AREA TS RATE FOR DEMAND FOR INDUSTRIAL CUSTOMERS
TS_KWH_IND_OH_KY	SERVICE AREA TS RATE FOR USAGE FOR INDUSTRIAL CUSTOMERS
WINDAM	WIND SPEED - MORNING
WPI0561	WHOLESALE PRICE INDEX FOR CRUDE PETROLEUM
XMAS	QUALITATIVE VARIABLE - CHRISTMAS WEEK
YP_OH_KY	SERVICE AREA PERSONAL INCOME

EQUATION FORECAST ERROR
MEASURED BY
MEAN OF THE STANDARD ERRORS

SERVICE AREA ELECTRIC CUSTOMERS – RESIDENTIAL	10,162	
KWH USE PER CUSTOMER – RESIDENTIAL	22	KWH
KWH SALES – COMMERCIAL	21,040,448	KWH
MWH SALES – INDUSTRIAL – FOOD, BEVERAGE AND TOBACCO	8,780	MWH
MWH SALES – INDUSTRIAL – PAPER, PLASTIC AND RUBBER	15,261	MWH
MWH SALES – INDUSTRIAL – CHEMICALS	25,310	MWH
MWH SALES – INDUSTRIAL – PRIMARY METALS - BUTLER	12,205	MWH
MWH SALES – INDUSTRIAL – PRIMARY METALS – LESS BUTLER	3,204	MWH
MWH SALES – INDUSTRIAL – FABRICATED METALS	7,725	MWH
MWH SALES – INDUSTRIAL – MACHINERY	4,475	MWH
MWH SALES – INDUSTRIAL – COMPUTER AND ELECTRONICS	4,159	MWH
MWH SALES – INDUSTRIAL – ELEC. EQUIPMENT, APPLIANCE & COMPONENT	3,149	MWH
MWH SALES – INDUSTRIAL – MOTOR VEHICLES AND PARTS	8,695	MWH
MWH SALES – INDUSTRIAL – AEROSPACE PRODUCTS AND PARTS	6,614	MWH
MWH SALES – INDUSTRIAL – MISCELLANEOUS	41,644	MWH
KWH SALES – OTHER PUBLIC AUTHORITIES – WATER PUMPING	713,775	KWH
KWH SALES – OTHER PUBLIC AUTHORITIES – LESS WATER PUMPING	10,029,656	KWH
KWH SALES – STREET LIGHT	283,225	KWH
SERVICE AREA – SUMMER PEAK	197	MW
SERVICE AREA – WINTER PEAK	366	MW

Forecast Error

6. Computer Software

All of the equations in the Electric Energy Forecast Model and Electric Peak Load Model were estimated and forecasted on personal computers using the Eviews software from Quantitative Micro Software, LLC.

SECTION II FORECASTS FOR ELECTRIC TRANSMISSION OWNERS

A. GENERAL GUIDELINES

No Response Required.

B. ELECTRIC TRANSMISSION FORECAST

This section of the 2011 Electric Long-Term Forecast Report contains the transmission forecast forms FE-T1 through FE-T10 as required by OAC 4901:5-5-04. The forecast is developed using the methodology previously described.

FORM FE-T1: TRANSMISSION ENERGY DELIVERY FORECAST
(Megawatt Hours/Year) (a)

	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 7-10	(12) ENERGY DELIVERIES FOR LOADS CONNECTED TO THE SYSTEM INSIDE OHIO	(13) ENERGY DELIVERIES FOR LOADS CONNECTED TO THE SYSTEM OUTSIDE OHIO 11-12
-5	2006	23,491,130	4,972,870	28,464,000	14,156,964	581,918	14,738,882	43,202,882	15,263,738	306,588	15,570,326	27,632,556	23,573,015	4,059,541
-4	2007	21,523,069	3,794,386	25,317,455	17,109,515	926,439	18,035,954	43,353,409	13,987,699	327,267	14,314,966	29,038,443	24,535,599	4,502,844
-3	2008	20,212,738	4,241,387	24,454,125	17,184,908	1,199,563	18,384,471	42,838,596	14,712,665	184,035	18,496,700	27,941,896	23,542,249	4,399,647
-2	2009	21,060,436	4,278,054	25,338,490	15,856,020	863,773	16,719,793	42,058,283	15,523,646	235,746	15,759,392	26,298,891	22,131,394	4,167,497
-1	2010	22,300,838	4,420,174	26,721,012	12,235,391	1,081,646	13,317,037	40,038,049	15,611,793	182,132	15,793,925	16,876,556	12,824,742	4,051,814
0	2011											16,111,663	12,042,641	4,069,022
1	2012											25,772,197	21,626,010	4,146,187
2	2013											25,608,732	21,463,685	4,145,047
3	2014											25,460,704	21,311,695	4,149,009
4	2015											25,212,628	21,075,558	4,137,070
5	2016											25,013,141	20,880,930	4,132,211
6	2017											24,825,869	20,697,588	4,128,281
7	2018											24,696,335	20,562,909	4,133,426
8	2019											24,543,847	20,409,617	4,134,230
9	2020											24,434,926	20,292,894	4,142,032
10	2021											24,337,499	20,185,629	4,151,870

(a) To be filled out by electric transmission owners operating in Ohio.

PUCO Form FE-T2 : Electric Transmission Owner's System Seasonal Peak Load Demand Forecast

(Megawatts)(a)

Duke Energy Ohio After DSM (e) (f)

		Native Load (b)		Internal Load (c)	
	Year	Summer	Winter (d)	Summer	Winter (d)
-5	2006	4,366	3,551	4,366	3,551
-4	2007	4,436	3,505	4,459	3,505
-3	2008	4,074	3,526	4,074	3,526
-2	2009	3,675	2,271	3,675	2,271
-1	2010	2,317	1,459	2,328	1,459
0	2011	1,795	3,626	1,859	3,626
1	2012	4,340	3,676	4,504	3,676
2	2013	4,376	3,729	4,540	3,729
3	2014	4,439	3,740	4,603	3,740
4	2015	4,441	3,745	4,605	3,745
5	2016	4,424	3,750	4,588	3,750
6	2017	4,432	3,756	4,596	3,756
7	2018	4,436	3,745	4,600	3,745
8	2019	4,417	3,736	4,581	3,736
9	2020	4,398	3,730	4,563	3,730
10	2021	4,388	3,724	4,552	3,724

(a) To be filled out by electric transmission owners operating in Ohio.
(b) Excludes interruptible load.
(c) Includes interruptible load.
(d) Winter load reference is to peak loads which follow the summer peak load.
(e) Includes historical DSM impacts.
(f) Historical company peaks not necessarily coincident with system peak

PUCO Form FE-T3: Electric Transmission Owner's Total Monthly Energy Forecast (MWh)

Duke Energy Ohio After DSM (e)

Year 0 (d)	Ohio Portion (a)	Total Company (b)	Total System (c)
January	622,588	622,588	622,588
February	533,214	533,214	533,214
March	503,154	503,154	503,154
April	426,514	426,514	426,514
May	452,079	452,079	452,079
June	576,330	576,330	576,330
July	672,000	672,000	672,000
August	687,108	687,108	687,108
September	545,019	545,019	545,019
October	484,528	484,528	484,528
November	480,628	480,628	480,628
December	612,486	612,486	612,486
Year 1 (d)			
January	2,031,431	2,031,431	2,031,431
February	1,748,560	1,748,560	1,748,560
March	1,747,858	1,747,858	1,747,858
April	1,571,651	1,571,651	1,571,651
May	1,686,388	1,686,388	1,686,388
June	1,955,723	1,955,723	1,955,723
July	2,132,536	2,132,536	2,132,536
August	2,172,250	2,172,250	2,172,250
September	1,746,410	1,746,410	1,746,410
October	1,661,485	1,661,485	1,661,485
November	1,634,280	1,634,280	1,634,280
December	1,906,867	1,906,867	1,906,867

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 (*).

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

Internal

Duke Energy Ohio After DSM (e)

Year 0 (d)	Ohio Portion[a]	Total Service Area[b]	System[c]
January	1,259	1,259	1,259
February	1,295	1,295	1,295
March	1,238	1,238	1,238
April	1,060	1,060	1,060
May	1,229	1,229	1,229
June	1,581	1,581	1,581
July	1,859	1,859	1,859
August	1,743	1,743	1,743
September	1,617	1,617	1,617
October	1,174	1,174	1,174
November	1,225	1,225	1,225
December	1,419	1,419	1,419
Year 1 (d)			
January	3,626	3,626	3,626
February	3,529	3,529	3,529
March	3,301	3,301	3,301
April	3,036	3,036	3,036
May	3,591	3,591	3,591
June	4,275	4,275	4,275
July	4,501	4,501	4,501
August	4,504	4,504	4,504
September	3,969	3,969	3,969
October	3,195	3,195	3,195
November	3,165	3,165	3,165
December	3,577	3,577	3,577

(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 boundaries 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 data for the total system in this column.

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

(e) Includes DSM impacts.

Form FE-T5 - As of February 1, 2002 The Midwest Independent Transmission System Operator (MISO) took over functional control of the transmission system. It is Duke Energy Ohio opinion that this form is no longer pertinent to Duke Energy Ohio since Duke Energy Ohio no longer sells transmission or tracks the firmness thereof. For this reason, Duke Energy Ohio cannot guarantee the accuracy of the numbers in firm and non-firm "transmission to transmission service."

FORM FE-T5 MONTHLY ENERGY TRANSACTIONS (TOTAL MWH/MONTH) FOR THE MOST RECENT YEAR

PART A: SOURCES OF ENERGY

Reporting Month Jan-10

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	2,470,935		2,470,935
Energy Receipts from other sources	(71,117)		(71,117)
Total Energy Receipts	2,399,818	0	2,399,818

PART B: DELIVERY OF ENERGY

Reporting Month Jan-10

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	2,319,273,091	0	2,319,273,091
Other Investor-Owned Electric Utilities			
Cooperative-Owned Electric System	48,839		48,839
Municipal-Owned Electric Systems	57,593		57,593
Federal and State Electric Agencies			
Other end user service			
For Non Distribution service (transmission to transmission service)	1,604,179		1,604,179
Total Energy Delivery	2,320,983,702	0	2,320,983,702

FORM FE-T5 MONTHLY ENERGY TRANSACTIONS (TOTAL MWH/MONTH) FOR THE MOST RECENT YEAR

Reporting Month Jan-10

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	1,940,075,618	0	1,940,075,618
Other Investor-Owned Electric Utilities			
Cooperatively-Owned Electric System	31,168		31,168
Municipally-Owned Electric Systems	57,593		57,593
Federal and State Electric Agencies			
Other end user service			
For Non Distribution service (transmission to transmission service)	1,471,832		1,471,832
Total Energy Delivery	1,941,636,211	0	1,941,636,211

PART C: LOSSES AND UNACCOUNTED FOR (MWH)

REPORTING MONTH Jan-10

	Firm Transmission Service	Non-Firm Transmission Service	Total
Sources minus Delivery (a)	(2,318,583,884)	0	(2,318,583,884)

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

FORM FE-T5 MONTHLY ENERGY TRANSACTIONS (TOTAL MWH/MONTH) FOR THE MOST RECENT YEAR

PART A: SOURCES OF ENERGY

Reporting Month Feb-10

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	2,340,256	0	2,340,256
Energy Receipts from other sources	50,173		50,173
Total Energy Receipts	2,390,429	0	2,390,429

PART B: DELIVERY OF ENERGY

Reporting Month Feb-10

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	2,062,228,163	0	2,062,228,163
Other Investor-Owned Electric Utilities			
Cooperative-Owned Electric System	42,689	0	42,689
Municipal-Owned Electric Systems	52,930		52,930
Federal and State Electric Agencies			
Other end user service			
For Non Distribution service (transmission to transmission service)	1,451,208		1,451,208
Total Energy Delivery	2,063,774,990	0	2,063,774,990

FORM FE-T5 MONTHLY ENERGY TRANSACTIONS (TOTAL MWH/MONTH) FOR THE MOST RECENT YEAR

Reporting Month Feb-10

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	1,727,280,010	0	1,727,280,010
Other Investor-Owned Electric Utilities			
Cooperatively-Owned Electric System	27,227		27,227
Municipally-Owned Electric Systems	52,930	0	52,930
Federal and State Electric Agencies			
Other end user service			
For Non Distribution service (transmission to transmission service)	1,351,904	0	1,351,904
Total Energy Delivery	1,728,712,071	0	1,728,712,071

PART C: LOSSES AND UNACCOUNTED FOR (MWH)

REPORTING MONTH Feb-10

	Firm Transmission Service	Non-Firm Transmission Service	Total
Sources minus Delivery (a)	(2,061,384,561)	0	(2,061,384,561)

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

FORM FE-T5 MONTHLY ENERGY TRANSACTIONS (TOTAL MWH/MONTH) FOR THE MOST RECENT YEAR

PART A: SOURCES OF ENERGY

Reporting Month Mar-10

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	2,361,567	0	2,361,567
Energy Receipts from other sources	200,057	0	200,057
Total Energy Receipts	2,561,624	0	2,561,624

PART B: DELIVERY OF ENERGY

Reporting Month Mar-10

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	2,013,014,898	0	2,013,014,898
Other Investor-Owned Electric Utilities			
Cooperative-Owned Electric System	36,624	0	36,624
Municipal-Owned Electric Systems	49,407	0	49,407
Federal and State Electric Agencies			
Other end user service			
For Non Distribution service (transmission to transmission service)	1,507,359	0	1,507,359
Total Energy Delivery	2,014,608,288	0	2,014,608,288

FORM FE-T5 MONTHLY ENERGY TRANSACTIONS (TOTAL MWH/MONTH) FOR THE MOST RECENT YEAR

Reporting Month Mar-10

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	1,677,561,203	0	1,677,561,203
Other Investor-Owned Electric Utilities			
Cooperatively-Owned Electric System	21,767		21,767
Municipally-Owned Electric Systems	49,407	0	49,407
Federal and State Electric Agencies			
Other end user service			
For Non Distribution service (transmission to transmission service)	1,420,011	0	1,420,011
Total Energy Delivery	1,679,052,388	0	1,679,052,388

PART C: LOSSES AND UNACCOUNTED FOR (MWH)

REPORTING MONTH Mar-10

	Firm Transmission Service	Non-Firm Transmission Service	Total
Sources minus Delivery (a)	(2,012,046,664)	0	(2,012,046,664)

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

FORM FE-T5 MONTHLY ENERGY TRANSACTIONS (TOTAL MWH/MONTH) FOR THE MOST RECENT YEAR

PART A: SOURCES OF ENERGY

Reporting Month Apr-10

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	2,274,031	0	2,274,031
Energy Receipts from other sources	339,176	0	339,176
Total Energy Receipts	2,613,207	0	2,613,207

PART B: DELIVERY OF ENERGY

Reporting Month Apr-10

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	1,781,294,466	0	1,781,294,466
Other Investor-Owned Electric Utilities			
Cooperative-Owned Electric System	30,578	0	30,578
Municipal-Owned Electric Systems	51,743	0	51,743
Federal and State Electric Agencies			
Other end user service			
For Non Distribution service (transmission to transmission service)	1,452,297	0	1,452,297
Total Energy Delivery	1,782,829,084	0	1,782,829,084

FORM FE-T5 MONTHLY ENERGY TRANSACTIONS (TOTAL MWH/MONTH) FOR THE MOST RECENT YEAR

Reporting Month Apr-10

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	1,492,007,517	0	1,492,007,517
Other Investor-Owned Electric Utilities			
Cooperatively-Owned Electric System	16,336		16,336
Municipally-Owned Electric Systems	51,743	0	51,743
Federal and State Electric Agencies			
Other end user service			
For Non Distribution service (transmission to transmission service)	1,347,745	0	1,347,745
Total Energy Delivery	1,493,423,341	0	1,493,423,341

PART C: LOSSES AND UNACCOUNTED FOR (MWH)

REPORTING MONTH Apr-10

	Firm Transmission Service	Non-Firm Transmission Service	Total
Sources minus Delivery (a)	(1,780,215,877)	0	(1,780,215,877)

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

FORM FE-T5 MONTHLY ENERGY TRANSACTIONS (TOTAL MWH/MONTH) FOR THE MOST RECENT YEAR

PART A: SOURCES OF ENERGY

Reporting Month May-10

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	1,877,304	0	1,877,304
Energy Receipts from other sources	(301,783)	0	(301,783)
Total Energy Receipts	1,575,521	0	1,575,521

PART B: DELIVERY OF ENERGY

Reporting Month May-10

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	1,729,906,226	0	1,729,906,226
Other Investor-Owned Electric Utilities			
Cooperative-Owned Electric System	34,118	0	34,118
Municipal-Owned Electric Systems	37,130	0	37,130
Federal and State Electric Agencies			
Other end user service			
For Non Distribution service (transmission to transmission service)	1,138,648	0	1,138,648
Total Energy Delivery	1,731,116,122	0	1,731,116,122

FORM FE-T5 MONTHLY ENERGY TRANSACTIONS (TOTAL MWH/MONTH) FOR THE MOST RECENT YEAR

Reporting Month May-10

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	1,447,689,411	0	1,447,689,411
Other Investor-Owned Electric Utilities			
Cooperatively-Owned Electric System	18,402		18,402
Municipally-Owned Electric Systems	37,130	0	37,130
Federal and State Electric Agencies			
Other end user service			
For Non Distribution service (transmission to transmission service)	1,115,655	0	1,115,655
Total Energy Delivery	1,448,860,598	0	1,448,860,598

PART C: LOSSES AND UNACCOUNTED FOR (MWH)

REPORTING MONTH May-10

	Firm Transmission Service	Non-Firm Transmission Service	Total
Sources minus Delivery (a)	(1,729,540,601)	0	(1,729,540,601)

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

FORM FE-T5 MONTHLY ENERGY TRANSACTIONS (TOTAL *MWH/MONTH) FOR THE MOST RECENT YEAR*

PART A: SOURCES OF ENERGY

Reporting Month Jun-10

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	2,082,701	0	2,082,701
Energy Receipts from other sources	(544,907)	0	(544,907)
Total Energy Receipts	1,537,794	0	1,537,794

PART B: DELIVERY OF ENERGY

Reporting Month Jun-10

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	2,205,546,091	0	2,205,546,091
Other Investor-Owned Electric Utilities			
Cooperative-Owned Electric System	41,128	0	41,128
Municipal-Owned Electric Systems	48,900	0	48,900
Federal and State Electric Agencies			
Other end user service			
For Non Distribution service (transmission to transmission service)	1,228,771	0	1,228,771
Total Energy Delivery	2,206,864,890	0	2,206,864,890

FORM FE-T5 MONTHLY ENERGY TRANSACTIONS (TOTAL MWH/MONTH) FOR THE MOST RECENT YEAR

Reporting Month Jun-10

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	1,845,989,090	0	1,845,989,090
Other Investor-Owned Electric Utilities			
Cooperatively-Owned Electric System	22,857		22,857
Municipally-Owned Electric Systems	48,900	0	48,900
Federal and State Electric Agencies			
Other end user service			
For Non Distribution service (transmission to transmission service)	1,136,262	0	1,136,262
Total Energy Delivery	1,847,197,109	0	1,847,197,109

PART C: LOSSES AND UNACCOUNTED FOR (MWH)

REPORTING MONTH Jun-10

	Firm Transmission Service	Non-Firm Transmission Service	Total
Sources minus Delivery (a)	(2,205,327,096)	0	(2,205,327,096)

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

FORM FE-T5 MONTHLY ENERGY TRANSACTIONS (TOTAL MWH/MONTH) FOR THE MOST RECENT YEAR

PART A: SOURCES OF ENERGY

Reporting Month Jul-10

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	2,160,085	0	2,160,085
Energy Receipts from other sources	(692,960)	0	(692,960)
Total Energy Receipts	1,467,125	0	1,467,125

PART B: DELIVERY OF ENERGY

Reporting Month Jul-10

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	2,426,251,794	0	2,426,251,794
Other Investor-Owned Electric Utilities			
Cooperative-Owned Electric System	44,780	0	44,780
Municipal-Owned Electric Systems	52,149	0	52,149
Federal and State Electric Agencies			
Other end user service			
For Non Distribution service (transmission to transmission service)	1,337,250	0	1,337,250
Total Energy Delivery	2,427,685,973	0	2,427,685,973

FORM FE-T5 MONTHLY ENERGY TRANSACTIONS (TOTAL MWH/MONTH) FOR THE MOST RECENT YEAR

Reporting Month Jul-10

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	2,027,417,735	0	2,027,417,735
Other Investor-Owned Electric Utilities			
Cooperatively-Owned Electric System	25,901		25,901
Municipally-Owned Electric Systems	52,149	0	52,149
Federal and State Electric Agencies			
Other end user service			
For Non Distribution service (transmission to transmission service)	1,226,326	0	1,226,326
Total Energy Delivery	2,028,722,111	0	2,028,722,111

PART C: LOSSES AND UNACCOUNTED FOR (MWH)

REPORTING MONTH Jul-10

	Firm Transmission Service	Non-Firm Transmission Service	Total
Sources minus Delivery (a)	(2,426,218,848)	0	(2,426,218,848)

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

FORM FE-T5 MONTHLY ENERGY TRANSACTIONS (TOTAL MWH/MONTH) FOR THE MOST RECENT YEAR

PART A: SOURCES OF ENERGY

Reporting Month Aug-10

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	2,346,285	0	2,346,285
Energy Receipts from other sources	(478,485)	0	(478,485)
Total Energy Receipts	1,867,800	0	1,867,800

PART B: DELIVERY OF ENERGY

Reporting Month Aug-10

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	2,481,255,279	0	2,481,255,279
Other Investor-Owned Electric Utilities			
Cooperative-Owned Electric System	46,594	0	46,594
Municipal-Owned Electric Systems	47,835	0	47,835
Federal and State Electric Agencies			
Other end user service			
For Non Distribution service (transmission to transmission service)	1,363,617	0	1,363,617
Total Energy Delivery	2,482,713,325	0	2,482,713,325

FORM FE-T5 MONTHLY ENERGY TRANSACTIONS (TOTAL MWH/MONTH) FOR THE MOST RECENT YEAR

Reporting Month Aug-10

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	2,069,587,082	0	2,069,587,082
Other Investor-Owned Electric Utilities			
Cooperatively-Owned Electric System	25,099		25,099
Municipally-Owned Electric Systems	47,835	0	47,835
Federal and State Electric Agencies			
Other end user service			
For Non Distribution service (transmission to transmission service)	1,248,469	0	1,248,469
Total Energy Delivery	2,070,908,485	0	2,070,908,485

PART C: LOSSES AND UNACCOUNTED FOR (MWH)

REPORTING MONTH Aug-10

	Firm Transmission Service	Non-Firm Transmission Service	Total
Sources minus Delivery (a)	(2,480,845,525)	0	(2,480,845,525)

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

FORM FE-T5 MONTHLY ENERGY TRANSACTIONS (TOTAL MWH/MONTH) FOR THE MOST RECENT YEAR

PART A: SOURCES OF ENERGY

Reporting Month Sep-10

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	2,346,285	0	2,346,285
Energy Receipts from other sources	(478,485)	0	(478,485)
Total Energy Receipts	1,867,800	0	1,867,800

PART B: DELIVERY OF ENERGY

Reporting Month Sep-10

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	2,251,222,534	0	2,251,222,534
Other Investor-Owned Electric Utilities			
Cooperative-Owned Electric System	36,407	0	36,407
Municipal-Owned Electric Systems	43,224	0	43,224
Federal and State Electric Agencies			
Other end user service			
For Non Distribution service (transmission to transmission service)	1,279,617	0	1,279,617
Total Energy Delivery	2,252,581,782	0	2,252,581,782

FORM FE-T5 MONTHLY ENERGY TRANSACTIONS (TOTAL MWH/MONTH) FOR THE MOST RECENT YEAR

Reporting Month Sep-10

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	1,875,112,769	0	1,875,112,769
Other Investor-Owned Electric Utilities			
Cooperatively-Owned Electric System	18,748		18,748
Municipally-Owned Electric Systems	43,224	0	43,224
Federal and State Electric Agencies			
Other end user service			
	0		
For Non Distribution service (transmission to transmission service)	1,198,053	0	1,198,053
Total Energy Delivery	1,876,372,794	0	1,876,372,794

PART C: LOSSES AND UNACCOUNTED FOR (MWH)

REPORTING MONTH Sep-10

	Firm Transmission Service	Non-Firm Transmission Service	Total
Sources minus Delivery (a)	(2,250,713,982)	0	(2,250,713,982)

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

FORM FE-T5 MONTHLY ENERGY TRANSACTIONS (TOTAL MWH/MONTH) FOR THE MOST RECENT YEAR

PART A: SOURCES OF ENERGY

Reporting Month Oct-10

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	2,199,638	0	2,199,638
Energy Receipts from other sources	207,519	0	207,519
Total Energy Receipts	2,407,157	0	2,407,157

PART B: DELIVERY OF ENERGY

Reporting Month Oct-10

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	1,821,205,356	0	1,821,205,356
Other Investor-Owned Electric Utilities			
Cooperative-Owned Electric System	33,367	0	33,367
Municipal-Owned Electric Systems	54,517	0	54,517
Federal and State Electric Agencies			
Other end user service			
For Non Distribution service (transmission to transmission service)	1,433,130	0	1,433,130
Total Energy Delivery	1,822,726,370	0	1,822,726,370

FORM FE-T5 MONTHLY ENERGY TRANSACTIONS (TOTAL MWH/MONTH) FOR THE MOST RECENT YEAR

Reporting Month Oct-10

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	1,517,521,233	0	1,517,521,233
Other Investor-Owned Electric Utilities			
Cooperatively-Owned Electric System	17,104		17,104
Municipally-Owned Electric Systems	54,517	0	54,517
Federal and State Electric Agencies			
Other end user service			
For Non Distribution service (transmission to transmission service)	1,345,856	0	1,345,856
Total Energy Delivery	1,518,938,710	0	1,518,938,710

PART C: LOSSES AND UNACCOUNTED FOR (MWH)

REPORTING MONTH Oct-10

	Firm Transmission Service	Non-Firm Transmission Service	Total
Sources minus Delivery (a)	(1,820,319,213)	0	(1,820,319,213)

(a) FE-T5: *Part A* minus *Part B* (1)

FORM FE-T5 MONTHLY ENERGY TRANSACTIONS (TOTAL MWH/MONTH) FOR THE MOST RECENT YEAR

PART A: SOURCES OF ENERGY

Reporting Month Nov-10

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	2,105,225	0	2,105,225
Energy Receipts from other sources	73,232	0	73,232
Total Energy Receipts	2,178,457	0	2,178,457

PART B: DELIVERY OF ENERGY

Reporting Month Nov-10

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	1,716,163,348	0	1,716,163,348
Other Investor-Owned Electric Utilities			
Cooperative-Owned Electric System	35,367	0	35,367
Municipal-Owned Electric Systems	55,904	0	55,904
Federal and State Electric Agencies			
Other end user service			
For Non Distribution service (transmission to transmission service)	1,413,806	0	1,413,806
Total Energy Delivery	1,717,668,425	0	1,717,668,425

FORM FE-T5 MONTHLY ENERGY TRANSACTIONS (TOTAL MWH/MONTH) FOR THE MOST RECENT YEAR

Reporting Month Nov-10

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	1,434,269,777	0	1,434,269,777
Other Investor-Owned Electric Utilities			
Cooperatively-Owned Electric System	21,116		21,116
Municipally-Owned Electric Systems	55,904	0	55,904
Federal and State Electric Agencies			
Other end user service			
For Non Distribution service (transmission to transmission service)	1,325,100	0	1,325,100
Total Energy Delivery	1,435,671,897	0	1,435,671,897

PART C: LOSSES AND UNACCOUNTED FOR (MWH)

REPORTING MONTH Nov-10

	Firm Transmission Service	Non-Firm Transmission Service	Total
Sources minus Delivery (a)	(1,715,489,968)	0	(1,715,489,968)

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

FORM FE-T5 MONTHLY ENERGY TRANSACTIONS (TOTAL MWH/MONTH) FOR THE MOST RECENT YEAR

PART A: SOURCES OF ENERGY

Reporting Month Dec-10

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	2,354,478	0	2,354,478
Energy Receipts from other sources	(161,920)	0	(161,920)
Total Energy Receipts	2,192,558	0	2,192,558

PART B: DELIVERY OF ENERGY

Reporting Month Dec-10

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	2,127,758,632	0	2,127,758,632
Other Investor-Owned Electric Utilities			
Cooperative-Owned Electric System	48,460	0	48,460
Municipal-Owned Electric Systems	62,085	0	62,085
Federal and State Electric Agencies			
Other end user service			
For Non Distribution service (transmission to transmission service)	1,530,508	0	1,530,508
Total Energy Delivery	2,129,399,685	0	2,129,399,685

FORM FE-T5 MONTHLY ENERGY TRANSACTIONS (TOTAL MWH/MONTH) FOR THE MOST RECENT YEAR

Reporting Month Dec-10

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	1,768,025,937	0	1,768,025,937
Other Investor-Owned Electric Utilities			
Cooperatively-Owned Electric System	31,109		31,109
Municipally-Owned Electric Systems	62,085	0	62,085
Federal and State Electric Agencies	0		
Other end user service			
For Non Distribution service (transmission to transmission service)	1,424,585	0	1,424,585
Total Energy Delivery	1,769,543,716	0	1,769,543,716

PART C: LOSSES AND UNACCOUNTED FOR (MWH)

REPORTING MONTH Dec-10

	Firm Transmission Service	Non-Firm Transmission Service	Total
Sources minus Delivery (a)	(2,127,207,127)	0	(2,127,207,127)

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

As of February 1, 2002 the Midwest ISO took over the function of managing DEO's Transmission Service Requests. As such, the allocation of AFC is the sole responsibility of the Midwest ISO.

FORM FE-T6: CONDITIONS AT TIME OF MONTHLY PEAK

Reporting Month JANUARY

Megawatts	3,539	Day of Week	FRI	Day of Month	8	Hour of Peak	10:00

CURTAILMENT PRIORITY CLASSES	Firm Transmission Service	Non-Firm Transmission Service	Total	
Number of Requests	73	6	79	
Requests (MW)	36,457	410	36867	
Number of requests accepted	44	3	47	
Requests accepted (MW)	31,860	44	31904	
				Reason for non-delivery
Requests not accepted (MW) and reason for not accepting delivery	4,597	366	4963	Withdrawn/ Invalid/ Refused/ Declined/ Annulled/ Retracted

Reporting Month FEBRUARY

Megawatts	3,497	Day of Week	FRI	Day of Month	12	Hour of Peak	9:00

CURTAILMENT PRIORITY CLASSES	Firm Transmission Service	Non-Firm Transmission Service	Total	
Number of Requests	72	5	77	
Requests (MW)	36,157	397	36,554	
Number of requests accepted	44	1	45	
Requests accepted (MW)	31,860	29	31,889	
				Reason for non-delivery
Requests not accepted (MW) and reason for not accepting delivery	4,297	368	4,665	Withdrawn/ Invalid/ Refused/ Declined/ Annulled/ Retracted

FORM FE-T6: CONDITIONS AT TIME OF MONTHLY PEAK

Reporting Month MARCH

Megawatts	3,240	Day of Week	TUES	Day of Month	2	Hour of Peak	20:00
CURTAILMENT PRIORITY CLASSES				Firm Transmission Service	Non-Firm Transmission Service	Total	
Number of Requests				78	4	82	
Requests (MW)				36,157	378	36535	
Number of requests accepted				50	1	51	
Requests accepted (MW)				31,860	12	31872	
							Reason for non-delivery
Requests not accepted (MW) and reason for not accepting delivery				4,297	366	4663	Withdrawn/ Invalid/ Refused/ Declined/ Annulled/ Retracted

Reporting Month APRIL

Megawatts	2,888	Day of Week	THUR	Day of Month	15	Hour of Peak	15:00
CURTAILMENT PRIORITY CLASSES				Firm Transmission Service	Non-Firm Transmission Service	Total	
Number of Requests				81	4	85	
Requests (MW)				36,448	405	36,853	
Number of requests accepted				52	1	53	
Requests accepted (MW)				32,054	39	32,093	
							Reason for non-delivery
Requests not accepted (MW) and reason for not accepting delivery				4,394	366	4,760	Withdrawn/ Invalid/ Refused/ Declined/ Annulled/ Retracted

FORM FE-T6: CONDITIONS AT TIME OF MONTHLY PEAK

Reporting Month MAY

Megawatts	3,739	Day of Week	THUR	Day of Month	27	Hour of Peak	13:00

CURTAILMENT PRIORITY CLASSES	Firm Transmission Service	Non-Firm Transmission Service	Total	
Number of Requests	82	3	85	
Requests (MW)	36,448	379	36827	
Number of requests accepted	53	2	55	
Requests accepted (MW)	32,054	19	32073	
				Reason for non-delivery
Requests not accepted (MW) and reason for not accepting delivery	4,394	360	4754	Withdrawn/ Invalid/ Refused/ Declined/ Annulled/ Retracted

Reporting Month JUNE

Megawatts	4,464	Day of Week	WED	Day of Month	23	Hour of Peak	16:00

CURTAILMENT PRIORITY CLASSES	Firm Transmission Service	Non-Firm Transmission Service	Total	
Number of Requests	83	2	85	
Requests (MW)	36,126	380	36,506	
Number of requests accepted	58	1	59	
Requests accepted (MW)	32,072	20	32,092	
				Reason for non-delivery
Requests not accepted (MW) and reason for not accepting delivery	4,054	360	4,414	Withdrawn/ Invalid/ Refused/ Declined/ Annulled/ Retracted

FORM FE-T6: CONDITIONS AT TIME OF MONTHLY PEAK

Reporting Month JULY

Megawatts	4,446	Day of Week	THUR	Day of Month	8	Hour of Peak	16:00

CURTAILMENT PRIORITY CLASSES	Firm Transmission Service	Non-Firm Transmission Service	Total	
Number of Requests	85	4	89	
Requests (MW)	36,440	612	37052	
Number of requests accepted	62	3	65	
Requests accepted (MW)	32,539	252	32791	
				Reason for non-delivery
Requests not accepted (MW) and reason for not accepting delivery	3,901	360	4261	Withdrawn/ Invalid/ Refused/ Declined/ Annulled/ Retracted

Reporting Month AUGUST

Megawatts	4,669	Day of Week	WED	Day of Month	4	Hour of Peak	14:00

CURTAILMENT PRIORITY CLASSES	Firm Transmission Service	Non-Firm Transmission Service	Total	
Number of Requests	85	3	88	
Requests (MW)	36,540	400	36,940	
Number of requests accepted	58	2	60	
Requests accepted (MW)	32,539	40	32,579	
				Reason for non-delivery
Requests not accepted (MW) and reason for not accepting delivery	4,001	360	4,361	Withdrawn/ Invalid/ Refused/ Declined/ Annulled/ Retracted

FORM FE-T6: CONDITIONS AT TIME OF MONTHLY PEAK

Reporting Month SEPTEMBER

Megawatts	4,322	Day of Week	WED	Day of Month	1	Hour of Peak	17:00

CURTAILMENT PRIORITY CLASSES	Firm Transmission Service	Non-Firm Transmission Service	Total	
Number of Requests	86	3	89	
Requests (MW)	36,590	390	36980	
Number of requests accepted	58	2	60	
Requests accepted (MW)	32,539	30	32569	
				Reason for non-delivery
Requests not accepted (MW) and reason for not accepting delivery	4,051	360	4411	Withdrawn/ Invalid/ Refused/ Declined/ Annulled/ Retracted

Reporting Month OCTOBER

Megawatts	3,006	Day of Week	MON	Day of Month	11	Hour of Peak	15:00

CURTAILMENT PRIORITY CLASSES	Firm Transmission Service	Non-Firm Transmission Service	Total	
Number of Requests	85	3	88	
Requests (MW)	36,540	404	36,944	
Number of requests accepted	58	2	60	
Requests accepted (MW)	32,539	44	32,583	
				Reason for non-delivery
Requests not accepted (MW) and reason for not accepting delivery	4,001	360	4,361	Withdrawn/ Invalid/ Refused/ Declined/ Annulled/ Retracted

FORM FE-T6: CONDITIONS AT TIME OF MONTHLY PEAK

Reporting Month NOVEMBER

Megawatts	2,993	Day of Week	WED	Day of Month	24	Hour of Peak	18:00
CURTAILMENT PRIORITY CLASSES				Firm Transmission Service	Non-Firm Transmission Service	Total	
Number of Requests				86	7	93	
Requests (MW)				36,873	401	37274	
Number of requests accepted				58	6	64	
Requests accepted (MW)				32,872	41	32913	
							Reason for non-delivery
Requests not accepted (MW) and reason for not accepting delivery				4,001	360	4361	Withdrawn/ Invalid/ Refused/ Declined/ Annulled/ Retracted

Reporting Month DECEMBER

Megawatts	3,640	Day of Week	MON	Day of Month	6	Hour of Peak	19:00
CURTAILMENT PRIORITY CLASSES				Firm Transmission Service	Non-Firm Transmission Service	Total	
Number of Requests				93	3	96	
Requests (MW)				36,916	405	37,321	
Number of requests accepted				66	2	68	
Requests accepted (MW)				32,915	45	32,960	
							Reason for non-delivery
Requests not accepted (MW) and reason for not accepting delivery				4,001	360	4,361	Withdrawn/ Invalid/ Refused/ Declined/ Annulled/ Retracted

C. THE EXISTING TRANSMISSION SYSTEM

(1) General Description - The Duke Energy-Ohio (DEO) transmission system above 125 kV consists of 138 kV and 345 kV systems. The 345 kV system generally serves to distribute power from the larger, base load generating units which are connected to the Duke Energy Ohio transmission system, and to interconnect the Duke Energy Ohio system with other systems. These interconnections enable the transmission of power between systems as required to meet the service area load requirements and they provide capacity for economy and emergency power transfers. The 345 kV system is connected to the 138 kV system through large transformers at a number of substations across the system. The 138 kV system distributes power received through the transformers and also from several smaller generating units which are connected directly at this voltage level. This power is distributed to substations which supply lower voltage sub-transmission systems, distribution circuits, or serve a number of large customer loads directly.

As of December 2010, the transmission system of Duke Energy Ohio and its subsidiary companies consisted of approximately 403 circuit miles of 345 kV lines (including Duke Energy Ohio's share of jointly owned transmission) and 725 circuit miles of 138 kV lines. Portions of the 345 kV transmission system are jointly owned with American Electric Power (AEP) and/or Dayton Power & Light (DP&L).

(a) A summary of the characteristics of existing transmission lines are shown on the following forms FE-T7, Characteristics of existing Transmission lines. The forms are separated into several groups. The first group is of lines designed to operate at 138 kV. The second group is of wholly owned lines designed to operate at 345 kV. The remaining groups are of lines designed to operate at 345 kV which are jointly owned with other utilities. The line numbers correspond to those shown on the schematic diagrams and geographic maps of section 4901:5-5-04 (C)(2).

DUKE ENERGY OHI
4901:5-5-04(C)(1)(a)
FORM FE-T7: CHARACTERISTICS OF EXISTING TRANSMISSION LINES
WHOLLY OWNED TRANSMISSION LINES DESIGNED FOR 138 KV OPERATIONS

CIRCUIT NO. DEO-A	LINE NAME	ORIGIN	TERMINUS	SUMMER CAPABILITY (MVA) NORMAL RATING	SUMMER CAPABILITY (MVA) EMERGENCY RATING	WINTER CAPABILITY (MVA) NORMAL RATING	WINTER CAPABILITY (MVA) EMERGENCY RATING	VOLTAGE (KV) OPER. LEVEL	R-O-W DESIGN LEVEL	LENGTH (MILES)	WIDTH (FEET)	NUMBER SUPPORTING STRUCTURES	OF CIRCUITS	SUBSTATIONS ON THE LINE
GE4	Evendale-GE Ram Jet	Evendale	Tower No.	170	206	227	252	138	138	0.17	100	Steel Tower	1	
684	Elmwood-Lateral	Elmwood	Lateral											
	Section 1			226	275	302	336	138	138	1.34	100	Wood Pole	1	
	Section 2			226	275	302	336	138	138	2.37	100	Steel Tower	2	
689	Elmwood-Terminal	Elmwood	Terminal	261	318	349	389	138	138	1.40	100	Wood Pole	1	
885	Oakley-Red Bank	Oakley	Red Bank	282	343	377	421	138	138	1.09	100	Steel Tower	2	
886	Oakley-Beckjord	Oakley	Beckjord	282	343	377	421	138	138	16.45	100	Steel Tower	2	
1263	Mitchell-Brighton	Mitchell	Brighton	92	111	123	136	69	138	4.20	100	Steel Tower	2	
1269	Central-Ashland	Tower No. 37	Tower No. 58	98	98	122	122	69	138	3.43	100	Steel Tower	2	
1284	Mitchell-Terminal	Mitchell	Terminal	234	284	312	343	138	138	3.61	100	Steel Tower	2	Henkel Corp.
1286	Mitchell-West End	Mitchell	West End	230	280	308	343	138	138	8.18	100	Steel Tower	2	Cumminsville, Queensgate, Metro Sewer Dist.
1288	Mitchell-Ashland-Oakley	Mitchell	Oakley, Ashland											
	Section 1			230	280	308	343	138	138	1.30	100	Steel Tower	1	
	Section 2			230	280	308	343	138	138	7.33	100	Steel Tower	2	
1385	Charles-West End	Charles	West End	234	245	267	277	138	138	1.11	100	Underground	1	
1389	Charles-West End	Charles	West End	234	245	267	277	138	138	1.12	100	Underground	1	
1587	West End-Crescent	West End	Ohio/Ky. St. Line	226	275	302	336	138	138	0.30	100	Steel Tower	1	
1666	Miami Fort-Monsanto	Miami Fort	Tower No. 30	83	101	111	123	69	138	6.39	100	Steel Tower	2	
1681	Miami Fort-Greendale	Miami Fort	Ohio/Ind. St. Line	500	500	679	679	138	138	0.86	100	Steel Tower & Wood Pole	1	
1682	Miami Fort-Clifty Creek	Miami Fort	Ohio/Ky. St. Line	136	136	181	181	138	138	0.30	100	Wood H-Frame	1	
1688	Miami Fort-MFGT	Miami Fort	Miami Fort GT	226	275	302	336	138	138	0.34	100	Wood Pole	1	
1689	Miami Fort-Morgan	Miami Fort	Morgan	226	275	302	336	138	138	8.16	100	Steel Tower	2	
1762	Trenton-Terminal	Trenton	Terminal											
	Section 1			77	92	102	113	69	138	0.45	100	Steel Tower	1	
	Section 2			77	92	102	113	69	138	1.20	100	Wood Pole	1	
1782	Terminal-Glenview	Terminal	Glenview											
	Section 1			230	280	308	343	138	138	5.03	100	Steel Tower	2	
	Section 2			230	280	308	343	138	138	0.60	100	Wood H-Frame	1	
1783	Terminal-Ebenezer	Terminal	Ebenezer											
	Section 1			234	284	312	349	138	138	9.98	100	Steel Tower	2	
	Section 2			234	284	312	349	138	138	3.64	100	Wood Pole	1	
	Section 3			234	284	312	349	138	138	0.13	100	Wood H-Frame	1	Midway
1880	Beckjord-Silver Grove	Beckjord	Ohio/Ky. St. Line											
	Section 1			253	308	339	377	138	138	1.00	100	Wood Pole	1	
	Section 2			253	308	339	377	138	138	0.25	100	Steel Tower	2	
1881	Beckjord-Wilder	Beckjord	Ohio/Ky. St. Line	166	201	221	245	138	138	0.32	100	Steel Tower	2	
1885	Beckjord-Tobasco	Beckjord	Tobasco	282	343	377	421	138	138	5.84	100	Steel Tower	2	
1887	Beckjord-Pierce	Beckjord	Pierce	478	478	478	478	138	138	0.38	50	Wood Pole & Steel Tower	1	
1889	Beckjord-Pierce	Beckjord	Pierce	478	478	478	478	138	138	0.22	100	Steel Tower	1	
2166	Brighton-Wilder	Brighton	Ohio/Ky. St. Line	83	101	111	123	69	138	3.65	100	Steel Tower	2	
2381	Warren-Clinton County	Warren	Clinton County	170	206	227	252	138	138	16.32	100	Wood H-Frame	1	
2862	Miami Fort GT-Villa	Miami Fort GT	Ohio/Ky. St. Line	83	101	111	123	69	138	0.14	100	Steel Tower	2	
2865	Miami Fort GT-Monsanto	Miami Fort GT	Tower No. 30	113	137	151	168	69	138	6.39	100	Steel Tower	2	
2986	Cedarville-Ford	Cedarville	Ford											
	Section 1			253	308	339	378	138	138	5.02	100	Wood Pole	1	
	Section 2			253	308	339	378	138	138	4.86	100	Wood Pole	1	
3263	Trenton-Middletown Oxygen	Tower No.1	Tower No. 17	83	101	111	123	69	138	2.77	100	Steel Tower	1	
3281	Trenton-College Corner	Trenton	Ohio/Ind. St. Line	153	184	203	225	138	138	24.11	100	Steel Tower	2	Collinsville, BREC Huston
3283	N/A	Structure 696	Structure 645A	170	206	227	252	138	138	3.94	90	Wood H-Frame		
3284	Trenton-Todhunter	Trenton	Todhunter	170	206	227	252	138	138	4.9	100	Wood H-Frame	1	
3881	Port Union-Summerside	Port Union	Summerside	170	206	227	252	138	138	22.74	100	Steel Tower	2	
3885	Port Union-Fairfield	Port Union	Fairfield	310	310	310	310	138	138	6.59	100	Steel Tower	2	Hall
3886	Port Union-Willey	Port Union	Willey	170	206	227	252	138	138	14.30	100	Steel Tower	2	Mulhauser
3887	Port Union-Todhunter	Port Union	Todhunter	304	304	390	390	138	138	9.69	100	Steel Tower	2	Millikin
3888	Port Union-Todhunter	Port Union	Todhunter	304	304	390	390	138	138	9.69	100	Steel Tower	2	Beckett
3889	Port Union-City of Hamilton	Port Union	City of Hamilton	253	308	339	377	138	138	4.65	100	Wood Pole	1	
4187	Lateral-Red Bank	Lateral	Red Bank	230	280	308	343	138	138	2.90	100	Steel Tower	2	
4861	Ivorydale-Terminal	Tower No. 1	Tower No. 5	83	101	111	123	69	138	0.90	100	Steel Tower	2	

DUKE ENERGY OHIO
4901:5-5-04(C)(1)(a)
FORM FE-T7: CHARACTERISTICS OF EXISTING TRANSMISSION LINES
WHOLLY OWNED TRANSMISSION LINES DESIGNED FOR 138 KV OPERATION

CIRCUIT NO. DEO-A	LINE NAME	ORIGIN	TERMINUS	SUMMER CAPABILITY (MVA) NORMAL RATING	SUMMER CAPABILITY (MVA) EMERGENCY RATING	WINTER CAPABILITY (MVA) NORMAL RATING	WINTER CAPABILITY (MVA) EMERGENCY RATING	VOLTAGE (KV) OPER. LEVEL	VOLTAGE (KV) DESIGN LEVEL	R-O-W LENGTH (MILES)	WIDTH (FEET)	SUPPORTING STRUCTURES	NUMBER OF CIRCUITS	SUBSTATIONS ON THE LINE
5381	Shaker Run-Rockies Express													
	Section 1	Structure 69B	Rockies Express	478	478	478	478	138	138	0.67	50	Steel Pole	1	
	Section 2	Rockies Express	Carlisle	287	287	287	287	138	138	10.58	50	Wood Pole	1	Carlisle, Union
5483	Foster-Port Union	Foster	Port Union											Dimmick, Montgomery
	Section 1			226	275	302	336	138	138	9.19	100	Steel Tower	2	Twenty Mile, Cornell
	Section 2			253	308	339	378	138	138	8.39	100	Wood Pole	1	Simpson, Socialville
5487	Foster-Remington	Foster	Remington											
	Section 1			253	308	339	378	138	138	13.40	100	Steel Tower	2	Montgomery
	Section 2			170	206	227	252	138	138	4.45	100	Wood Pole	1	
5489	Foster-Cedarville	Foster	Cedarville	253	308	339	378	138	138	12.23	100	Wood Pole	1	Obannonville
5484	Foster-Warren	Foster	Warren	253	308	339	378	138	138	8.70	100	Wood pole	1	Maineville
5666	Todhunter-Manchester	Tower No. 17	Tower No. 20	113	137	151	168	69	138	0.55	100	Steel Tower	1	
5667	Todhunter-Shaker Run	Todhunter	Structure 645A	83	101	111	123	69	138	5.14	100	Wood H-Frame	1	
5680	Todhunter-Warren	Todhunter	Warren	165	202	227	252	138	138	9.55	90	Wood H-Frame	1	Nickel
5682	Todhunter-AK Steel	Todhunter	AK Steel	300	300	300	300	138	138	2.34	100	Steel Tower	2	
5686	Todhunter-AK Steel	Todhunter	AK Steel											
	Section 1			300	300	300	300	138	138	2.34	100	Steel Tower	2	
	Section 2			170	206	227	252	138	138	0.33	100	Steel Tower	1	Dicks Creek
5689	Todhunter-Rockies Express	Structure 69B	Rockies Express	478	478	478	478	138	138	0.63	50	Steel Pole	1	
5781	Fairfield-City of Hamilton	Fairfield	City of Hamilton	253	308	339	378	138	138	6.05	100	Wood Pole	1	
5783	Fairfield-Morgan	Fairfield	Morgan	166	201	221	245	138	138	16.50	100	Steel Tower	2	
5884	Brown-Eastwood	Brown	Eastwood	253	308	339	378	138	138	13.00	100	Wood H-Frame	1	
5886	Brown-Stuart	Brown	Stuart	234	285	213	349	138	138	21.16	100	Wood H-Frame	1	
5985	Wilder-West End	Ohio/Ky. St. Line	West End	253	287	339	351	138	138	0.20	100	Steel Tower	2	
5988	Wilder-Beckjord	Ohio/Ky. St. Line	Beckjord	226	275	302	336	138	138	0.37	100	Steel Tower	2	
6365	Tobasco-Markley	Pole No. 601	Markley	83	101	111	122	69	138	1.70	100	Wood Pole	1	
6885	Ebenezer-Miami Fort	Ebenezer	Miami Fort											
	Section 1			228	280	313	350	138	138	10.26	100	Steel Tower	2	
	Section 2			226	275	302	336	138	138	4.92	100	Wood Pole	1	
6984	Summerside-Beckjord	Summerside	Beckjord	310	310	310	310	138	138	10.44	100	Steel Tower	2	Clermont
7086	Crescent-Miami Fort	Ohio/Ky. St. Line	Miami Fort	204	248	273	303	138	138	0.13	100	Steel Tower	2	
7284	Glenview-Miami Fort	Glenview	Miami Fort											
	Section 1			230	248	308	342	138	138	0.60	100	Wood H-Frame	1	
	Section 2			230	280	308	342	138	138	15.07	100	Steel Tower	2	Kleeman
	Section 3			185	224	246	273	138	138	0.12	100	Wood H-Frame	1	Midway
7481	Red Bank-Terminal													
	Section 1	Tower 117	Cornell	344	423	463	518	138	138	9.10	100	Wood Pole	1	Deer Park
	Section 2	Pole 1493	Cooper	226	274	302	336	138	138	1.19	50	Wood Pole	1	
7484	Red Bank-Ashland	Red Bank	Ashland											
	Section 1			240	300	240	300	138	138	0.96	100	Steel Tower	2	
	Section 2			240	300	240	300	138	138	0.12	100	Wood Pole	1	
	Section 3			240	300	240	300	138	138	4.24	100	Underground	1	
7489	Red Bank-Tobasco	Red Bank	Tobasco											
	Section 1			282	344	378	421	138	138	9.64	100	Steel Tower	2	
	Section 2			282	344	378	421	138	138	0.07	100	Wood Pole	1	
8283	Rochelle-Charles	Rochelle	Charles	269	282	307	318	138	138	2.38	100	Underground	1	
8286	Rochelle-Terminal	Rochelle	Terminal											
	Section 1			234	287	307	318	138	138	3.56	100	Steel Tower	2	
	Section 2			234	287	307	318	138	138	1.25	100	Wood Pole	1	
	Section 3			234	282	307	318	138	138	1.32	100	Underground	1	
8481	Eastwood-Ford	Eastwood	Ford											
	Section 1			253	308	339	378	138	138	4.97	100	Wood Pole	1	
	Section 2			253	308	339	378	138	138	1.50	100	Wood Pole	1	
8887	Hillcrest-Eastwood	Hillcrest	Eastwood	306	306	382	382	138	138	9.63	50	Wood pole	1	SCP Eastwood
9482	Remington-Beckjord	Remington	Beckjord	310	310	310	310	138	138	19.08	100	Steel Tower	2	Feldman, Wards Corner
9784	Willey-Miami Fort	Willey	Miami Fort	170	206	227	252	138	138	14.95	100	Steel Tower	2	
9787	Willey-Terminal	Willey	Terminal											
	Section 1			226	275	302	336	138	138	5.68	100	Wood H-Frame	1	Mapleknoll
	Section 2			226	275	302	336	138	138	11.71	100	Wood Pole	1	Mt. Healthy, Finneytown
	Section 3			226	275	302	336	138	138	0.50	100	Steel Tower	2	
13803	Hutchings-College Corner													
	Section 1	Structure 1101	Trenton	170	206	227	252	138	138	4.91	100	Wood H-Frame	1	
	Section 2	Trenton	Tower 129	170	206	227	252	138	138	24.06	100	Steel Tower	2	

DUKE ENERGY OHIO
4901:5-5-04(C)(1)(a)
FORM FE-T7: CHARACTERISTICS OF EXISTING TRANSMISSION LINES

WHOLLY OWNED TRANSMISSION LINES DESIGNED FOR 345 KV OPERATION

CIRCUIT NO. DEO-B	LINE NAME	ORIGIN	TERMINUS	SUMMER CAPABILITY (MVA) NORMAL RATING	SUMMER CAPABILITY (MVA) EMERGENCY RATING	WINTER CAPABILITY (MVA) NORMAL RATING	WINTER CAPABILITY (MVA) EMERGENCY RATING	VOLTAGE (KV) OPER. LEVEL	VOLTAGE (KV) DESIGN LEVEL	R-O-W LENGTH (MILES)	WIDTH (FEET)	SUPPORTING STRUCTURES	NUMBER OF CIRCUITS	SUBSTATIONS ON THE LINE
04	Miami Fort-Tanners Creek	Miami Fort	Ohio/Ky. St. Line	717	824	717	824	345	345	0.32	150	Steel Tower	2	
08	Port Union-Foster	Port Union	Foster											
	Section 1			1195	1315	1195	1315	345	345	11.66	150	Steel Tower	2	
	Section 2			1195	1315	1195	1315	345	345	0.24	150	Steel Tower	1	
13	Terminal-Port Union	Terminal	Port Union											
	Section 1			1195	1315	1195	1315	345	345	0.46	150	Steel Tower	1	
	Section 2			1195	1315	1195	1315	345	345	9.65	150	Steel Tower	2	
14	Miami Fort-Terminal													
	Section 1	Terminal	Ohio/Ky. St. Line	1195	1315	1195	1315	345	345	14.84	150	Steel Tower	2	
	Section 2	Miami Fort	Ohio/Ky. St. Line	1195	1315	1195	1315	345	345	0.32	150	Steel Tower	2	
15	Foster-Todhunter	Foster	Todhunter	1195	1315	1195	1315	345	345	15.79	150	Steel Tower	2	
16	East Bend-Terminal	Ohio/Ky. St. Line	Terminal	1195	1315	1195	1315	345	345	14.84	150	Steel Tower	2	
62	Woodsdale-Todhunter	Woodsdale	Todhunter	1195	1315	1195	1315	345	345	4.68	150	Steel Tower	2	
1883	Beckjord-Red Bank	Beckjord	Red Bank											
	Section 1			262	344	378	421	138	345	0.89	150	Steel Tower	1	
	Section 2			282	344	378	421	138	345	13.82	150	Steel Tower	2	Newtown
4683	Evendale-Port Union	Evendale	Port Union											
	Section 1			344	423	463	518	138	345	0.52	150	Steel Tower	1	
	Section 2			344	423	463	518	138	345	5.48	150	Steel Tower	2	Kemper
4685	Evendale-Terminal	Evendale	Terminal											
	Section 1			382	382	382	382	138	345	0.21	150	Steel Tower	1	
	Section 2			382	382	382	382	138	345	4.02	150	Steel Tower	2	
5381	Shaker Run-Rockies Express	Structure 69A	Rockies Express	478	478	478	478	138	345	2.62	150	Steel Tower	2	
5485	Foster-Shaker Run	Foster	Shaker Run	259	314	345	385	138	345	10.29	150	Steel Tower	2	Park, Bethany
5689	Todhunter-Rockies Express	Todhunter	Structure 69B	478	478	478	478	138	345	6.44	150	Steel Tower	2	
7481	Red Bank-Terminal	Red Bank	Terminal	344	423	463	518	138	345	5.72	150	Stl Twr & Pole	2	Golf Manor

DUKE ENERGY OHIO
4901:5-5-04(C)(1)(a)
FORM FE-T7: CHARACTERISTICS OF EXISTING TRANSMISSION LINES

COMMONLY OWNED TRANSMISSION - DEO, AEP AND DP&L COMPANIES
TENANTS IN COMMON WITH UNDIVIDED OWNERSHIP, TOTAL MILEAGE GIVEN

CIRCUIT NO. CCD-B	LINE NAME	ORIGIN	TERMINUS	SUMMER CAPABILITY (MVA) NORMAL RATING	SUMMER CAPABILITY (MVA) EMERGENCY RATING	WINTER CAPABILITY (MVA) NORMAL RATING	WINTER CAPABILITY (MVA) EMERGENCY RATING	VOLTAGE (KV) OPER. LEVEL	VOLTAGE (KV) DESIGN LEVEL	R-O-W LENGTH (MILES)	WIDTH (FEET)	SUPPORTING STRUCTURES	NUMBER OF CIRCUITS	SUBSTATIONS ON THE LINE
01	Beckjord-Pierce	Beckjord	Pierce	500	500	500	500	345	345	0.32	150	Steel Tower	1	
02	Pierce-Foster	Pierce	Foster											
	Section 1			1195	1315	1195	1315	345	345	23.38	150	Steel Tower	2	
	Section 2			1195	1315	1195	1315	345	345	0.57	150	Steel Tower	1	
03	Sugarcreek-Greene	Sugarcreek	Greene	1195	1315	1195	1315	345	345	8.30	150	Steel Tower	1	
06	Greene-Beatty	Greene	Beatty											
	Section 1			1195	1315	1195	1315	345	345	3.66	150	Steel Tower	2	
	Section 2			1195	1315	1195	1315	345	345	45.34	150	Steel Tower	1	
07	Marquis-Bixby	Marquis	Bixby											
	Section 1			1195	1315	1195	1315	345	345	63.16	150	Steel Tower	1	
	Section 2			1195	1315	1195	1315	345	345	8.52	150	Steel Tower	2	
09	Stuart-Greene	Stuart	Greene	1195	1315	1195	1315	345	345	80.38	150	Steel Tower	1	
10	Stuart-Killen	Stuart	Killen Tap	1195	1315	1195	1315	345	345	13.13	150	Steel Tower	1	
11	Stuart-Hillcrest	Stuart	Hillcrest	1255	1374	1255	1374	345	345	32.61	150	Steel Tower	1	
24	Foster-Sugarcreek	Foster	Sugarcreek	1257	1554	1745	1947	345	345	27.33	150	Steel Tower	2	
31	Beatty-Bixby	Beatty	Bixby											
	Section 1			1042	1338	1042	1338	345	345	4.69	150	Steel Tower	1	
	Section 2			1042	1338	1042	1338	345	345	8.52	150	Steel Tower	2	
33	Kirk-Corridor	Kirk	Corridor	1302	1673	1302	1673	345	345	18.36	150	Wood H-Frame	1	
40	Conesville-Hyatt	Conesville	Hyatt											
	Section 1			1195	1374	1195	1374	345	345	66.07	150	Steel Tower	1	
	Section 2			1195	1374	1195	1374	345	345	1.78	150	Wood Pole	1	
	Section 3			1195	1374	1195	1374	345	345	0.48	150	Wood H-Frame	1	
41	Spurlock-Zimmer	Ohio/Ky. St. Line	Zimmer											
	Section 1			1195	1315	1195	1315	345	345	31.77	150	Steel Tower	1	
	Section 2			1195	1315	1195	1315	345	345	0.78	150	Steel Tower	2	
42	Atlanta-Beatty	Atlanta	Beatty											
	Section 1			1042	1281	1042	1281	345	345	3.68	150	Steel Tower	2	
	Section 2			1042	1281	1042	1281	345	345	25.22	150	Steel Tower	1	
43	Conesville-Bixby	Conesville	Bixby											
	Section 1			1195	1374	1195	1374	345	345	14.87	150	Steel Tower	2	
	Section 2			1195	1374	1195	1374	345	345	50.86	150	Wood H-Frame	1	
44	Zimmer-Port Union	Zimmer	Port Union											
	Section 1			1195	1315	1195	1315	345	345	35.88	150	Steel Tower	2	
	Section 2			1195	1315	1195	1315	345	345	10.03	150	Steel Tower	1	
45	Zimmer-Red Bank													
	Section 1	Zimmer	Ohio/Ky. St. Line	1264	1538	1264	1538	345	345	0.43	150	Steel Tower	1	
	Section 2	Red Bank	Tower No. 24	1195	1315	1195	1315	345	345	10.58	150	Steel Tower	2	
	Section 3	Tower No. 23	Ohio/Ky. St. Line	1195	1315	1195	1315	345	345	0.80	150	Steel Tower	1	
46	Red Bank-Terminal	Red Bank	Terminal											
	Section 1			1195	1315	1195	1315	345	345	5.75	150	Steel Pole	2	
	Section 2			1195	1315	1195	1315	345	345	0.90	150	Steel Tower	2	
47	Bixby-Kirk	Bixby	Kirk											
	Section 1			1302	1673	1302	1673	345	345	14.87	150	Steel Tower	2	
	Section 2			1302	1673	1302	1673	345	345	4.20	150	Wood H-Frame	1	
49	Killen-Marquis	Killen Tap	Marquis	1195	1315	1195	1315	345	345	32.01	150	Steel Tower	1	
52	Stuart-Atlanta	Stuart	Atlanta	1195	1315	1195	1315	345	345	65.00	150	Steel Tower	1	
69	Hillcrest-Foster	Hillcrest	Foster	1551	1551	1793	1793	345	345	26.36	150	Steel Tower	1	
93	Spurlock-Stuart	Ohio/Ky. St. Line	Stuart	1195	1315	1195	1315	345	345	10.86	150	Steel Tower	1	

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FORM FE-T7: CHARACTERISTICS OF EXISTING TRANSMISSION LINES

COMMONLY OWNED TRANSMISSION - DEO AND DP&L COMPANIES
TENANTS IN COMMON WITH UNDIVIDED OWNERSHIP, TOTAL MILEAGE GIVEN

CIRCUIT NO. CCD-B	LINE NAME	ORIGIN	TERMINUS	SUMMER CAPABILITY (MVA) NORMAL RATING	SUMMER CAPABILITY (MVA) EMERGENCY RATING	WINTER CAPABILITY (MVA) NORMAL RATING	WINTER CAPABILITY (MVA) EMERGENCY RATING	VOLTAGE (KV) OPER. LEVEL	VOLTAGE (KV) DESIGN LEVEL	R-O-W LENGTH (MILES)	WIDTH (FEET)	SUPPORTING STRUCTURES	NUMBER OF CIRCUITS	SUBSTATIONS ON THE LINE
61	Woodsdale-Todhunter	Woodsdale	Todhunter	1195	1315	1195	1315	345	345	4.68	150	Steel Tower	2	
91	Miami Fort-West Milton	Miami Fort	Tower No. 173											
	Section 1			1195	1315	1195	1315	345	345	33.25	150	Steel Tower	2	
	Section 2			1195	1315	1195	1315	345	345	1.37	150	Steel Tower	1	
92	Miami Fort-Woodsdale	Miami Fort	Woodsdale											
	Section 1			1195	1315	1195	1315	345	345	33.25	150	Steel Tower	2	
	Section 2			1195	1315	1195	1315	345	345	4.82	150	Steel Tower	1	
98	Foster-Bath	Foster	Bath	1195	1315	1195	1315	345	345	40.28	150	Steel Tower	2	

(b) A separate listing of substations for each line included in form FE-T7 is shown on the following forms FE-T8, Summary of Existing Substations. The existing and proposed lines associated with each station are listed. The line numbers correspond to those shown on the schematic diagrams and geographic maps of section 4901:5-5-04 (C)(2).

DUKE ENERGY OHIO
4901:5-5-04(C)(1)(b)
FORM FE-T8: SUMMARY OF EXISTING SUBSTATIONS

SUBSTATION NAME	TYPE*	VOLTAGE(S) (KV)	LINE NAME	LINE NUMBER	EXISTING OR PROPOSED
AK Steel	T	138	Todhunter-AK Steel	5682	Existing
			Todhunter-AK Steel	5686	Existing
Ashland	D	138	Mitchell-Ashland-Oakley	1288	Existing
			Ashland-Mitchell	1269	Existing
			Red Bank-Ashland	7484	Existing
			Ashland-Whittier	*1180*	*Proposed*
Beckett	D	138	Port Union-Todhunter	3888	Existing
Beckjord	T	345 & 138	Oakley-Beckjord	886	Existing
			Beckjord-Silver Grove	1880	Existing
			Beckjord-Red Bank	1883	Existing
			Beckjord-Tabasco	1885	Existing
			Beckjord-Pierce	1887	Existing
			Beckjord-Pierce	1889	Existing
			Remington-Beckjord	9482	Existing
			Beckjord-Wilder	1881	Existing
			Wilder-Beckjord	5988	Existing
			Summerside-Beckjord	6984	Existing
			Beckjord-Pierce	4501	Existing
Bethany	D	138	Foster-Shaker Run	5485	Existing
BREC Huston	T	138	Trenton-College Corner	3281	Existing
Brighton	D	69	Mitchell-Brighton	1263	Existing
Brown	D	138	Brown-Stuart	5886	Existing
			Brown-Eastwood	5884	Existing
Carlisle	D	138	Shaker Run-Rockies Express	5381	Existing
Cedarville	D	138	Foster-Cedarville	5489	Existing
			Cedarville-Ford	2986	Existing
Central	D	69 & 138	Mitchell-Ashland	1269	Existing
		(138 proposed)	Central-Ashland	3985	Proposed
			Central-Mitchell	1288	Proposed
			Central-Oakley	3981	Proposed
Charles	D	138	Charles-West End	1385	Existing
			Charles-West End	1389	Existing
			Rochelle-Charles	8283	Existing
Cinti. M.S.D.	T	138	Mitchell-West End	1286	Existing
City of Hamilton	T	138	Port Union-City of Ham.	3889	Existing
			Fairfield-City of Hamilton	5781	Existing
Clermont	D	138	Summerside-Beckjord	6984	Existing
Clinton County	D	138	Warren-Clinton Co.	2381	Existing
Collinsville	D	138	Trenton-College Corner	3281	Existing
Cooper	D	138	Red Bank-Terminal	7481	Existing
Cornell	D	138	Red Bank-Terminal	7481	Existing
			Port Union-Foster	5483	Existing
Cumminsville	D	138	Mitchell-West End	1286	Existing
Deer Park	D	138	Red Bank-Terminal	7481	Existing
Dicks Creek	T	138	Todhunter-AK Steel	5686	Existing
Dimmick	D	138	Foster-Port Union	5483	Existing

* DISTRIBUTION(D) TRANSMISSION (T)

DUKE ENERGY OHIO
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FORM FE-T8: SUMMARY OF EXISTING SUBSTATIONS

SUBSTATION NAME	TYPE*	VOLTAGE(S) (KV)	LINE NAME	LINE NUMBER	EXISTING OR PROPOSED
Eastwood	D	138	Brown-Eastwood	5884	Existing
			Eastwood-Ford	8481	Existing
			Hillcrest-Eastwood	8887	Existing
Ebenezer	D	138	Terminal-Ebenezer	1783	Existing
			Ebenezer-Miami Fort	6885	Existing
Elmwood	D	138	Elmwood-Lateral	684	Existing
			Elmwood-Terminal	689	Existing
Evendale	D	138	Evendale-Port Union	4683	Existing
			Evendale-Terminal	4685	Existing
			Evendale-General Electric	GE4	Existing
Fairfield	D	138	Fairfield-Morgan	5783	Existing
			Port Union-Fairfield	3885	Existing
			Fairfield-City of Hamilton	5781	Existing
Feldman	D	138	Remington-Beckjord	9482	Existing
Finneytown	D	138	Willey-Terminal	9787	Existing
Ford	D	138	Foster-Ford	5489	Existing
			Brown-Ford	5884	Existing
Foster	T & D	345 & 138	Foster-Port Union	5483	Existing
			Foster-Warren	5484	Existing
			Foster-Shaker Run	5485	Existing
			Foster-Remington	5487	Existing
			Foster-Cedarville	5489	Existing
			Pierce-Foster	4502	Existing
			Stuart-Foster	4511	Existing
			Port Union-Foster	4508	Existing
			Foster-Todhunter	4515	Existing
			Foster-Sugarcreek	4524	Existing
Glenview	D	138	Terminal-Glenview	1782	Existing
			Miami Fort-Glenview	7284	Existing
Golf Manor	D	138	Red Bank-Terminal	7481	Existing
Hall	D	138	Port Union-Fairfield	3885	Existing
Henkel Corp.	D	138	Mitchell-Terminal	1284	Existing
Hillcrest	T & D	345 & 138	Stuart-Hillcrest	4511	Existing
			Foster-Hillcrest	34569	Existing
			Hillcrest-Eastwood	8887	Existing
Kemper	D	138	Evendale-Port Union	4683	Existing
Kleeman	D	138	Glenview-Miami Fort	7284	Existing
Lateral	D	138	Elmwood-Lateral	684	Existing
			Lateral-Red Bank	4187	Existing
Maineville	D	138	Foster-Warren	5484	Existing
Mapleknoll	D	138	Willey-Terminal	9787	Existing

* DISTRIBUTION(D) TRANSMISSION (T)

DUKE ENERGY OHIO
4901:5-5-04(C)(1)(b)
FORM FE-T8: SUMMARY OF EXISTING SUBSTATIONS

SUBSTATION NAME	TYPE*	VOLTAGE(S) (KV)	LINE NAME	LINE NUMBER	EXISTING OR PROPOSED
Miami Fort	T	345 & 138	Miami Fort-Greendale	1681	Existing
			Miami Fort-Clifty Creek	1682	Existing
			Miami Fort-MFGT	1688	Existing
			Miami Fort-Morgan	1689	Existing
			Ebenezer-Miami Fort	6885	Existing
			Crescent-Miami Fort	7086	Existing
			Glenview-Miami Fort	7284	Existing
			Willey-Miami Fort	9784	Existing
			Miami Fort-Miami	4591	Existing
			Miami Fort-Woodsdale	4592	Existing
			Miami Fort-Tanners Creek	4504	Existing
			Miami Fort-Terminal	4514	Existing
Miami Fort GT	T	138	Miami Fort-MFGT	1688	Existing
			MFGT-Villa	2862	Existing
			MFGT-Ebenezer	2865	Existing
Midway	D	138	Terminal-Ebenezer	1783	Existing
			Miami Fort-Glenview	7284	Existing
Millikin	D	138	Port Union-Todhunter	3887	Existing
Mitchell	D	138	Mitchell-Brighton	1263	Existing
			Mitchell-Terminal	1284	Existing
			Mitchell-West End	1286	Existing
			Mitchell-Ashland-Oakley	1288	Existing
Montgomery	D	138	Foster-Remington	5487	Existing
			Foster-Port Union	5483	Existing
Morgan	D	138	Miami Fort-Morgan	1689	Existing
			Fairfield-Morgan	5783	Existing
Mt. Healthy	D	138	Willey-Terminal	9787	Existing
Mulhauser	D	138	Port Union-Willey	3886	Existing
Newtown	D	138	Beckjord-Red Bank	1883	Existing
Nickel	D	138	Warren-Todhunter	5680	Existing
Oakley	D	138	Oakley-Red Bank	885	Existing
			Oakley-Beckjord	886	Existing
			Mitchell-Ashland-Oakley	1288	Existing
OBannonville	D	138	Foster-Cedarville	5489	Existing
Park	D	138	Foster-Shaker Run	5485	Existing
Port Union	T & D	345 & 138	Port Union-Summerside	3881	Existing
			Foster-Port Union	5483	Existing
			Port Union-Fairfield	3885	Existing
			Port Union-Willey	3886	Existing
			Port Union-Todhunter	3887	Existing
			Port Union-Todhunter	3888	Existing
			Port Union-City of Hamilton	3889	Existing
			Evendale-Port Union	4683	Existing
			Zimmer-Port Union	4544	Existing
			Port Union-Foster	4508	Existing
			Terminal-Port Union	4513	Existing

* DISTRIBUTION(D) TRANSMISSION (T)

DUKE ENERGY OHIO
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FORM FE-T8: SUMMARY OF EXISTING SUBSTATIONS

SUBSTATION NAME	TYPE*	VOLTAGE(S) (KV)	LINE NAME	LINE NUMBER	EXISTING OR PROPOSED
Queensgate	D	138	Mitchell-West End	1286	Existing
Red Bank	T	345 & 138	Red Bank-Terminal	7481	Existing
			Lateral-Red Bank	4187	Existing
			Beckjord-Red Bank	1883	Existing
			Red Bank-Ashland	7484	Existing
			Oakley-Red Bank	885	Existing
			Red Bank-Tobasco	7489	Existing
			Red Bank-Terminal	4546	Existing
			Zimmer-Red Bank	4545	Existing
Remington	D	138	Remington-Beckjord	9482	Existing
			Foster-Remington	5484	Existing
Rochelle	D	138	Rochelle-Charles	8283	Existing
			Rochelle-Terminal	8286	Existing
			Ridgeway-Whittier	8281	Proposed
Rockies Express	T	138	Shaker Run-Rockies Express	5381	Existing
			Todhunter-Rockies Express	5689	Existing
Seward	D	138	Port Union-Hamilton	3889	Existing
Shaker Run	D	138	Foster-Shaker Run	5485	Existing
			Shaker Run-Rockies Express	5381	Existing
Simpson	D	138	Foster-Port Union	5483	Existing
Socialville	D	138	Foster-Port Union	5483	Existing
SCP Eastwood	T	138	Hillcrest-Eastwood	8887	Existing
Summerside	D	138	Port Union-Summerside	3881	Existing
			Summerside-Beckjord	6984	Existing
Terminal	T & D	345 & 138	Elmwood-Terminal	689	Existing
			Mitchell-Terminal	1284	Existing
			Terminal-Allen	1762	Existing
			Terminal-Glenview	1782	Existing
			Terminal-Ebenezer	1783	Existing
			Evendale-Terminal	4685	Existing
			Red Bank-Terminal	7481	Existing
			Rochelle-Terminal	8286	Existing
			Willey-Terminal	9787	Existing
			Terminal-Port Union	4513	Existing
			Miami Fort-Terminal	4514	Existing
			East Bend-Terminal	4516	Existing
			Red Bank-Terminal	4546	Existing
Tobasco	D	138	Beckjord-Tobasco	1885	Existing
			Red Bank-Tobasco	7489	Existing

* DISTRIBUTION(D) TRANSMISSION (T)

DUKE ENERGY OHIO
4901:5-5-04(C)(1)(b)
FORM FE-T8: SUMMARY OF EXISTING SUBSTATIONS

SUBSTATION NAME	TYPE*	VOLTAGE(S) (KV)	LINE NAME	LINE NUMBER	EXISTING OR PROPOSED
Todhunter	T & D	345 &138	Trenton-Todhunter	3284	Existing
			Port Union-Todhunter	3887	Existing
			Port Union-Todhunter	3888	Existing
			Todhunter-Monroe	5667	Existing
			Warren-Todhunter	5680	Existing
			Todhunter-AK Steel	5682	Existing
			Todhunter-AK Steel	5686	Existing
			Todhunter-Rockies Express	5689	Existing
			Foster-Todhunter	4515	Existing
			Woodsdale-Todhunter	4561	Existing
			Woodsdale-Todhunter	4562	Existing
Trenton	D	138	Trenton-College Corner	3281	Existing
			Trenton-Todhunter	3284	Existing
			Trenton-Air Products	3263	Existing
Twenty Mile	D	138	Foster-Port Union	5483	Existing
Union	D	138	Shaker Run-Rockies Express	5381	Existing
Wards Corner	D	138	Remington-Beckjord	9482	Existing
Warren	T & D	138	Foster-Warren	5484	Existing
			Warren-Todhunter	5680	Existing
			Warren-Clinton County	2381	Existing
West End	D	138	Mitchell-West End	1286	Existing
			Charles-West End	1385	Existing
			Charles-West End	1389	Existing
			Crescent-West End	1587	Existing
			Wilder-West End	5985	Existing
Willey	D	138	Port Union-Willey	3886	Existing
			Willey-Miami Fort	9784	Existing
			Willey-Terminal	9787	Existing
Woodsdale	T	345	Woodsdale-Todhunter	4561	Existing
			Woodsdale-Todhunter	4562	Existing
			Miami Fort-Woodsdale	4592	Existing
Zimmer	T	345	Spurlock-Zimmer	4541	Existing
			Zimmer-Port Union	4544	Existing
			Zimmer-Red Bank	4545	Existing

* DISTRIBUTION(D) TRANSMISSION (T)

(2) Existing Transmission System Maps

(a) Schematic diagrams of the existing 345 kV and 138 kV transmission networks are considered by Duke Energy Ohio to be critical energy infrastructure information. The diagrams are provided under seal.

(b) A map showing the actual, physical routing of the transmission lines, geographic landmarks, major metropolitan areas, and the location of substations and generating plants, interconnects with distribution, and interconnections with other electric transmission owners is considered by Duke Energy Ohio to be critical energy infrastructure information. The map will be provided under seal.

(c) Rule Requirement - Two copies of the map described in paragraph (C)(2)(b) of this rule, for Commission use, on a 1:250,000 scale. The electric transmission owners may jointly provide one set of maps to meet this requirement. Participation in the Commission's joint mapping project will meet this requirement:

The joint mapping project coordinated by the OEUI has not been accomplished for a number of years to Duke Energy Ohio's knowledge. Duke Energy Ohio will provide a map at the requested scale to the Commission upon request.

D. THE PLANNED TRANSMISSION SYSTEM

(1) Specifications of planned transmission lines are provided on the following forms FE-T9, Specifications of Planned Electric Transmission Lines.

DUKE ENERGY OHIO

4901:5-5-04(D)(1)

FORM FE-T9: SPECIFICATIONS OF PLANNED ELECTRIC TRANSMISSION LINES

1.	Line Name: Line Number:	Ashland-Whittier DEO-A1180
2.	Point of Origin: Terminus:	Ashland Substation Whittier Substation (proposed)
3.	Right of Way, Length: Average width: Number of circuits:	3200 feet 50 ft. 1
4.	Voltage: 138 kV	
5.	Application for Certificate:	6/2011
6.	Construction to Commence: Commercial Operation:	commencement date: 9/2011 anticipated date: 6/2012
7.	Capital Investment:	$686,000
8.	Substations:	none
9.	Supporting Structures:	wood and/or steel poles
10.	Participation with other Utilities:	DEO – 100%
11.	Purpose of the Planned transmission line :	supply new substation to provide 12.47 kV distribution system capacity.
12.	Consequences of Line Construction deferment or Termination:	inability to supply 12.47 kV distribution load
13.	Miscellaneous:	area to be served is primarily north Cincinnati, OH

DUKE ENERGY OHIO

4901:5-5-04(D)(1)

FORM FE-T9: SPECIFICATIONS OF PLANNED ELECTRIC TRANSMISSION LINES

1.	Line Name: Line Number:	Foster-Warren DEO-A5484
2.	Point of Origin: Terminus:	Tap Feeder 5484 Columbia Substation (proposed)
3.	Right-of-Way, Length: Average Width: Number of Circuits:	approximately 175 feet 50 feet 1 transmission line above 125 kV
4.	Voltage:	138 kV design and operate voltage
5.	Application for Certificate:	6/1/2012
6.	Construction:	construction commencement – 9/1/12 anticipated date of commercial operation – 12/31/12
7.	Capital Investment:	$30,000
8.	Substations:	Columbia Substation, 138 kV
9.	Supporting Structures:	wood poles
10.	Participation with other Utilities:	DEO – 100%
11.	Purpose of the planned transmission line:	supply new substation to provide 12.47 kV distribution system capacity.
12.	Consequences of Line Construction deferment or Termination:	inability to supply 12.47 kV distribution load
13.	Miscellaneous:	area to be served is primarily west-central Warren County

DUKE ENERGY OHIO

4901:5-5-04(D)(1)

FORM FE-T9: SPECIFICATIONS OF PLANNED ELECTRIC TRANSMISSION LINES

1.	Line Name: Line Number:	Foster-Warren DEO-A5484
2.	Point of Origin: Terminus:	Tap Feeder 5484 Columbia Substation (proposed)
3.	Right-of-Way, Length: Average Width: Number of Circuits:	approximately 175 feet 50 feet 1 transmission line above 125 kV
4.	Voltage:	138 kV design and operate voltage
5.	Application for Certificate:	6/01/2012
6.	Construction:	construction commencement – 9/01/12 anticipated date of commercial operation – 12/31/12
7.	Capital Investment:	*$30,000*
8.	Substations:	Columbia Substation, 138 kV
9.	Supporting Structures:	wood poles
10.	Participation with other Utilities:	DEO – 100%
11.	Purpose of the planned transmission line:	supply new substation to provide 12.47 kV distribution system capacity.
12.	Consequences of Line Construction deferment or Termination:	inability to supply 12.47 kV distribution load
13.	Miscellaneous:	area to be served is primarily west-central Warren County

DUKE ENERGY OHIO
4901:5-5-04(D)(1)

FORM FE-T9: SPECIFICATIONS OF PLANNED ELECTRIC TRANSMISSION LINES

1.	Line Name: Line Number:	Whittier-Rochelle DEO-A8281
2.	Point of Origin: Terminus:	Whittier Substation (proposed) Rochelle Substation
3.	Right of Way, Length: Average width: Number of circuits:	7100 feet 10 ft. 1
4.	Voltage: 138 kV	
5.	Application for Certificate:	12/2011
6.	Construction to Commence: Commercial Operation:	commencement date: 6/2012 anticipated date: 6/2013
7.	Capital Investment:	$7,700,000
8.	Substations:	none
9.	Supporting Structures:	underground
10.	Participation with other Utilities:	DEO – 100%
11.	Purpose of the Planned transmission line:	reinforce 138 kV transmission system
12.	Consequences of Line Construction deferment or Termination:	inability to supply all 138 kV transmission system load under normal and outage condition
13.	Miscellaneous:	area to be served is Cincinnati, OH

DUKE ENERGY OHIO
4901:5-5-04(D)(1)

FORM FE-T9: SPECIFICATIONS OF PLANNED ELECTRIC TRANSMISSION LINES

1.	Line Name: Line Number:	Eastwood – Ford Batavia DEO-A8481
2.	Point of Origin: Terminus:	Tap Feeder 8481 Curliss Sub (Proposed)
3.	Right-of-Way, Length: Average width: Number of circuits:	0.1 miles 50 ft. 1
4.	Voltage: 138 kV	
5.	Application for Certificate:	09/2015
6.	Construction to Commence: Commercial Operation:	01/2016 06/2016
8.	Capital Investment, Estimated Cost:	$58,117
8.	Substations:	Curliss Sub
9.	Supporting Structures:	Wood Poles
10.	Participation with other Utilities:	DEO – 100%
11.	Purpose of the Planned Transmission Line:	reinforce underlying 69 kV transmission system
12.	Consequences of Line Construction deferment or Termination:	inability to supply all 69 kV subtransmission system load under normal and outage conditions
13.	Miscellaneous:	area to be served is Central Clermont County

DUKE ENERGY OHIO
4901:5-5-04(D)(1)

FORM FE-T9: SPECIFICATIONS OF PLANNED ELECTRIC TRANSMISSION LINES

1.	Line Name: Line Number:	Eastwood-Ford Batavia DEO-A8481
2.	Point of Origin: Terminus:	Tap Feeder 8481 Curliss Sub (Proposed)
3.	Right-of-Way, Length: Average width: Number of circuits:	0.1 miles 50 ft. 1
4.	Voltage: 138 kV	
5.	Application for Certificate:	09/2015
6.	Construction to Commence: Commercial Operation:	01/2016 06/2016
9.	Capital Investment, Estimated Cost:	$58,117
8.	Substations:	Curliss Sub
9.	Supporting Structures:	Wood Poles
10.	Participation with other Utilities:	Duke Energy Ohio – 100%
11.	Purpose of the Planned Transmission Line:	reinforce underlying 69 kV transmission system
12.	Consequences of Line Construction deferment or termination:	inability to supply all 69 kV subtransmission system load under normal and outage conditions
13.	Miscellaneous:	area to be served is Central Clermont County

(2) A listing of all proposed substations is provided on the following forms FE-T10, Summary of Proposed Substations.

DUKE ENERGY OHIO

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

FORM FE-T10: SUMMARY OF PROPOSED SUBSTATIONS

Substation Name: Columbia

Voltage(s): 138 kV, 12.47 kV

Type of Substation: Distribution (D)

Timing: 2012

Line Association(s): DEO-A5484

Minimum Substation Site Acreage: 5 acres

DUKE ENERGY OHIO

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

FORM FE-T10: SUMMARY OF PROPOSED SUBSTATIONS

Substation Name: Whittier

Voltage(s): 138 kV, 12.47 kV

Type of Substation: Distribution (D)

Timing: 2012

Line Association(s): DEO-A1180

Minimum Substation Site Acreage: 5 acres

DUKE ENERGY OHIO

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

FORM FE-T10: SUMMARY OF PROPOSED SUBSTATIONS

Substation Name: Curliss Substation

Voltage(s): 138 kV, 69 kV

Type of Substation: Distribution (D)

Timing: 2016

Line Association(s): DEO-A8481

Minimum Substation Site Acreage: 5 acres

(3) Planned Transmission System Maps
   (a) Schematic maps and geographic maps depicting the existing and planned 345 kV and 138 kV transmission networks are considered by DEO to be critical energy infrastructure information. The maps and diagrams will be provided under seal.

   (b) Rule Requirement - Two copies of the above maps, for Commission use, on a scale of 1:250,000. The electric transmission owners may jointly provide one set of overlays to meet this requirement. Participation in the Commission's joint mapping project will meet this requirement:

   The joint mapping project coordinated by the OEUI has not been accomplished for a number of years to DEO's knowledge. DEO can provide a map at the requested scale to the Commission upon request.

E. SUBSTANTIATION OF THE PLANNED TRANSMISSION SYSTEM

(1) Graphic plots of the DEO 138 kV and 345 kV systems that show the MW and MVAR flows and the bus voltages have been prepared. They are considered by DEO to be critical energy infrastructure information. Plots of 138 kV system and 345 kV system for the 2011 summer base case and the most recently prepared 2016 summer base case plots will be provided separately to PUCO staff. The 2011 and 2016 summer base case power flow cases in PSS/E format are included with the CEII information.

(2) Contingency cases - Contingency cases based on the peak load base cases are studied to determine system performance for generation and transmission system outages. The results of such studies are used as bases for the determination of the need for and timing of additions to the transmission system. DEO has prepared several power flow outage cases which can be considered representative of the types of outages studied. All cases are based on the 2011 Summer Peak Load Power Flow Base Case. The outage cases, discussion and power flow transcription diagrams are considered by DEO to be critical energy infrastructure information which will be provided under seal.

(3) Analysis of proposed solutions to problems identified in paragraph (E)(2) of this rule: As discussed, a number of contingency cases, predicated on the various base cases, have been studied. These contingency cases include loss

of transformer and/or loss of transmission circuit, as well as unscheduled variation of generation dispatch. These contingency cases seek to model system performance under various conditions that are common to electric system operation. The general criteria applied to these studies are that the loss of either a major transformer or transmission circuit should not cause loading on any of the remaining transformers or circuits to exceed their emergency thermal ratings. In addition, double-contingency outages, which include at least one 345 kV system component, should likewise not cause loading on any remaining components to exceed the emergency thermal ratings. Probability of occurrence, availability of mitigating procedures, and other factors are considered when these reliability analyses are performed and evaluated. No problems are expected as a result of the contingencies identified in paragraph (E) (2) of this rule. DEO expects all electric components to operate within their limits based on DEO's planning criteria.

(4) Adequacy of the electric transmission owner's transmission system to withstand natural disasters and overload conditions: The contingency cases and reliability analyses described above indicate the performance of the transmission system subsequent to outages, which may be caused by natural disasters. As discussed above, the transmission system is designed to withstand certain outages without causing loading on the remaining system components to exceed emergency thermal load ratings. More severe outages may cause system components to overload. Such overloads, if not corrected by switching or other actions, may cause loss of life of the overloaded system components. Some outages may be of such a severity that all of the load could not be served. The transmission system could also be segmented to such a degree that all of the load could not be served.

(5) Analysis of the electric transmission owner's transmission system to permit power interchange with neighboring systems: The Duke Energy Ohio transmission system is interconnected to American Power (AEP), Dayton Power and Light (DAY), Ohio Valley Electric Company (OVEC), and Eastern Kentucky Power Cooperative (EKPC). The ability to accommodate any particular interchange, whether short term or long term is highly dependent on the actual transfer and the conditions under which it would occur. Duke Energy Ohio is a member of the Midwest Independent Transmission System Operator as such the allocation of Available Flowgate Capacity (AFC) is the sole responsibility if the Midwest ISO.

(6) Transmission Import and Export Transfer Capability: Duke Energy Ohio is a member of the Midwest Independent Transmission System Operator as such the allocation of AFC is the sole responsibility of the Midwest ISO.

(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: No transmission system studies specifically addressing the above items have been performed. Line losses are considered in the evaluation of alternative projects. Thermal loading and low voltage issues are considered and addressed as a part of the transmission system evaluation and planning process. Accommodation of alternative energy sources requesting connection to the DEO transmission system are handled by the Midwest ISO interconnection procedures.

(8) Switching diagrams of the DEO 138 kV and 345 kV systems are considered by DEO to be critical energy infrastructure information which will be provided under seal.

F. REGIONAL AND BULK POWER REQUIREMENTS

Information relating to RFC and bulk power requirements is provided to the Public Utilities Commission of Ohio by RFC on behalf of Duke Energy Ohio and several Ohio electrical utilities.

G. CRITICAL ENERGY INFRASTRUCTURE INFORMATION

As discussed previously, Duke Energy Ohio considers all or portions of the information sought under the rules listed below to be critical energy infrastructure information. This information has been assembled separately and will be provided to the Commission under seal.

4901:5-5-04 (C)(2)(a)	4901:5-5-04 (C)(2)(b)	4901:5-5-04 (C)(2)(c)
4901:5-5-04 (D)(3)(a)	4901:5-5-04 (D)(3)(b)	4901:5-5-04 (E)(1)
4901:5-5-04 (E)(2)	4901:5-5-04 (E)(8)	

H. SUBSTANTIATION OF THE PLANNED DISTRIBUTION SYSTEM

A. Load flow or other system analysis by voltage class of the EDU's distribution system performance in Ohio, that identifies and considers each of the following:

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

The Duke Energy Ohio distribution system includes systems that operate at nominal voltages of 4.16 kV, 12.47 kV, 13.2 kV, 34.5 kV and 69 kV. Planning for the 4.16 kV, 12.47 kV and 34.5 kV systems utilizes a combination of peak load power flow analysis and projections of the expected future peak loads on the various system components. The load projections are based on historical loads, general load growth trends within defined load areas, and known proposed loads. The projected future loads are then compared to the assigned capacity of the components to determine if and when any components are expected to experience peak loading in excess of their assigned capacities. System reinforcement projects are then identified and planned for completion prior to the projected time that the components would be overloaded without relief. This process is repeated on an annual basis, adjusting project schedules as required due to differences between actual load growth and projected load growth and any other pertinent factors.

The distribution capacity planning process addresses voltage variation in planning for the Duke Energy 4.16 kV, 12.47 kV, 13.2 kV and 34.5 kV systems by incorporating design parameters intended to maintain the voltage at all the customer service points within ANSI C84.1 standards. These design parameters include the following:
1. application of automatic voltage regulation at the feeder source within substations
2. application of capacitor banks both within substations and distributed on the distribution feeders
3. utilization of adequately sized conductor and distribution transformers
Any voltage concerns identified by customer notification or system monitoring are addressed by insuring that the above design parameters are adhered to.

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

As of the date of preparation of this report, the following major projects are planned to insure that adequate thermal capacity will exist on the Duke Energy 4.16 kV, 12.47 kV, 13.2 kV and 34.5 kV distribution systems:

<u>2011</u>
Seward Substation – Install an additional 22.4 MVA, 138-12.47 kV transformer and associated equipment at an existing Duke Energy Ohio Substation to serve expected increased demand in the West Chester area.

Green Secondary Network Improvements – Add transformers and conductors to relieve projected overloading to parts of downtown Cincinnati service area.

<u>2012</u>
Canal Substation – Install a 22.4 MVA, 69-12.47 kV transformer and associated equipment in a new Duke Energy substation to serve expected increased demand in the Hamilton area.

Columbia Substation – Install a 22.4 MVA, 138-12.47 kV transformer and associated equipment at a new Duke Energy Ohio substation to serve projected area loading and relieve existing circuits in the area.

Brown Substation – Install a 22.4 MVA, 138-12.47 kV transformer and associated equipment at an existing Duke Energy Ohio substation to serve projected winter heating demand in southeastern Brown County.

Mack Substation – Install an additional 22.4 MVA, 69-12.47 kV transformer and associated equipment at an existing Duke Energy Ohio substation to serve projected area loading and relieve existing circuits in the area.

Distribution capacity projects are typically not planned beyond a three to four year time horizon, due to the variability in area load growth patterns and the ability to react fairly quickly in the implementation of capacity projects. Smaller-scale projects to upgrade or establish distribution feeder routes to serve new load and/or allow loads to be served by existing substation capacity are typically planned and implemented in shorter time-frames as required by actual load development.

C. Adequacy of the electric utility distribution system to withstand natural disasters and overload conditions.

The Duke Energy Ohio distribution system is designed to withstand certain wind loading, ice loading, and other structural issues by recognized national standards. Natural disasters that exceed these conditions may result in damage to the distribution system and the inability to serve all customers. Duke Energy Ohio has an Emergency Plan that calls for the mobilization of personnel and resources as required by the severity of a given incident, including mutual assistance from other utilities.

The goal of the Duke Energy Ohio planning process is to insure that components are not loaded beyond their assigned ratings under normal system conditions to meet expected load. However, under outage or other abnormal conditions, Duke Energy Ohio recognizes that it may be necessary to load components beyond the ratings assigned for normal use. Certain components, such as transformers, regulators, and cables, have identifiable overload capabilities that are either allowable for intermittent use during the life of the component or can be mitigated after the overload by maintenance activities. Duke Energy Ohio will utilize such capacity when necessary and feasible to carry load if the alternative is to not serve the load. Certain other system components, such as overhead lines, do not have significant overload capacity due the necessity of maintaining adequate electrical clearance.

D. 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.

   The analytical process intended to alleviate thermal loading and low voltage conditions on the Duke Energy Ohio distribution system is described in response to paragraph 4901:5-5-04(C)(1)(a) and (b). No general improvement studies or studies related solely to the reduction of line losses are performed. No studies specifically related to improving access to alternative energy sources have been performed.

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

   All Duke Energy Ohio 4.16 kV, 12.47 kV, 13.2 kV and 34.5 kV circuits are operated in a radial mode. A number of 69 kV circuits operate in non-radial mode. The switching diagram of the DEO 69 kV system is considered by DEO to be critical energy infrastructure information. This diagram will be provided separately to PUCO staff with the 138 kV and 345 kV switching diagrams requested under 4901:5-5-04 (E)(8). The non-radial operated circuits are indicated on this diagram.

SECTION III – ELECTRIC DISTRIBUTION FORECAST

On the following pages, the loads for Duke Energy Ohio are provided. Please note that FE-D forms represent the full distribution forecast regardless of who supplies the energy, whereas the FE-T forms represent the load supplied by the regulated utility. Therefore, the first two years of the forecast reflect energy and peak reduced for current switching levels. The remaining years of the forecast reflect the assumption that all load returns to the regulated utility at the end of the ESP.

1. Service Area Energy Forecasts

The following forms contain the energy forecast for Duke Energy Ohio's service area. Before implementation of any new EE programs or incremental EE impacts, Residential use for the ten-year period of the forecast from 2011 to 2021 is expected to increase at a rate of 0.8 percent per year; Commercial use increases 1.5 percent per year; and Industrial use increases 1.6 percent per year. The summation of the forecast across each sector and including losses results in a growth rate forecast of 1.2 percent for Total Energy.

The Total energy growth rate after EE impacts is (-0.1) percent.

2. System Seasonal Peak Load Forecast

The following forms also contain the forecast of summer and winter peaks before implementation of EE programs for the Duke Energy Ohio service area. The historical difference between native and internal load before EE reflects the impact of the interruptible rate tariff and other demand response programs.

The table shows the Summer and succeeding Winter Peaks, the Summer Peaks being the predominant ones historically. Projected growth in the internal summer peak demand is 1.0 percent. Projected growth in the internal winter peak demand is 0.9 percent per year.

Peak load forecasts after implementation of EE programs are shown for native and internal loads after EE. The projected growth in the internal summer peak is 0.2 percent.

3. Controllable Loads

The native peak load forecast reflects the MW impacts from the PowerShare® demand response program and controllable loads from the Power Manager program. The amount of load controlled depends upon the level of operation of the particular customers participating in the programs. The difference between the internal and native peak loads consists of the impact from these loads. See Section H in Duke Energy Ohio's Resource Plan for a complete discussion of controllable and other demand response programs.

4901 : 5-5-04

PUCO Form FE-D1 : EDU Service Area Energy Delivery Forecast
(Megawatt Hours/Year) (a)
Duke Energy Ohio (d)

		1	2	3	4	5(a)	5(b)	6	7	8
	Year	Residential	Commercial	Industrial	Transportation (b)	Other (c)	Energy Efficiency & Demand Response (e)	Total End Use Delivery (f)	Line Losses and Company Use	Total Energy
								1+2+3+4+5(a)-5(b)		6+7
-5	2006	7 068,216	5 776 484	5.794 652	-	1 561 925	379	20 191,276	1,370.231	21 561 508
-4	2007	7.623.125	6 178 343	5 756.911	-	1,592 553	54 677	21 150,932	1 554 761	22.705 692
-3	2008	7,280 678	6,092 035	5,364 071	-	1,593,139	151 371	20 330 124	1 231 134	21 561 257
-2	2009	6,721,835	5.656 344	3.371 411	-	1 436 194	86.403	17 187 784	602,245	17,790,029
-1	2010	6 328 297	2,660,497	638,338	-	475 304	310 756	10 102 436	844 007	10 946 442
0	2011	4,133 790	1.168 895	718 164	-	153,007	30,746	6,143 110	452 537	6 595 647
1	2012	7 287,012	6 724,039	5.362 390	-	1 380 698	199 367	20 544,782	1,450,657	21 995,439
2	2013	7 290.455	6.988,870	5 487,497	-	1 436 194	369 405	20 843,612	1 472 977	22.316 589
3	2014	7,358.489	7,262 705	5.586 454	-	1,475.037	548,955	21,143 740	1.504 257	22 647,997
4	2015	7,454 619	7 397,689	5 666,504	-	1,494 652	960 114	21 053,350	1,525.911	22,579 261
5	2016	7 462,133	7,463 050	5,739 282	-	1,499,813	1,183 924	20 980,353	1,535,970	22 516 323
6	2017	7.524,400	7,502.188	5,809 615	-	1,497,130	1 409 053	20 924 280	1.547 916	22.472 196
7	2018	7 591 238	7.531 982	5 877 271	-	1,491 962	1,634 223	20 858 230	1 559.151	22 417 381
8	2019	7 671,620	7,557 893	5.945 462	-	1 466,384	2 083 474	20 577,885	1,571,064	22 148 949
9	2020	7,756.327	7,590,294	6,010 593	-	1,480.776	2 530 275	20 307,716	1.583 393	21.891 109
10	2021	7,845.045	7,623 573	6 075 950	-	1.476 590	2,973 168	20 047 990	1 596,409	21 644.399

(a) To be filled out by all EDUs. The category breakdown should refer to the Ohio portion of the EDU's total service area
(b) Transportation includes railroads & railways
(c) Other includes street & highway lighting public authorities, interdepartmental sales, and wholesale
(d) Historical class numbers include the impact of DSM programs in place at the time Forecast numbers have not been reduced for energy efficiency impacts
(e) Historical numbers represent incremental impacts of energy efficiency programs. Forecast numbers represent cumulative impacts
(f) Historical numbers include the impact of DSM programs in place at the time Forecast numbers include losses

PUCO Form FE-D1 : EDU Service Area Energy Delivery Forecast
(Megawatt Hours/Year) (a)
Duke Energy Ohio After DSM (d)

		1	2	3	4	5	6	7	8
	Year	Residential	Commercial	Industrial	Transportation (b)	Other (c)	Total End Use Delivery	Line Losses and Company Use	Total Energy
							1+2+3+4+5		6+7
-5	2006	7,068,216	5,776,484	5,794,652	-	1,551,925	20,191,276	1 370,231	21,561 508
-4	2007	7,623,125	6 178 343	5,756,911	-	1,592 563	21 150,932	1,554 761	22,705 693
-3	2008	7 280,878	6,092,035	5 364,071	-	1,593,139	20,330 124	1,231,134	21 561,257
-2	2009	6,721,835	5,656 344	3,371,411	-	1,438,194	17 187,784	602,245	17,790,029
-1	2010	6,326,297	2 660 497	638 338	-	475,304	10 102 436	844,007	10,946 442
0	2011	4,109,650	1,166,262	716,525	-	152,838	6,145 275	450,372	6,595,647
1	2012	7,181,563	6,683,490	5,320,313	-	1 372,382	20 557,749	1,437 690	21,995 439
2	2013	7,114 718	6,907,423	5 425,496	-	1 419 273	20,866 910	1 449,679	22,316 589
3	2014	7 118,472	7,127 019	5 486,990	-	1,446,897	21,179 378	1,468,619	22,647,997
4	2015	7,047,107	7,143,445	5,483,351	-	1 441,911	21,115,815	1,463 447	22,579 261
5	2016	7,038,238	7,107 190	5,484,986	-	1,426 626	21,057 041	1,459,282	22,516,323
6	2017	7,014,307	7 080 737	5,509 770	-	1,410 992	21,015,807	1,456,389	22,472,196
7	2018	6,992 629	7,045,899	5,632 528	-	1,393 342	20 964,399	1 452 982	22,417,381
8	2019	6,899,081	6,941 981	5,509,783	-	1,362,356	20 713,200	1,435,748	22 148,949
9	2020	6,806,606	6,846,478	5,486,286	-	1,332,282	20,471,652	1,419 457	21,891,109
10	2021	6 715,706	6,754 887	5,465,795	-	1,304,710	20,241 098	1,403,301	21 644 399

(a) To be filled out by all EDUs. The category breakdown should refer to the Ohio portion of the EDU's total service area
(b) Transportation includes railroads & railways
(c) Other includes street & highway lighting, public authorities, interdepartmental sales and wholesale
(d) Historical numbers include the impact of DSM programs in place at the time

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PUCO Form FE-D3 : EDU System Seasonal Peak Load Demand Forecast (c)

(Megawatts)(a)

Duke Energy Ohio Before DSM

		Native				Internal			
	Year	Summer	Demand Response	Net Summer	Winter (b)	Summer	Demand Response	Net Summer	Winter (b)
-5	2006	4,366	0	4.366	3.551	4.366	0	4.366	3.551
-4	2007	4,436	0	4.436	3,505	4,459	23	4,436	3.505
-3	2008	4.074	0	4.074	3.526	4.074	0	4.074	3.526
-2	2009	3.675	0	3.675	2.271	3.675	0	3.675	2.271
-1	2010	2,317	0	2.317	1,459	2.328	11	2,317	1.459
0	2011	1.800	0	1,800	3.644	1.864	64	1.800	3.644
1	2012	4.379	0	4.379	3.709	4,543	164	4.379	3,709
2	2013	4,419	0	4,419	3.777	4.583	164	4.419	3 777
3	2014	4.506	0	4.506	3,821	4.671	164	4.506	3.821
4	2015	4,560	0	4,560	3.845	4.725	164	4.560	3 845
5	2016	4,571	0	4.571	3,858	4.735	164	4,571	3.858
6	2017	4,607	0	4,607	3,881	4,771	164	4,607	3.881
7	2018	4.639	0	4,639	3,904	4,803	164	4,639	3,904
8	2019	4,676	0	4,676	3,929	4,840	164	4 676	3 929
9	2020	4,712	0	4.712	3.957	4,876	164	4,712	3.957
10	2021	4,757	0	4,757	3.984	4.921	164	4,757	3.984

(a) To be filled out by all EDUs. Data should refer to the Ohio portion of the EDU's total service area.

(b) Winter load reference is to peak loads which follow the summer peak load.

(c) Historical company peaks not necessarily coincident with the system peak.

(d) Figures reflect the impact of historical demand side programs.

PUCO Form FE-D3 : EDU System Seasonal Peak Load Demand Forecast

(Megawatts)(a)

Duke Energy Ohio After DSM

		Native (b)(c)				Internal (b)(c)			
	Year	Summer	Demand Response	Net Summer	Winter (b)	Summer	Demand Response	Net Summer	Winter (b)
-5	2006	4,366	0	4,366	3,551	4,366	0	4,366	3,551
-4	2007	4,436	0	4,436	3,505	4,459	23	4,436	3,505
-3	2008	4,074	0	4,074	3,526	4,074	0	4,074	3,526
-2	2009	3,675	0	3,675	2,271	3,675	0	3,675	2,271
-1	2010	2,317	0	2,317	1,459	2,328	11	2,317	1,459
0	2011	1,795	0	1,795	3,626	1,859	64	1,795	3,626
1	2012	4,340	0	4,340	3,676	4,504	164	4,340	3,676
2	2013	4,376	0	4,376	3,729	4,540	164	4,376	3,729
3	2014	4,439	0	4,439	3,740	4,603	164	4,439	3,740
4	2015	4,441	0	4,441	3,745	4,605	164	4,441	3,745
5	2016	4,424	0	4,424	3,750	4,588	164	4,424	3,750
6	2017	4,432	0	4,432	3,756	4,596	164	4,432	3,756
7	2018	4,436	0	4,436	3,745	4,600	164	4,436	3,745
8	2019	4,417	0	4,417	3,736	4,581	164	4,417	3,736
9	2020	4,398	0	4,398	3,730	4,563	164	4,398	3,730
10	2021	4,388	0	4,388	3,724	4,552	164	4,388	3,724

(a) To be filled out by all EDUs. Data should refer to the Ohio portion of the EDU's total service area.

(b) Winter load reference is to peak loads which follow the summer peak load.

(c) Includes DSM impacts

PUCO Form FE-D5: EDU's Total Monthly Energy Forecast (MWh)
Duke Energy Ohio Before DSM

Year 0 (d)				Ohio Service Area	System
January				623,017	623 017
February				533 960	533,960
March				504,294	504 294
April				427 847	427,847
May				453,843	453 843
June				578,746	578,746
July				675 096	675 096
August				690,568	690,568
September				548,456	548,456
October				487,978	487 978
November				484,853	484,853
December				617 736	617 736
Year 1 (d)					
January				2,045,536	2,045,536
February				1,761,974	1 761,974
March				1,761,845	1,761,845
April				1,584,760	1,584,760
May				1,701,376	1,701,376
June				1,972,989	1,972,989
July				2,152,015	2,152,015
August				2,192,293	2,192 293
September				1,764,821	1,764,821
October				1,677,436	1,677 436
November				1,652,311	1,652,311
December				1,927,439	1,927 439

(a) To be filled out by all EDUs. Data should refer to the Ohio portion of the EDU's total service area in this column.
(b) EDUs operating across Ohio boundaries shall provide data for the total service area in this column
(c) EDUs operating as a part of an integrated operating system shall provide data for the total system in this column.
(d) Actual data shall be indicated with an asterisk (*).

PUCO Form FE-D5: EDU's Total Monthly Energy Forecast (MWh)
Duke Energy Ohio After DSM (e)

Year 0 (d)				Ohio Service Area	System
January				622,568	622,586
February				533,214	533,214
March				503,154	503,154
April				426,514	426,514
May				452,079	452,079
June				576,330	576,330
July				672,000	672,000
August				687,108	687,108
September				545,019	545,019
October				484,528	484,528
November				480,628	480,628
December				612,486	612,486
Year 1 (d)					
January				2,031,431	2,031,431
February				1,748,560	1,748,560
March				1,747,858	1,747,858
April				1,571,651	1,571,651
May				1,686,388	1,686,388
June				1,955,723	1,955,723
July				2,132,536	2,132,536
August				2,172,250	2,172,250
September				1,746,410	1,746,410
October				1,661,485	1,661,485
November				1,634,280	1,634,280
December				1,906,867	1,906,867

(a) To be filled out by all EDUs. Data should refer to the Ohio portion of the EDU's total service area in this column.
(b) EDUs operating across Ohio boundaries shall provide data for the total service area in this column
(c) EDUs operating as a part of an integrated operating system shall provide data for the total system in this column.
(d) Actual data shall be indicated with an asterisk (*)
(e) Includes DSM impacts

PUCO Form FE-D6: EDU's Monthly Internal Peak Load Forecast (Megawatts)

Duke Energy Ohio Before DSM

	Native				Internal	
Year 0 (d)	Ohio Service Area	Demand Response	Net Summer	System	Ohio Service Area	System
January	1.259	0	1.259	1,259	1,259	1,259
February	1.296	0	1.296	1.296	1,296	1.296
March	1,240	0	1,240	1 240	1.240	1 240
April	1 028	35	1.028	1.028	1 063	1,063
May	1.198	35	1.198	1,198	1.232	1,232
June	1,532	54	1.532	1,532	1 586	1.586
July	1,810	54	1,810	1.810	1.864	1.864
August	1.695	54	1 695	1,695	1,749	1 749
September	1.570	54	1.570	1,570	1.624	1.624
October	1,180	0	1,180	1,180	1.180	1.180
November	1 230	0	1.230	1,230	1.230	1,230
December	1,425	0	1.425	1,425	1.425	1,425
Year 1 (d)						
January	3.644	0	3.644	3.644	3.644	3.644
February	3,547	0	3,547	3.547	3.547	3.547
March	3.326	0	3 326	3.326	3.326	3,326
April	2.956	106	2.956	2,956	3,061	3.061
May	3,514	106	3,514	3,514	3.620	3 620
June	4,145	164	4,145	4,145	4.309	4.309
July	4 379	164	4.379	4,379	4,543	4,543
August	4.379	164	4,379	4.379	4.543	4.543
September	3.841	164	3.841	3.841	4.005	4.005
October	3.226	0	3.226	3,226	3.226	3,226
November	3.185	0	3.185	3.185	3.185	3 185
December	3,600	0	3,600	3.600	3 600	3.600

(a) To be filled out by all EDUs Data should refer to the Ohio portion of the EDU's total service area in this column.
(b) EDUs operating across Ohio boundaries shall provide data for the total service area in this column.
(c) EDUs operating as a part of an integrated operating system shall provide data for the total system in this column
(d) Actual data shall be indicated with an asterisk (*).

PUCO Form FE-D6: EDU's Monthly Internal Peak Load Forecast (Megawatts) (e)
Duke Energy Ohio After DSM (e)

	Native				Internal	
Year 0 (d)	Ohio Service Area	Demand Response	Net Summer	System	Ohio Service Area	System
January	1,259	0	1,259	1,259	1,259	1,259
February	1,295	0	1,295	1,295	1,295	1,295
March	1,238	0	1,238	1,238	1,238	1,238
April	1,026	35	1,026	1,026	1,060	1,060
May	1,195	35	1,195	1,195	1,229	1,229
June	1,527	54	1,527	1,527	1,581	1,581
July	1,805	54	1,805	1,805	1,859	1,859
August	1,689	54	1,689	1,689	1,743	1,743
September	1,564	54	1,564	1,564	1,617	1,617
October	1,174	0	1,174	1,174	1,174	1,174
November	1,225	0	1,225	1,225	1,225	1,225
December	1,419	0	1,419	1,419	1,419	1,419
Year 1 (d)						
January	3,626	0	3,626	3,626	3,626	3,626
February	3,529	0	3,529	3,529	3,529	3,529
March	3,301	0	3,301	3,301	3,301	3,301
April	2,930	106	2,930	2,930	3,036	3,036
May	3,486	106	3,486	3,486	3,591	3,591
June	4,111	164	4,111	4,111	4,275	4,275
July	4,336	164	4,336	4,336	4,501	4,501
August	4,340	164	4,340	4,340	4,504	4,504
September	3,805	164	3,805	3,805	3,969	3,969
October	3,195	0	3,195	3,195	3,195	3,195
November	3,165	0	3,165	3,165	3,165	3,165
December	3,577	0	3,577	3,577	3,577	3,577

(a) To be filled out by all EDUs Data should refer to the Ohio portion of the EDU's total service area in this column.
(b) EDUs operating across Ohio boundaries shall provide data for the total service area in this column
(c) EDUs operating as a part of an integrated operating system shall provide data for the total system in this column
(d) Actual data shall be indicated with an asterisk (*)
(e) Includes DSM impacts

4. Load Factor

The numbers below represent the annual percentage load factor for the Duke Energy Ohio System before any new or incremental EE. It shows the relationship between Total Energy and the annual internal Summer Peak, before EE.

YEAR	LOAD FACTOR
2006	58.5%
2007	55.4%
2008	62.2%
2009	63.8%
2010	58.3%
2011	55.8%
2012	55.8%
2013	56.5%
2014	56.7%
2015	56.9%
2016	57.1%
2017	57.1%
2018	57.2%
2019	57.2%
2020	57.2%
2021	57.1%

SECTION IV - DUKE ENERGY OHIO 2011 RESOURCE PLAN

A. EXECUTIVE SUMMARY

1. Overview

Duke Energy Ohio, Inc., (Duke Energy Ohio or Company) has both a legal obligation and a corporate commitment to meet the electricity needs of its customers in a way that is affordable, reliable, and clean. Planning and analysis helps the Company achieve this commitment to customers. Duke Energy Ohio utilizes a resource planning process to identify the best options by which to serve customers in the future. The process incorporates both quantitative analysis and qualitative considerations. For example, quantitative analysis provides insight on future risks and uncertainties associated with energy efficiency (EE) impacts, fuel and energy and capacity costs, and renewables. Qualitative perspectives, such as the importance of fuel diversity, the Company's environmental profile, and the stage of technology deployment are also important factors to consider as long-term decisions are made regarding existing and new resources. The end result is a resource plan that serves as an important tool to guide the Company in making business decisions to meet customers' near-term and long-term electricity needs.

The overall objective of the resource planning process is to develop a robust and reliable economic strategy for meeting the needs of customers in a very dynamic and uncertain environment. Uncertainty always plays a role in the planning process and can normally be expected to be a concern when dealing with factors such as emerging environmental regulations, load growth or decline, and the pricing of fuel and market products. This Integrated Resource Plan (IRP) demonstrates a need for additional generation in the near future, but Duke Energy Ohio does not have any immediate plans to construct new generation in Ohio due to the lack of certainty under Ohio law in respect of the timely and adequate recovery of specific construction-related costs. Therefore, Duke Energy Ohio submits that, despite a need for additional generation, it is not requesting that the Public Utilities Commission of Ohio (Commission) certify that a need for newly used and useful generation exists as a disposition of this case.

The challenge in resource planning is to create an economical mix of existing and new resources that will be capable of serving uncertain capacity and energy needs while meeting Amended Substitute Senate Bill 221 (SB 221) resource requirements in the face of new and evolving environmental regulations. Two major changes in the 2011 Resource Plan from the 2010 Resource Plan are, first, the expectation of acceleration of the retirement date of all six units at the WC Beckjord Station (Beckjord) to 2015 and, second, the regulatory construct in which Duke Energy Ohio proposes to operate for the foreseeable future.

The accelerated retirement of Beckjord is driven primarily by the recently proposed United States Environmental Protection Agency (EPA) Utility Maximum Achievable Control Technology (MACT) rule. The MACT rule is expected to be finalized in November 2011, with required control technologies to be installed by January 1, 2015. Other emerging environmental regulations that also impact the retirement decision include the Coal Combustion Residuals (CCR) rule and the new Sulfur Dioxide (SO_2), Cross State Air Pollution Rule (CSAPR), Particulate Matter (PM) and Ozone National Ambient Air Quality standards. The anticipated retirement of the Beckjord units causes a significant incremental capacity need that likely will be realized in the 2015 period and thus places the emphasis of this resource plan on how to best meet this need.

This IRP also considers the proposed Electric Security Plan (ESP) regulatory construct as filed by Duke Energy Ohio in its recent Standard Service Offer (SSO) filing in Case No. 11-3549-EL-SSO. In this construct, all Duke Energy Ohio customers will have their capacity needs met with legacy Duke Energy Ohio resources, market purchases and potentially new resources, while the energy needs of those customers are supplied either by successful competitive suppliers in energy auctions or competitive retail electric service (CRES) providers. Further, under the proposed ESP framework, all Duke Energy Ohio's customers will share in the profits from the dedicated resources.

2. Planning Process Results

Given the numerous uncertainties and assumptions described above, the Company believes the most prudent approach is to create a plan that is robust under various possible future scenarios. At the same time, the Company must maintain its flexibility to adjust to evolving regulatory, economic, environmental, and operating circumstances.

The dedication of and investments in the Company's legacy generating assets, along with sharing in the profits these assets accrue from the energy market, was compared to securing the needed capacity from the market at PJM clearing prices. The ten year analysis indicates that the continued dedication and investments in the existing legacy generation, as proposed by the Company, is preferred to reliance on the PJM capacity market over the long-term. This analysis is dependent upon the ESP construct proposed by the Company which itself rests upon a non-bypassable charge for capacity.

The planning process identified two portfolios, shown below, that would ensure reliable service in an optimized manner to meet customers' needs for reliable, economic capacity and energy, as well as the alternative energy resource (AER) requirements. Both scenarios include dedication of, and investment in, the Company' existing generating assets and compliance with SB 221's requirements regarding AER and EE.

- Portfolio 1 (Combustion Turbine Portfolio (CT Portfolio)) – Meet capacity needs through market capacity purchases in the short term that will be met through the Duke Energy Ohio Fixed Resource Requirement (FRR) plan, with a longer-term option to meet capacity needs through the purchase of peaking capacity from a third party or a Duke Energy Ohio-owned peaking resource.

- Portfolio 2 (Combined Cycle/Combustion Turbine Portfolio (CC/CT Portfolio)) - Meet capacity needs through market capacity purchases in the short term that will be met through the Duke Energy Ohio FRR plan with a longer term option to meet capacity needs through the purchase of intermediate capacity or a Duke Energy Ohio-owned intermediate resource.

These portfolios were evaluated to determine which would better to meet both the capacity and energy needs of the Company's customers over the IRP planning horizon. While the two portfolios have similarities, the CC/CT Portfolio reduces reliance on peaking resources and increases the diversity in the resource mix. New CC intermediate generation is approximately 30% more efficient than new CT with the flexibility to operate over a broader range of capacity factors. It provides fuel diversity and acts as a price hedge if natural gas prices are lower than projected or if coal prices are significantly higher than projected in the future.

The IRP modeling results indicate that there is no significant difference in the results between the two portfolios analyzed under base assumptions. In other words, the model indicates that customers are indifferent between meeting future, incremental capacity needs with peaking or intermediate gas resources. However, in the higher fuel price sensitivity, the CC/CT Portfolio was more beneficial for customers. In addition, given the increased flexibility of CC generation as compared to CT generation, meeting a portion of the capacity need described in the CC/CT Portfolio with CC is preferred. As the future regulatory environment continues to unfold, it will impact how Duke Energy Ohio can best meet its future capacity needs. Monitoring the regulatory environment and evaluating the possible impacts to Duke Energy Ohio generating assets will be a primary focus for the Company in 2011, prior to making any definitive long-term plans to meet existing and incremental capacity needs.

Based on the results discussed above, the resource planning process indicates that the optimal resource plan for Ohio for the short-term consists of the ongoing operation of, and investment in, the legacy assets and securing capacity in the near-term through capacity market purchases.,. In addition to the continued operation of, and investment in, the legacy assets, longer-term options include building or purchasing intermediate generation over the next ten years. The option to build or purchase intermediate generation to offset some of the capacity need would reduce reliance on the capacity market and increase operational flexibility with consideration of construction lead times, and prevailing market prices. The IRP reflects meeting renewable resource requirements through a balanced approach of Renewable Energy Credit (REC) only purchases and securing energy/RECs through new, Company-owned renewable resources or contracts with third party renewable facilities. The Company's 2011 Resource Plan, shown in Table 4 A.1 below, reflects the addition of annual short-term capacity purchases and the option for a Duke Energy Ohio-owned or purchased intermediate facility, as well as the addition of renewable resources. The ongoing operation of, and investment in, the legacy assets, is not reflected in the table, but is an assumption.

Further details regarding the planning process, issues, uncertainties, and alternative plans are presented and discussed in the following sections to comply with Commission's Rule 4901:5-5-06, Ohio Administrative Code (O.A.C.). For further guidance on the location of information required pursuant to Rule 4901:5-5-06, O.A.C compliance, please refer to the cross-reference table in Appendix 4 B.

Table 4 A.1

(Table Redacted)

B. INTRODUCTION

Resource planning is about charting a course for the future in an uncertain world. Arguably, the planning environment is more dynamic than ever. A few of the key uncertainties include, but are not limited to:

- Load Forecasts: How elastic is the demand for electricity? Will environmental regulations such as federal carbon regulation result in higher costs of electricity and, thus, lower electricity usage? Can a highly successful energy efficiency program flatten or even reduce demand growth? At what pace will recovery from the current economic conditions affect the demand for electricity? What will Duke Energy Ohio's generation (*i.e.,* capacity and energy) obligation be from year to year? How can Duke Energy Ohio ensure that it has adequate resources to meet customer needs in this uncertain environment?
- Federal Carbon Regulation: What type of federal carbon legislation will be passed? Will it be industry-specific or economy-wide? Will it be a "cap-and-trade" system or in the form of a Clean Energy Standard? If legislation is not passed, how will the EPA regulations be implemented?
- Renewable Energy: Can Duke Energy Ohio secure sufficient renewable energy resources to meet its obligations under SB 221? Can the 25% AER requirement by 2025 be met with renewables alone? What impact would significant amounts of renewables have on system stability? Will a federal standard be set?
- Demand Side Management (DSM) and Energy Efficiency: Can DSM and EE deliver the anticipated capacity and energy savings reliably? Are customers ready to embrace EE? Will investments in DSM and EE be treated equally with investments in a generating plant?

- Gas Prices: What is the future of natural gas prices and supply? To what degree will enhanced natural gas recovery techniques open up new reserves and lower prices in the long term in the United States?
- Coal Prices: What is the future of coal prices and supply? What impact will increased regulatory pressure on the coal mining industry have on availability and price?

Duke Energy Ohio's resource planning process seeks to identify what actions the Company must take to ensure a safe, reliable, reasonably-priced supply of electricity for its customers regardless of how these uncertainties unfold. The planning process considers a wide range of assumptions and uncertainties and develops a resource plan and an action plan that preserves the options necessary to meet customers' needs. It is important to note that this resource plan has a limited life in a period of dynamic change. In essence, plans require constant adjustments to reflect the changing environment. The process and resulting conclusions for the current plan are discussed in this document.

The objective of the 2011 Duke Energy Ohio Resource Plan is to outline a strategy to supply electric services over a long-term planning horizon in a reliable, efficient, and economical manner. The proposed resource plan includes the specific AER and EE resource requirements as set forth by SB 221. Beyond the scope of the proposed plan, additional discussion is provided on the impact of AER requirements beginning in 2024. The integrated modeling approach of the resource plan incorporates forecasted electric loads, existing generating resources, potential traditional supply-side resources, renewable resources, and EE targets.

C. RESOURCE PLANNING PROCESS

The development of the resource plan is a multi-step process involving these key planning functions:

- Preparation of the electric load forecast.
- Consideration of the impacts of anticipated or pending regulations or events on existing resources.
- Identification of electric EE, renewable, and advanced energy resource options to the levels required by SB 221.
- Identification and economic screening for the cost-effectiveness of supply-side resource options.
- Integration of the EE, renewable, and supply-side options with the existing system and electric load forecast to develop potential resource portfolios to meet the desired reserve margin criteria.
- Performance of detailed modeling of potential resource portfolios to determine the resource portfolio that exhibits the lowest cost (*i.e.*, lowest net present value of costs) to customers over a wide range of alternative futures.
- Evaluation of the ability of the selected resource portfolio to minimize price and reliability risks to customers.

Many of these steps are influenced by or required because of the uncertainty factors presented in the Introduction section.

D. PLANNING ASSUMPTIONS

Preparing a resource plan that addresses the issues and uncertainties presented in the Executive Summary and Introduction requires the utility to develop planning assumptions for a variety of inputs including a forecast of future energy usage, current generation resource portfolio operating assumptions, future environmental regulation impacts and the expectations to meet future legislative requirements such as the comprehensive SB 221. The major planning assumptions used for the development of this plan are presented below, followed by further discussion detail.

- **Load Forecast** – Under the proposed ESP, Duke Energy Ohio has responsibility for meeting the capacity needs of all Duke Energy Ohio customers. Thus, the projected peak load for all Duke Energy Ohio customers will be used for the IRP analysis. In addition, a plus and minus 10% load in each hour of the forecast was developed for sensitivity analysis.
- **Reserve Margin** - To ensure an adequate and reliable source of electricity for customers, Duke Energy Ohio must plan to have sufficient resources to meet customer's need, while taking into consideration that load can be higher than forecasted or generating units may be unavailable due to scheduled or unscheduled outages. As a result, a target planning reserve margin is established as a reliability criteria in planning. Since Duke Energy Ohio will be a Fixed Resource Requirement ("FRR") entity when it transfers to PJM, PJM will establish the reliability requirement. The reliability requirement for an FRR entity for planning year 2011/2012 is 15.3
- **Retirements** - Due to the probable implementation of new environmental regulations, the development of the resource plan assumes the retirement of the six Beckjord coal-fired units (859 MW) at the end of 2014.
- **Fuel Cost** - Fuel is the largest cost component in estimating production costs. This plan is developed using a combination of observed market prices that transition to a long-term fundamental outlook as a base assumption. Lower and higher fuel pricing

impacts are investigated through sensitivity analyses using cost adjustments of -25% for a low fuel cost scenario and + 50% for coal and +30% for gas costs for a high fuel cost scenario.

- **Senate Bill 221 Energy Efficiency** - SB 221 EE and peak load reduction goals will be met over the next ten years with considerations for full implementation by 2025.
- **Renewables** - SB 221 renewable energy requirements for solar and non-solar will be met through a balanced combination of REC purchases and new wind, solar, and biomass resources.
- **Transmission** - Duke Energy Ohio will operate within PJM consistent with its intention to transfer the Duke Energy Ohio transmission assets from the MISO to the PJM regional transmission organization effective January 1, 2012.
- **Carbon** - Duke Energy Ohio has established a CO_2 price curve beginning in 2016 to represent the potential for future federal climate change legislation. The CO_2 prices that Duke Energy is utilizing are associated with proposed and debated legislation, including H.R. 2454 – the American Clean Energy and Security Act of 2009, which passed the U.S. House of Representatives on June 26, 2009. The prices utilized in the 2011 Resource Plan represent the lower end of the range of prices that were estimated in proposed legislation.
- **Energy and Capacity Market Prices** – Duke Energy Corporation annually develops forecasts of fundamental prices for commodities, based on expectations of environmental regulations, including greenhouse gas regulation. For the purposes of the 2011 Duke Energy Ohio Resource Plan, observable market prices were used through

2015, switching to market fundamental prices in 2016. In addition, the energy prices were adjusted for the impacts of the high and low fuel cost sensitivities.

E. EXISTING RESOURCES AND ANTICIPATED CHANGES

1. Existing Generation System Description

The total installed net summer generation capability owned by Duke Energy Ohio is 3,894 Megawatts (MW). This capacity consists of 3,514 MW of coal-fired steam capacity, 136 MW of natural gas-fired peaking capacity, and 244 MW of oil-fired peaking capacity. The steam capacity consists of fifteen coal-fired units located at six stations. The peaking capacity consists of eight oil-fired CT units located at two stations, and four natural gas-fired CTs located at one station. Ten of the fifteen steam units are jointly owned. Table 4 E.1 is a listing of the jointly-owned units, ownership percentages, and summer capacity:

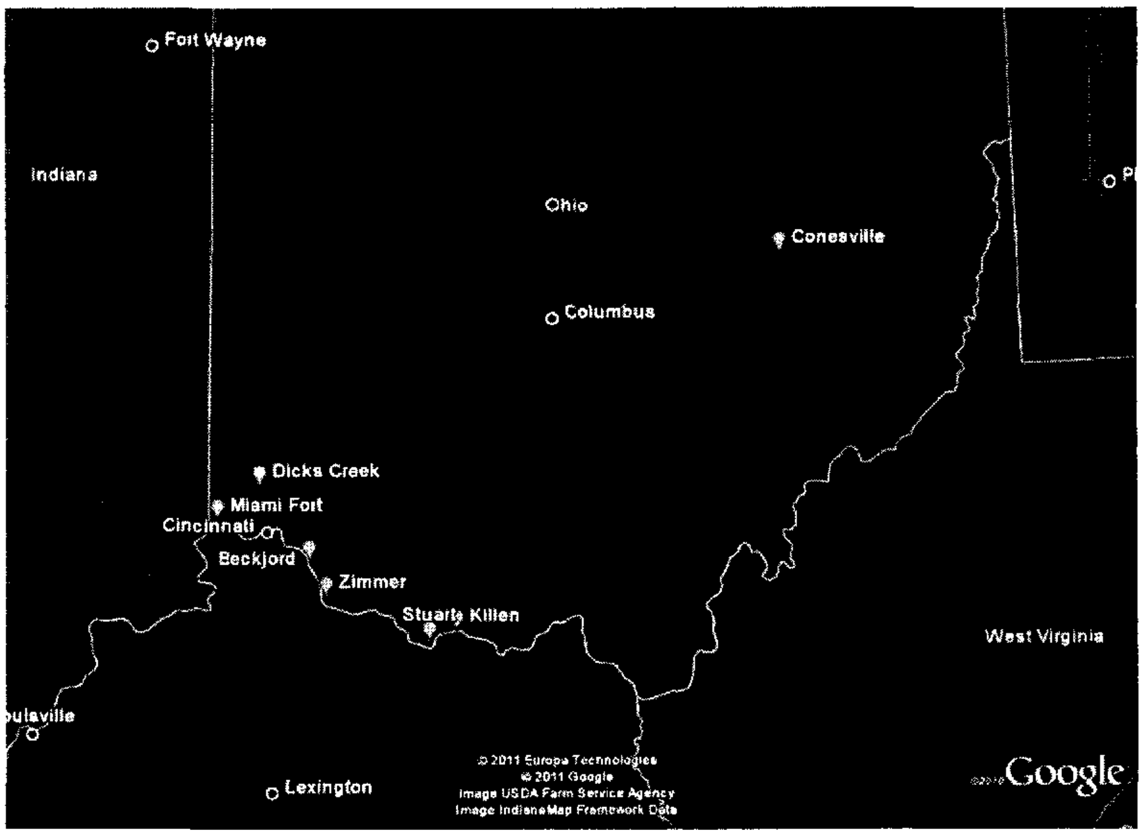
Table 4 E.1

Jointly Owned Units, Percentages, and Summer Capacity

Plant	% Ownership	MWs
Zimmer Unit 1	46.5%	605
Miami Fort Unit 7	64%	320
Miami Fort Unit 8	64%	320
Conesville Unit 4	40%	312
Stuart Unit 1	39%	225
Stuart Unit 2	39%	225
Stuart Unit 3	39%	225
Stuart Unit 4	39%	225
Killen Unit 2	33%	198
Beckjord Unit 6	37.5%	155
Total		2,810

Station locations are shown on Map 4 E.1 on the following page.

Map 4 E.1 Duke Energy Ohio Generation Station Locations



The largest coal-fired unit on the Duke Energy Ohio system is Zimmer Unit 1, rated at 1300 MW total, or 605 MW Duke Ohio ownership share. The smallest coal-fired units on the system are Beckjord Units 1 and 2, each rated at 94 MW. The CT peaking units on the Duke Energy Ohio system range in size from 14 MW (Miami Fort 3-6 and Dicks Creek 3) to 92 MW (Dicks Creek 1).

Further information on existing generating facilities is contained in PUCO Forms FE-R3 and FE-R4 as shown in Appendix A.

2. Fuel Supply and Pricing

The Duke Energy Ohio system utilizes diverse fuel sources to generate energy to serve its customers. These fuels include coal, natural gas, and oil. Furthermore, the market encompasses an even wider diversity of technology types and fuels to which the Company has access via purchased power.

Although the majority of the energy generated by Duke Energy Ohio is currently derived from coal, the actual amount of coal consumed is determined by the forward market prices for power, fuel (coal), and emission allowances. Specifically, Duke Energy Ohio uses an approach for commercial risk management, including fuel procurement, best described as active management. The benefits of active management are that Duke Energy Ohio makes rational economic decisions based upon the available market prices of fuel, power, and emission allowances and thus reduces market risk and volatility to consumers.

Electricity generated from burning coal serves approximately 98% of Duke Energy Ohio's total electric needs. The cost of coal is the most significant element in the cost of electric production. The goal of Duke Energy Ohio with respect to coal procurement is threefold. First, Duke Energy Ohio seeks to provide a reliable supply of coal in quantities sufficient to meet the generating requirements of the entire portfolio. Second, Duke Energy Ohio seeks to work closely with the stations, operations, and engineering groups to evaluate coal compatibility with environmental regulations and alternate suppliers. Finally, Duke Energy Ohio seeks to procure coal at the lowest reasonable cost. Duke Energy Ohio plans to attempt to purchase coal contemporaneously with the auction, and then actively manage the coal position as part of the portfolio.

To ensure fuel supply quality and reliability, Duke Energy Ohio purchases coal from three regions (Illinois Basin, Northern Appalachia & Central Appalachia) and ensures that potential counterparties are qualified based on coal quality and creditworthiness. Duke Energy Ohio buys and burns two types of coal (*i.e.*, low sulfur and high sulfur under various term contracts. Low sulfur coal is easily acquired via the liquid Over-The-Counter (OTC) or broker market where its price is easily discernable and its characteristics are standardized. High sulfur coal, which is purchased for units that have installed pollution control equipment, is unique given its characteristics (*e.g.*, BTU content, chlorine, ash fusion temperature, iron) and requires a greater level of negotiations with a smaller group of suppliers than does low sulfur coal. Duke Energy Ohio maintains stockpiles of coal at each station to guard against short-term supply disruptions, with a goal of having a minimum of 15 days with a target of 20 to 30 day supply (at full burn rate) on site, depending on economic and logistical conditions.

Duke Energy Ohio purchases natural gas on a day-ahead basis for the gas-fired peaking units when the units have been or are expected to be cleared in the day-ahead market. The natural gas purchased for the peaking units is a delivered product (*e.g.*, CGE City gate) and does not require the purchase of pipeline transportation capacity. Duke Energy Ohio buys fuel oil on a contractual basis. The pricing is based on the lower of the posted Oil Price Information Service (OPSI) price or the contract price. Duke Energy Ohio monitors oil pricing and makes purchases based on a combination of inventory levels and expected prices.

The fuel price assumptions utilized to develop the resource plan represent a combination of observed market prices and the long-term fundamental outlook developed for the Company by Wood McKenzie. The Company utilizes its internal subject matter experts to review and validate the assumptions and study results provided by Wood McKenzie. The Company typically uses current market prices where there is an observable market to represent the near term (first 3 to 5 years) and then transitions to the long-term fundamentals for the balance of the study period. The prices used for natural gas and fuel oil are based on a combination of the New York Mercantile Exchange (NYMEX) forward curve and the Wood McKenzie long-term fundamental outlook.

3. Maintenance and Availability

The existing generation unit unplanned outage rates used for planning purposes were derived from the historical Generating Availability Data System (GADS) data. Table 4 E.2 lists the current forced outage rates being used for modeling purposes:

Table 4 E.2

Coal Unit	Forced Outage Rate	Gas Turbine	Forced Outage Rate
Beckjord Unit 1	17%	Beckjord GT Unit 1	10%
Beckjord Unit 2	17%	Beckjord GT Unit 2	10%
Beckjord Unit 3	17%	Beckjord GT Unit 3	10%
Beckjord Unit 4	12%	Beckjord GT Unit 4	10%
Beckjord Unit 5	17%	Dicks Creek GT Unit 1	10%
Beckjord Unit 6	15%	Dicks Creek GT Unit 2	10%
Conesville Unit 4	8%	Dicks Creek GT Unit 3	10%
Killen Unit 1	7%	Dicks Creek GT Unit 4	10%
Miami Fort Unit 7	10%	Dicks Creek GT Unit 5	10%
Miami Fort Unit 8	11%	Miami Fort GT Unit 3	20%
Zimmer Unit 1	9%	Miami Fort GT Unit 4	20%
		Miami Fort GT Unit 5	20%
		Miami Fort GT Unit 6	20%

Planned outages were based on maintenance requirement projections as discussed below. This resource plan assumes that Duke Energy Ohio's existing generating units generally will continue to operate at their present availability and efficiency (heat rate) levels. A comprehensive maintenance program for generating assets is important in providing reliable, low-cost service. The following outlines the general guidelines governing the preparation of a planned outage schedule for existing units operated by Duke Energy Ohio. It is anticipated that future units will be governed by similar guidelines.

Scheduling Guidelines for Duke Energy Ohio Units:

(1) Major maintenance (turbine overhauls) on base load units 500 MWs and larger is performed at eight- to twelve-year intervals. Major boiler maintenance repairs and

replacements are performed in conjunction with major turbine overhauls. General boiler inspections, turbine valve inspections, and balance of plant repairs are performed on two or three year intervals.

(2) Major maintenance on intermediate-duty units between approximately 90 MWs and 500 MWs is performed at eight- to fifteen-year intervals. General boiler inspections, turbine valve inspections, and balance of plant repairs are performed on two-year intervals.

(3) Maintenance on simple cycle peaking units 14 MWs to approximately 90 MWs are time predictive with preventive maintenance based primarily on routine bore scope inspections. These inspections provide the opportunity to inspect the unit without disassembling the unit. The bore scope inspections provide sufficient data required for the scheduling of major maintenance.

In addition to the regularly scheduled planned outages for all unit groups "availability outages" are performed. Availability outages are unplanned, opportunistic, proactive, short-duration maintenance outages aimed at addressing peak period reliability. At appropriate times, when market conditions allow, units may be scheduled out of service for generally short periods of time to perform maintenance activities. This enhancement in maintenance philosophy reflects the focus on having generation available during peak periods.

4. Anticipated Changes to Existing Generation

In general, the existing generation system is expected to be able to maintain current operational characteristics with normal expenditures to ensure continued reliability. The exception to this statement relates to the age and condition of the Beckjord units and the anticipated impacts of environmental rulemaking.

Beckjord units 1, 2 and 3 continue to appear on the existing generation list; however, these units were suspended from operation due to operational economics on March 1, 2010, and placed in mothballed status for up to a period of three years. On November 18, 2009, Duke Energy Ohio submitted MISO Attachment Y (Notification of Potential Generation Resource/SCU Change of Status) of the MISO tariff requesting a suspension of operation for the three units effective March 1, 2010. On February 19, 2010, MISO notified Duke Energy Ohio that the units were approved to be suspended from operation after reviewing the power system reliability impacts under the MISO tariff. If the units remain mothballed after the three-year period, new interconnection and deliverability studies will be required for the units return to service. Duke Energy Ohio does not expect conditions to change the economics of this decision.

There are multiple new air, water, and waste EPA regulatory requirements with anticipated compliance requirements between 2015 and 2018. Analysis indicates that installing the necessary control equipment to meet the new rules should be economically justified for all existing units except for those at Beckjord. Given those results, it was assumed that all six of the Beckjord coal units would be retired at the end of 2014. These retirement assumptions are used for planning purposes to recognize potential new environmental regulations rather than specific unit firm commitments.

Prior to any Beckjord retirements, Duke Energy Ohio will need to submit to the appropriate transmission operator a request and receive approval to suspend the operations of these units, similar to what Duke Energy Ohio did for Beckjord units 1 through 3.

F. ENVIRONMENTAL REGULATIONS

Duke Energy Ohio is required to comply with numerous state and federal regulations. In addition to current programs and regulatory requirements, several new regulations are in various stages of implementation and development that will impact operations for Duke Energy Ohio in the coming years. Table 4 F.1 summarizes EPA's current regulatory schedule and Table 4 F.2 provides the anticipated control requirements provided at the end of this discussion. Some of the major rules include:

1. Clean Air Interstate Rule (CAIR) and Replacement CAIR – the Transport Rule

The EPA finalized its Clean Air Interstate Rule (CAIR) in May 2005. The CAIR limits total annual and summertime NO_X emissions and annual SO_2 emissions from electric generating facilities across the Eastern U.S. through a two-phased cap-and-trade program. Phase 1 began in 2009 for NO_X and in 2010 for SO_2. In December 2008, the United States District Court for the District of Columbia issued a decision remanding CAIR to the EPA, allowing CAIR to remain in effect as an interim solution until EPA develops new regulations.

In August 2010, EPA published a proposed replacement rule for CAIR, known as the Transport Rule (TR). The TR was finalized in July 2011 and is now called the Cross State Air Pollution Rule (CSAPR). In the CSAPR, EPA established state-level annual SO_2 caps and annual and ozone season NO_X caps that would take effect in 2012. Further CSAPRs are also expected that would incorporate the more stringent National Ambient Air Quality Standards (NAAQS), that are in varying stages of development and are discussed later in this document.

2. Utility Boiler Maximum Achievable Control Technology (MACT

In May 2005, the EPA issued the Clean Air Mercury Rule (CAMR). The rule established mercury emission-rate limits for new coal-fired steam generating units. It also established a nationwide mercury cap-and-trade program covering existing and new coal-fired power units.

In February 2008, the United States Court of Appeals for the District of Columbia issued its opinion, vacating the CAMR. EPA has begun the process of developing a rule to replace the CAMR. The replacement rule, the Utility Boiler MACT, will create emission limits for hazardous air pollutants (HAPs), including mercury. Duke Energy Ohio completed work in 2010 as required for EPA's Utility MACT Information Collection Request (ICR). The ICR required collection of mercury and HAPs emissions data from numerous Duke Energy Ohio facilities for use by EPA in developing the MACT rule. EPA issued a proposed MACT rule in March 2011 and expects to finalize it by the end of 2011. The MACT rule is expected to require compliance with new emission limits by 2015. [redacted]

3. National Ambient Air Quality Standards (NAAQS

a. 8 Hour Ozone Standard

In March 2008, EPA revised the 8 Hour Ozone Standard by lowering it from 84 to 75 parts per billion (ppb). In September of 2009, EPA announced a decision to reconsider the 75 ppb standard in response to a court challenge from environmental groups and their own belief that a lower standard was justified. A proposed rule was issued by the EPA in January 2010 in which EPA proposed to replace the existing 84 ppb standard with a new standard between 60 and 70 ppb. EPA must finalize the rule by the end of July 2011. State Implementation Plans (SIP) will be due by the end of 2014, with attainment dates for most areas possibly in the 2017 to 2018 timeframe. Any new controls may have to be in place prior to the 2017 ozone season. Until the states develop implementation plans, only an estimate of the potential impact to Duke Energy Ohio's generation can be developed. With a standard in the 60 to 70 ppb range, the installation of the best performing NO_X controls such as Selective Catalytic Reduction (SCR) is anticipated. All Duke Energy Ohio units, with the exception of Beckjord, currently have SCRs installed, positioning Duke Energy Ohio assets well should this standard become reality.

b. SO_2 Standard

In November 2009, the EPA proposed a rule to replace the current 24-hour and annual primary SO_2 NAAQS with a 1-hour SO_2 standard. A new 1-hour standard of 75 ppb was finalized in June 2010. States with non-attainment areas will have until January 2014 to submit their SIPs. Initial attainment dates are expected to be the summer of 2017 with any required controls in place by late-2016. EPA will base its nonattainment designations on monitored air quality data as well as on dispersion modeling. All Ohio power plants will be modeled by the state and are therefore potential targets for additional SO_2 reductions, even if there is no monitored potential to exceed the standard.

In addition, EPA is proposing to require states to relocate some existing monitors and to add new monitors. While these monitors will not be used by EPA to make the initial nonattainment designations, they will play a role in identifying possible future nonattainment areas.

All Duke Energy Ohio coal units with the exception of Beckjord currently have Flue Gas Desulfurization (FGDs) installed.

4. Global Climate Change

The EPA has been active in the regulation of greenhouse gases (GHGs). In May 2010, the EPA finalized what is commonly referred to as the Tailoring Rule. This rule sets the emission thresholds to 75,000 tons/year of CO_2 for determining when a source is potentially subject to Prevention of Significant Deterioration (PSD) permitting for greenhouse gases. The Tailoring Rule went into effect beginning January 2, 2011. Being subject to PSD permitting requirements for CO_2 will require a Best Available Control Technology (BACT) analysis and the application of BACT for GHGs. BACT will be determined by the state permitting authority. Since it is not known if, or when, a Duke Energy Ohio generating unit might undertake a modification that triggers PSD permitting requirements for GHGs and exactly what might constitute BACT, the potential implications of this regulatory requirement are unknown.

On December 23, 2010, EPA entered into a proposed settlement agreement to issue New Source Performance Standards for GHG emissions from new and modified fossil fueled electric generating units (EGUs) and emission guidelines for existing EGUs that do not undergo a modification. The agreement calls for regulations to be proposed by July 26, 2011, and to be finalized by May 26, 2012. Passage of any federal climate change legislation is not expected until 2013 or later.

5. Water Quality

a. CWA 316(b) Cooling Water Intake Structures

Federal regulations in Section 316(b) of the Clean Water Act may necessitate cooling water intake modifications for existing facilities to minimize impingement and entrainment of aquatic organisms. All Duke Energy Ohio facilities are potential affected sources under that rule. EPA issued a proposed rule in March 2011 with a final rule planned to be issued in July 2012. With an assumed timeframe for compliance of three years, implementation of selected technology is possible as early as mid-2015.

Most likely, regardless of water body type, performance standards to achieve 80% reduction of impinged fish and 80% reduction of fish entrainment will be required. Provided that performance requirements can be met, retrofits may involve intake screen modifications only. However, failure to meet these performance standards or a more stringent regulation could require use of a closed-cycle cooling system.

b. Steam Electric Effluent Guidelines

In September 2009, EPA announced plans to revise the steam electric effluent guidelines. In order to assist with development of the revised regulation, EPA issued an ICR to gather information and data from all coal-fired generating facilities. The ICR was completed by the Company and submitted to EPA in October 2010. The regulation is to be technology-based, in that limits are based on the capability of technology. The primary focus of the revised regulation is on coal-fired generation, thus the major areas likely to be impacted are FGD wastewater treatment systems and ash handling systems. The EPA may set limits that dictate certain FGD wastewater treatment technologies for the industry and may require the installation of dry ash handling systems for both fly and bottom ash. Following review of the ICR data, EPA plans to issue a draft rule in mid-2012 and a final rule around March 2014. After the final rulemaking, effluent guideline requirements will be included in a station's National Pollutant Discharge Elimination System (NPDES) permit renewals. Thus, requirements to comply with NPDES permit conditions may begin as early as 2017 for some facilities. The deadline to comply will depend upon each station's permit renewal schedule.

6. Waste Issues (Coal Combustion Byproducts)

Following Tennessee Valley Authority's Kingston ash dike failure in December 2008, EPA began to assess the integrity of ash dikes nationwide and to begin developing a rule to manage coal combustion byproducts (CCBs). CCBs include fly ash, bottom ash and FGD byproducts (gypsum). Since the 2008 dike failure, numerous ash dike inspections have been completed by EPA and an enormous amount of input has been received by EPA as it developed proposed regulations. On June 21, 2010, EPA issued its proposed rule regarding CCBs. The EPA rule refers to these as CCRs. The proposed rule offers two options: 1) a hazardous waste classification under Resource Conservation Recovery Act (RCRA) Subtitle C; and 2) a non-hazardous waste classification under RCRA Subtitle D, along with dam safety and alternative rules. Both options would require strict new requirements regarding the handling, disposal and potential re-use ability of CCRs. The proposal will likely result in more conversions to dry handling of ash, more landfills, closure of existing ash ponds and the addition of new wastewater treatment systems. Final regulations are expected in 2012. EPA's regulatory classification of CCRs as hazardous or non-hazardous will be critical in developing plans for handling CCRs in the future. Compliance with new regulations is projected to begin around 2017.

Table 4 F.1 Major Environmental Regulatory Issues Schedule

***Bold** Dates indicated in the Table are actual dates.

Regulation/Issue	Proposed Rule Date	Final Rule Date	Compliance Date	Notes
		Water		
316 (b)	**March 2011**	July 2012	Mid-Late 2015	316(b) - regulates cooling water intake requirements
Effluent Guidelines	July 2012	March 2014	Mid-2017	
		Air		
Transport Rule (TR)	**August 2, 2010**	Mid-2011	Starting 2012	
TR Phase II	Late 2011	Late 2012	2016/2017	To incl. Ozone NAAQS
Utility MACT	**March 2011**	November 2011	January 2015	
NAAQS - 8 hr. Ozone Std.	**January 6, 2010**	July 2011	Late 2017	NA Areas designated – July 2012
NAAQS PM Std.	Mid-2011	Mid-2012	Late-2018	NA Areas designated - 2014
NAAQS SO_2 Std.	**November 11, 2009**	**June 22, 2010**	Mid-2017	NA Areas designated - June 2012
		Waste		
Coal Combustion Residuals (CCRs)	**June 21, 2010**	2012	2017	
		Climate		
Greenhouse Gas Regulation – New Source Performance Standards	July 2011	May 2012	2015-2016	TR in effect **January 2, 2011** for PSD and Title V

Table 4 F.2 – Estimated Environmental Impact Summary (2012-2018)

(Table Redacted)

G. POOLING AND BULK POWER AGREEMENTS

At present, Duke Energy Ohio does not participate in any formal type of power pooling arrangement. However, Duke Energy Ohio is currently a member of the Midwest ISO. However Duke Energy Ohio will transition to the PJM Interconnection, Inc. (PJM) on 1/1/2012. Both MISO and PJM are FERC approved RTO's that administer markets for capacity, energy and ancillary services in addition to the independent provision of transmission service.

Duke Energy Ohio is directly interconnected with eight other balancing authorities: American Electric Power, Louisville Gas and Electric Energy, Ameren, Hoosier Energy, Indianapolis Power and Light, Northern Indiana Public Service Company, Vectren, and Duke Energy Indiana. PJM operate Ancillary Services Markets for their balancing authorities within the PJM, which are consolidated into a single PJM balancing authority.

Table 4 G.1 identifies Current Duke Energy Ohio full requirements contracts.

Table 4 G.1 Duke Energy Ohio Full Requirements Contracts

Wholesale Customer	Max Quantity of Energy/Capacity	Contract Expiration Date
[redacted] (OH)	[redacted] MW per hour	[redacted]

H. ENERGY EFFICIENCY/DSM PROGRAMS

In July 2008, in Case No. 08-920-EL-SSO, *et al.*, the Commission approved a Stipulation between Duke Energy Ohio and various intervenors that included a plan for

meeting EE and peak demand reduction requirements under SB 221. This plan included a portfolio that expanded existing programs and coupled them with a new regulatory mechanism called save-a-watt.

Within the ESP proposed by the Company in July 2008 was a three-year plan for supply and pricing of electric generation service. The plan requested recovery of costs for fuel used to generate electricity, wholesale electricity purchases, emission allowances, and federally mandated carbon costs. On December 17, 2008, the Commission approved the Stipulation submitted by the parties, including implementation of the proposed programs and the save-a-watt revenue recovery proposal for EE and peak demand reduction. The Company eliminated its demand side management rider and implemented a rider establishing the Company's save-a-watt program effective January 1, 2009. The Company began implementation of the programs in early January 2009. The ESP is in effect through December 31, 2011. Most of these programs were again reviewed a second time by the Commission in Case No. 09-1999-EL-POR and approved again for implementation by the Commission in an Order dated December 15, 2010.

1. Existing Programs

Under save-a-watt, the Company is reducing energy and demand on the Duke Energy Ohio system through the implementation of a broad set of EE programs. These programs fall into two categories for residential and non-residential customers: conservation EE programs and demand response programs that contain customer-specific contract curtailment options and other demand response programs such as Power Manager® and PowerShare®. The following are the current EE and Demand Response programs in place in Ohio:

a. Residential Programs

Smart $aver® Residential - Provides incentives to residential customers for installing energy efficient equipment. This program addresses the market barrier of higher upfront costs of high efficiency equipment. The program is available to residential customers served by Duke Energy Ohio. A third party is under contract to process customer applications and maintain a list of participating HVAC contractors and builders.

Residential Energy Assessment - Offers two energy assessment measures: 1) Personalized Energy Report (PER) ® and 2) Home Energy House Call. This program provides single family home customers with a customized report about their home and their energy practices. In addition, customers receive free Compact Fluorescent Light bulbs (CFLs) (both programs) and an Energy Efficiency Starter Kit (Home Energy House Call) as an incentive to participate in the program.

Energy Efficiency Education Program for Schools - Educates students about sources of energy and EE in homes and schools and provides them the ability to conduct an energy audit of their homes. This program will help homeowners identify efficiency savings, addressing the market barrier of a lack of customer recognition of savings opportunities. Energy Efficiency Starter Kits are provided free to homes where students complete a home energy survey. Additional CFL's are also provided if available sockets are identified in the survey.

Low Income Services - Provides assistance to low income customers through several measures. The upfront costs of high efficiency equipment are an especially difficult barrier for low income customers to overcome. The CFL portion of this program is available to any low income customer eligible for services provided by low income agencies who has not participated in this program within the past 36 months. The weatherization and refrigerator replacement portion of this program is available to any low income customer up to 200% of the federal poverty level who has not participated in this program within the past 10 years. For the CFL program, eligible customers will complete a survey with an assistance agency. The agency submits the report to the Company, and the customer will receive up to 12 CFLs. A third party will complete the weatherization/refrigerator replacement and will be paid by the Company.

Power Manager® - Provides financial incentives to residential customers that allow the company to cycle their outdoor A/C compressor remotely during peak energy periods between May and September when the load and/or marginal energy costs on Duke Energy Ohio's system reach peak levels. Participating customers of the Company who have a functioning outdoor A/C unit are eligible for the program.

Pilot Program – Home Energy Comparison Report - Piloted in 2010, the Home Energy Comparison Report provides a customer with a comparative usage data report for similar residences in the same geographic region. By identifying efficiency savings and educating customers, this program confronts the significant market barrier of customer awareness of potential savings. Participants receive periodic comparative usage reports along with specific recommendations to encourage energy saving behavior.

b. Non-Residential Programs

Smart $aver® Non- Residential - Provides prescriptive incentives for businesses to install high efficiency equipment. This program addresses the market barrier of higher upfront costs of high efficiency equipment. Major categories include lighting, motors, pumps, variable frequency drives (VFDs), food service and process equipment. The program is available to new or existing non-residential facilities served by Duke Energy Ohio. The incentive process is handled by a third party vendor.

Custom Rebate- Offers financial assistance to qualifying commercial, industrial and institutional customers (that have not opted out of the DSM Rider) to enhance their ability to adopt and install cost-effective electrical energy efficiency projects.

The Smart$aver®Non-Residential Custom Incentive program is designed to meet the needs of Duke Energy Ohio customers with electrical energy saving projects involving more complicated or alternative technologies, or those measures not covered by standard Prescriptive Smart$aver® incentives. The intent of the Smart$aver® Non-Residential Custom Incentive program is to encourage the implementation of energy efficiency projects that would not otherwise be completed without the Company's technical or financial assistance.

Unlike the Prescriptive Incentives, Custom Incentives do require pre-approval prior to the project implementation. Proposed energy efficiency measures may be eligible for Custom Incentives if they clearly reduce electrical consumption and/or demand.

PowerShare® - Represents Duke Energy Ohio's demand side management (or demand response) program geared toward Commercial and Industrial customers. The primary offering under PowerShare® CallOption provides customers with a variety of offers that are based on their willingness to shed load during times of peak system usage and/or high marginal energy cost conditions. These credits are received regardless of whether an event is called or not. Energy credits are also available for participation (shedding load) during curtailment events. The notice to curtail under these offers is between 6 hrs (emergency) and day-ahead (economic) and there are penalties for non-compliance during an event.

Table 4 H.1 lists information for the 2010 Save-a-watt programs.

Table 4 H.1 2010 save-a-watt Programs

Residential save-a-watt Programs			
Program	**Number of Participants/ Measures (1)**		**Annual Cost**
Residential Energy Assessments	9,617	$	1,998,976
Smart Saver® Residential Central Air Conditioner/Heat Pump	6,531	$	2,690,381
Smart Saver® Residential Compact Fluorescent Light	2,658,866	$	6,875,937
Low-Income Services	3,774	$	425,031
Energy Efficiency Education Program for Schools	3,920	$	857,935
Power Manager	33,413	$	2,967,675
Non Residential Save-A- Watt Programs			
Smart Saver® Non-Residential	275,531	$	5,510,145
Custom Rebate	17,309	$	1,441,462
PowerShare®	77	$	309,337
Total Annual Cost		**$**	**23,076,879**

(1) Participants/Measures are incremental for 2010 except for PowerShare and Power Manager which are cumulative.

Note: Table 4.H.1 does not include Participants/Measures or Annual Cost information for Pilot Program – Home Energy Comparison Report.

The annual costs for the 2010 programs, $23,076,879, are slightly less than the original projection of $24,047,482 for 2010. All energy efficiency programs are screened for cost-effectiveness. The projected incremental load impacts of existing programs, including the Save-a-watt program, were incorporated into the optimization process of the resource plan development.

The Company's measures and programs are analyzed by using DSMore, a financial analysis tool designed to evaluate the costs, benefits and risk of energy efficiency programs and measures. DSMore estimates the value of an energy efficiency measure at an hourly level across distributions of weather and/or energy costs or prices. By examining energy efficiency performance and cost effectiveness over a wide variety of weather and cost conditions, the Company is better positioned to measure the risks and benefits of employing energy efficiency measures in the same way traditional generation capacity additions are vetted, and further, to ensure that demand-side resources are compared to supply-side resources on comparable basis.

The analysis of energy efficiency cost-effectiveness has traditionally focused primarily on the calculation of specific metrics, often referred to as the California Standard tests: Utility Cost Test (UCT), Rate Impact Measure (RIM) Test, Total Resource Cost (TRC) Test, and Participant Test. DSMore provides the results of these tests for any type of energy efficiency program (demand response and/or energy conservation).

- The UCT compares utility benefits (avoided energy and capacity related costs) to utility costs incurred to implement the program such as marketing, customer incentives, and measure offset costs, but does not consider other benefits such as participant savings or societal impacts. This test compares the cost (to the utility) to implement the measures with the savings or avoided costs (to the utility) resulting from the change in magnitude and/or the pattern of electricity consumption caused by implementation of the program. Avoided costs are considered in the evaluation of cost-effectiveness based on the projected cost of power, and the projected cost of the utility's environmental compliance for known regulatory requirements. The cost-effectiveness analyses also incorporate avoided transmission and distribution costs and load (line) losses.
- The RIM Test, or non-participants test, indicates if rates increase or decrease over the long-run as a result of implementing the program.

- The TRC test compares the total benefits to the utility and participants relative to the costs of utility program implementation and costs to the participant. The benefits to the utility are the same as those computed under the UCT. The benefits to the participant are the same as those computed under the Participant Test (below), however, customer incentives are considered to be a pass-through benefit to customers. As such, customer incentives or rebates are not included in the TRC though some precedent exists in other jurisdictions to consider non-energy benefits in this test.
- The Participant Test compares the benefits to the participant through bill savings and incentives from the utility, relative to the costs to the participant for implementing the energy efficiency measure. The costs can include capital cost, as well as increased annual operating costs, if applicable.

The use of multiple tests can ensure the development of a reasonable set of DSM/EE programs and indicate the likelihood that customers will participate. It should also be noted that none of the tests described above include external benefits to participants and non-participants that can also offset the costs of the programs.

Table 4 H.2 summarizes the cost effectiveness results for current programs, respectively.

Table 4 H.2 Cost-Effective of Proposed Programs

Cost Effectiveness Test Results of Proposed Programs				
	Utility Test	TRC Test	RIM Test	Participant Test
RESIDENTIAL CUSTOMER PROGRAMS				
Residential Energy Assessments	2.46	2.44	1.08	210.25
Residential Smart $aver® Energy Efficiency	2.42	1.21	0.88	2.43
Low Income Services	2.19	2.19	0.79	NA
Energy Efficiency Education Program for Schools	2.69	2.69	0.94	NA
Power Manager	1.40	1.67	1.40	NA
NON-RESIDENTIAL CUSTOMER PROGRAMS				
Smart $aver® for Non-Residential Customers	3.81	2.20	1.27	2.83
Power Share ®	3.54	29.79	1.23	NA

2. Future Programs

The energy efficiency material presented thus far has been primarily focused on existing programs. However, both customer adoption rates and costs to achieve new energy efficiency measures remain uncertain over the long term. Market potential studies provide estimates of the level of energy efficiency that is realistically achievable by customers in the market place. A study of the market potential involves an assessment of the Technical Potential, the level achievable through application of all technically feasible technologies regardless of market or economic constraints, and the Economic Potential, a subset of the Technical Potential that can be acquired for less than the avoided cost of supply assuming 100% customer participation in all cost-effective energy efficiency programs. The Market Potential is a subset of the Economic Potential that reflects expected customer acceptance and adoption of energy efficiency measures.

The most recent market potential study, performed by a third party for Duke Energy Ohio in February 2009, yielded economic accomplishment potentials that indicated that the level of projected cost-effective energy efficiency accomplishments would not attain the level necessary to comply with the SB 221 requirements.

In order to achieve full compliance with SB 221 requirements, Duke Energy Ohio would need to exceed the estimated Economic Potential which, as stated above, assumes 100% customer participation in all cost-effective energy efficiency programs.

The results of the study do not impact the Company's stated goal of achieving the state mandates as long as economically achievable. However, it is important to note that even though a market potential study may indicate that a certain level of energy efficiency is economically achievable, the success of a program is ultimately driven by the adoption rate of the customers which is beyond the control of the utility.

Due to uncertainty, future programs will be guided by the experience gained through periods of testing and application. For now, EE mandates will be accomplished on an incremental basis by applying patterns of continued growth of existing programs, as well as development of new products over the next ten years. At this juncture, while the Company intends to pursue all cost-effective EE, based on the past market potential study, it is unclear whether or not there is sufficient cost-effective EE to enable the Company to fully comply with the SB 221 requirements.

Table 4 H.3 provides projected annual load impacts for an EE scenario that matches the SB 221 mandate levels.

Table 4.H.3
SB221 Scenario Load Impact Projections
Conservation and Demand-Side Management Programs

	Conservation Program Load Impacts				Demand-Side Mangement Program Impacts			Total
	MWh			Summer Peak MW	Summer Peak MW			Summer Peak MW
Year	Residential	Non-Residential	Total	Cumulative beginning 2011	Interruptible	Power Manager	Total	Total MW Impacts
2011	60,644	90,788	151,431	13	98	55	153	166
2012	140,314	182,694	323,008	39	106	59	164	203
2013	247,837	271,634	519,471	43	106	59	164	207
2014	378,627	359,909	738,536	68	106	59	164	232
2015	523,863	436,295	960,159	119	106	59	164	283
2016	645,875	538,264	1,184,139	147	106	59	164	311
2017	768,697	640,621	1,409,318	175	106	59	164	339
2018	891,533	743,009	1,634,542	203	106	59	164	367
2019	1,136,738	947,172	2,083,910	259	106	59	164	423
2020	1,380,701	1,150,126	2,530,827	314	106	59	164	478
2021	1,622,509	1,351,358	2,973,867	369	106	59	164	534

Table 4 H.4 provides projected annual energy impacts using the 2011 forecast.

Table 4.H.4
Development of SB 221 Case

	Spring 2011 Weather Normal Total Energy	Total Energy History and Forecast	Total Energy Adjusted for EE	Moving Avg Prior 3 Years	SB 221 Required EE Impacts	SB 221 Required EE Impacts	Cumulative EE Impacts	Cumulative EE Impacts adjusted for 2011 Start	Projected Cumulative Impacts
Year	MWH	MWH	MWH	MWH	%	MWH	MWH	MWH	MWH
2006	22,665,556	22,665,556							
2007	22,746,814	22,746,814							
2008	22,249,088	22,249,088							
2009	20,725,616	20,725,616		22,553,819	0.3%	67,661	67,661		292,830
2010	21,924,369	21,924,369		21,907,173	0.5%	109,536	177,197		603,585
2011	21,842,793	21,842,793	21,691,362	21,633,024	0.7%	151,431	328,628	151,431	755,016
2012	22,194,796	22,194,796	21,871,788	21,447,115	0.8%	171,577	500,205	323,008	926,593
2013	22,675,994	22,675,994	22,156,523	21,829,173	0.9%	196,463	696,668	519,471	1,123,056
2014	23,196,953	23,196,953	22,458,416	21,906,557	1.0%	219,066	915,734	738,536	1,342,121
2015	23,539,375	23,539,375	22,579,216	22,162,242	1.0%	221,622	1,137,356	960,159	1,563,744
2016	23,700,247	23,700,247	22,516,108	22,398,052	1.0%	223,981	1,361,336	1,184,139	1,787,724
2017	23,881,249	23,881,249	22,471,930	22,517,913	1.0%	225,179	1,586,516	1,409,318	2,012,903
2018	24,051,604	24,051,604	22,417,062	22,522,418	1.0%	225,224	1,811,740	1,634,542	2,238,127
2019	24,232,423	24,232,423	22,148,513	22,468,367	2.0%	449,367	2,261,107	2,083,910	2,687,495
2020	24,421,384	24,421,384	21,890,557	22,345,835	2.0%	446,917	2,708,024	2,530,827	3,134,412
2021	24,617,567	24,617,567	21,643,700	22,152,044	2.0%	443,041	3,151,065	2,973,867	3,577,452

Table 4.H.5 provides projected calculations of the achievement towards the peak benchmarks. It is expected that the peak load achievements will far exceed the benchmark requirements.

Table 4.H.5
Assessment of Peak Benchmark Achievements for the SB 221 Scenario

	Weather Normal and Forecasted Level of Peak Demand	Forecast Adjusted for EE and DR Impacts	Three Year Average	Benchmark Percentage	Benchmark Requirement	Cumulative Requirements	Adjusted to 2011 Cumulative Requirements	Projected Cumulative Impacts
Year	MW	MW	MW	%	MW	MW	MW	MW
2006	4,591							
2007	4,328							
2008	4,462							
2009	4,478		4,460	1.00%	45	45		97
2010	4,444		4,423	0.75%	33	78		176
2011	4,467	4,434	4,461	0.75%	33	111	33	255
2012	4,543	4,476	4,452	0.75%	33	145	67	292
2013	4,583	4,483	4,462	0.75%	33	178	100	297
2014	4,671	4,537	4,498	0.75%	34	212	134	321
2015	4,725	4,556	4,554	0.75%	34	246	168	373
2016	4,735	4,532	4,603	0.75%	35	281	203	400
2017	4,771	4,534	4,642	0.75%	35	315	238	428
2018	4,803	4,531	4,664	0.75%	35	350	273	456
2019	4,840	4,567					273	
2020	4,876	4,604					273	
2021	4,921	4,648					273	

I. FUTURE RESOURCES AND REQUIREMENT

Many potential resource options are available to meet future electricity needs. These resources include conventional generation technologies, demonstrated technologies with limited acceptance, renewable technologies, EE, and demand reduction programs. All of these resources were considered in the resource planning process and are discussed in this section in relation to their applicability to this plan.

1. Generation Technologies

Generation technologies are considered at several levels. The first is a screening level where the diverse mix of technologies and fuel sources are initially screened based on the following attributes:

- Technically feasible and commercially available in the marketplace
- Compliant with all federal and state requirements
- Long-term reliability
- Reasonable cost parameters

Potential technologies that pass initial screening are moved on to a quantitative system optimization and portfolio development phase.

2. Supply Side Resources

A. Overview

An assortment of supply-side resources was considered as potential alternatives to meet future incremental capacity and energy resource needs in addition to the existing legacy assets for the Ohio Resource Plan. Supply side resources selected in this process were used as potential resource alternatives in combination with renewable generation resources to develop an integrated resource plan to meet future customer resource requirements. Specific steps for selection of potential supply side options include:

- Technical Screening - The initial step in the supply-side screening process was a technical screening of the technologies to eliminate those that have technical limitations, commercial availability issues, or are not feasible in the Duke Energy Ohio service territory.
- Economic Screening – The technologies were screened using relative dollar per kilowatt-year versus capacity factor screening curves.

As a result, supply-side technologies that were commercially available and consistently cost effective were considered "Best in Class" within each technology type, such as simple cycle CT, CC, wind, and advanced coal/nuclear units. The largest practical sizes of each technology were primarily considered to include the lowest cost due to economies of scale. A diverse range of technology choices utilizing a variety fuels was considered including advanced nuclear, wind, Integrated Coal Gasification Combined Cycle (IGCC) with carbon sequestration, CTs, and CC units. Technologies representing each category of baseload, peaking and intermediate supply side resources were included to meet all potential customer resource needs.

Duke Energy Ohio has at least two options to procure needed traditional generation capacity, beyond that supplied from its existing system: 1) own generation; or 2) purchase capacity from the market. Estimating the cost of asset ownership or capacity purchases beyond the near term is an inexact science, but the cost of both should trend toward the marginal cost of building new capacity. For the purposes of this resource plan, the Company has represented any needed peaking or intermediate capacity as purchases based on the cost of building new CT or

CC capacity, respectively. Such an assumption gives the Company flexibility to make decisions to purchase short-term market capacity or build/purchase assets at the appropriate time, taking into consideration current market prices as well as a regulatory environment that provides a reasonable assurance to mitigate risk and provide for timely cost recovery. Duke Energy Ohio will regularly assess the future, near-term resource needs and make decisions on market capacity purchases, or new build options in line with the strategic direction selected in the resource plan.

B. Selected Supply Side Technologies

Potential supply side resources selected for detailed modeling included technologies that were commercially available and consistently cost effective relative to other technologies. These resources represented new technologies to address an expected low carbon future environment. Specifically new supply side technologies that are believed to meet the AER requirements of SB 221 required by 2025 include new advanced nuclear, 90% carbon sequestered IGCC technologies and biomass for base load technologies.

The Company continues to investigate the possibility of new nuclear generation to continue to modernize its aging fleet and also to satisfy Ohio's AER requirement. Duke Energy AREVA, USEC, Inc., UniStar Nuclear Energy and the Southern Ohio Diversification Initiative (SODI), formed the Southern Ohio Clean Energy Park Alliance (SOCEPA) to identify the potential for and implications of building an advanced nuclear power plant for the region. At this time, the SOCEPA is continuing the investigation but no decision has been made on the technology, site, or timeframe for the proposed plant. Duke Energy Ohio is not proposing the construction of nuclear powered generation in the context of this resource plan.

Renewable technologies are also an integral part of the overall resource plan as mandated in SB 221. Renewable generation technologies including wind, solar, and dedicated biomass generation are included in the list of the selected supply side technologies.

Supply side resources selected for further integrated resource planning modeling based on technical and economic screening include the following:

- CT (peaking capacity annual purchases)
- CC (intermediate capacity annual purchases)
- 630 MW Class Integrated Gasified Combined Cycle Coal (IGCC)
- Advanced Nuclear Capacity (not available by 2020)
- 50 MW Wind (renewable)
- 3 MW Solar Photovoltaic (renewable)
- 50 MW Woody Biomass (renewable)

J. ADVANCED ENERGY REQUIREMENTS

SB 221 establishes a 25% AER portfolio requirement that must be met by 2025. At least one-half of the AER requirements must be satisfied by renewable energy resources. The renewable requirement also includes a specific "set-aside" for solar energy resources. The annual benchmarks for the renewable energy requirements are represented in Table 4 J.1 below:

Table 4 J.1

RENEWABLE ENERGY RESOURCE REQUIREMENTS

By end of year:	Total renewable energy resources	Solar energy resources
2009	0.25%	0.004%
2010	0.50%	0.01%
2011	1.0%	0.03%
2012	1.5%	0.06%
2013	2.0%	0.09%
2014	2.5%	0.12%
2015	3.5%	0.15%
2016	4.5%	0.18%
2017	5.5%	0.22%
2018	6.5%	0.26%
2019	7.5%	0.30%
2020	8.5%	0.34%
2021	9.5%	0.38%
2022	10.5%	0.42%
2023	11.5%	0.46%
2024 and each year thereafter	12.5%	0.50%

Demonstrated compliance with SB 221 renewable energy mandates utilizes the purchase of RECs. As defined in SB 221, a REC is measured as the environmental attributes associated with one megawatt-hour of electricity generated by a renewable energy resource.

1. Qualified Renewable Resources

The following resources or technologies, if they have a placed-in-service date of January 1, 1998, or after, are qualified resources for meeting the renewable energy resource benchmarks:

- Solar photovoltaic or solar thermal energy;
- Wind energy;
- Hydroelectric energy;
- Geothermal energy;
- Solid waste energy derived from fractionalization,
- Biological decomposition,
- Other process that does not principally involve combustion;
    - Biomass energy;

    Energy from a fuel cell;
    - Storage facility provided that a) the electricity used to pump the resource into a storage reservoir must qualify as a renewable energy resource, or the equivalent renewable energy credits are obtained; and b) the amount of energy that may qualify from a storage facility is the amount of electricity dispatched from the storage facility;
    - Distributed generation system used by a customer to generate electricity from a qualified list of resources or technologies;
- Renewable energy resource created on or after January 1, 1998, by the modification or retrofit of any facility placed in service prior to January 1, 1998.

SB 221 mandates that at least one half of the resources used to comply with the renewable energy portfolio standard must come from sources which are based in the state of Ohio. The remaining one half must come from supply sources that are deliverable into the state, or are located within one of Ohio's five contiguous states (Pennsylvania, West Virginia, Kentucky, Indiana and Michigan).

2. Qualified Advanced Energy Resources

Qualified advanced energy resources include technological improvements that increase a generating facility's output without a corresponding increase in emissions;

- Distributed generation that relies on co-generation of electricity and thermal output;
- Clean coal;
- Advanced nuclear energy;
- Fuel cell;
- Advanced solid waste or construction and demolition debris technology;
- DSM and energy efficiency.

Annual benchmarks leading up to 2025 were not established in SB 221 for advanced energy resources as they were for renewable energy resources.

In summary, by 2025, Ohio SB 221 requires that Duke Energy Ohio obtain 25% of its electricity supply from AERs, with a minimum of 12.5% coming from renewable resources.

3. Discussion of Renewable Compliance Strategy

Up until now, the compliance strategy of Duke Energy Ohio has consisted only of short-term market REC purchases. The primary reason for this decision is that longer term contracts with third parties and utility-owned renewable resources both present cost recovery uncertainties that the Company presently feels would be imprudent to assume. These uncertainties exist because the Company's renewable obligation is based on SSO sales volume, which historically has been uncertain due to customer switching. Duke Energy Ohio recognizes that efforts other than short-term REC purchases may be needed in order to ensure compliance as renewable requirements increase over time; however, over the near term, it is assumed that the current cost recovery uncertainties will continue. While these cost recovery uncertainties exist, the Company will continue to rely primarily on short-term REC purchases and will consider other long-term procurement methods as additional options if the applicable cost recovery uncertainties are adequately addressed.

An exception to the aforementioned discussion is the Company's residential solar REC purchase program, which commits the Company to enter into long-term REC purchase agreements with residential customers. However, this program is not expected to contribute to the Company's total compliance requirements on a material basis due to the relatively small size of the applicable solar installations (residential homes). More details on the necessary renewable resource additions to meet the compliance requirements follow.

4. *Renewable Energy in the Resource Planning Model*

For the purposes of the resource planning model, Duke Energy Ohio assumed that a combination of solar and wind resources would be used to satisfy renewable requirements through 2020. The Company assumed photovoltaic solar because of the specific "set-aside" and then included wind because it is a familiar and widespread renewable resource in the Midwest. In general, the need for each resource was increased in accordance with the levels proscribed in SB 221. Duke Energy Ohio considers many types of renewable resources in its compliance planning efforts, including various forms of biomass energy, biomethane (landfill gas), and hydroelectric resources. The choice of wind and solar PV resources in the resource plan is an assumption that is made for modeling purposes. It is possible that the actual resource development could be different than projected in the resource plan.

Specifically, the resource plan assumes the following:

- **Near-Term Renewable Compliance Strategy (2011):** Near-term renewable compliance for solar and non-solar will be met with market REC purchases.
- **Long-Term Renewable Compliance Strategy (2012+):** In 2012 and beyond, Duke Energy Ohio has assumed that renewable compliance will consist of approximately 50% REC purchases, and the remaining 50% of the compliance requirements coming from renewable resources that will deliver both energy and RECs. For resource planning purposes, REC purchases do not serve to meet the Company's energy or capacity requirements. This assumption is consistent with SB 221 in that contiguous state RECs may be utilized to meet up to 50% of the renewable requirement. Renewable resources that contribute both energy and RECs would contribute to the Company's energy and capacity requirements. The resources that contribute both energy and RECs could come in several variations including but not limited to local grid-tied renewable resources that are selling or self-consuming electrical energy separate from an agreement to sell RECs to the Company. For purposes of the resource planning model, it is assumed that the renewable resources that contribute energy and RECs are all solar or wind projects. Wind projects are assumed to be added in 50 MW increments beginning in 2014, and solar projects are added in 3 MW increments beginning in 2012. These resource additions are in line with the resource needs necessary to meet the renewable requirements established by SB 221. Table 4 J.2 shows the nameplate additions of wind and solar capacity in increments.

Table 4 J.2

Nameplate Capacity Additions Incremental (MW)										
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Wind				50	50	50	50	50	50	50
Solar	1	3	3	3	3	3	3	3	3	3
Total	1	3	3	53	53	53	53	53	53	53
Nameplate Capacity Additions Total (MW)										
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Wind	0	0	0	50	100	150	200	250	300	350
Solar	1	4	7	10	13	16	19	22	25	28
Total	1	4	7	60	113	166	219	272	325	378

The renewable resource additions identified above are included in the resource plan to meet the 12.5% SB 221 renewable requirements. These installed nameplate capacities are adjusted to reflect the intermittent capacity allocation guidelines from PJM. The adjusted wind and solar capacity resources that can be counted as firm capacity resources are shown in Table 4 J.3. PJM counts 38% of solar capacity and 13% of wind capacity for coincident peak reserve margin requirements.

Table 4 J.3

Renewable Capacity Resources at Summer Peak Incremental (MW)										
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Wind	0	0	0	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Solar	0.38	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Total	0.38	1.14	1.14	7.64	7.64	7.64	7.64	7.64	7.64	7.64
Renewable Capacity at Summer Peak Total (MW)										
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Wind	0	0	0	6.5	13	19.5	26	32.5	39	45.5
Solar	0.38	1.52	2.66	3.8	4.94	6.08	7.22	8.36	9.5	10.64
Total	0.38	1.52	2.66	10.3	17.94	25.58	33.22	40.86	48.5	56.14

5. Intermittency and Capacity Factors

Both solar and wind installed capacity resources are classified as intermittent by PJM since these resources have varying generation profiles which are subject to the prevailing meteorological conditions. As such, actual energy production may not occur at the specific times when energy is most needed, such as the peak periods of each day. With this in mind, it is important to look closely at the actual amount of energy and capacity each resource contributes to the grid at any point in time. Therefore to meet SB 221 requirements, significant amounts of capacity would have to be built in order to achieve the necessary production for compliance.

Based on the Company's experience, solar resources have annual capacity factors that range from 11% to 25%, depending on the location and chosen technology. Wind in the Midwest typically has annual capacity factors that range from 25% to 40% also depending on the location and chosen technology. Cost, capacity factor values, and energy production were assigned based on results from solicited and unsolicited proposals from third party developers received by Duke Energy Ohio, as well as appropriate estimates for capital and fixed costs based on internal estimates and applicable tax credits.

6. Other Renewable Resources

As noted, Duke Energy Ohio has considered multiple forms of renewable resources in its compliance planning activities. In addition to wind and solar, the Company has utilized and/or evaluated hydroelectric, biomass and biomethane (landfill gas) resources as renewable energy options to meet the AER requirements. Duke Energy Ohio has considered biomass co-firing, which refers to blending biomass with coal fuel at existing facilities. The Company has conducted some biomass co-firing test burns at existing coal facilities, but there are presently no ongoing co-firing efforts. However, should regulations governing biomass facilities become clearer, Duke Energy Ohio may reconsider co-firing or the installation of a dedicated biomass facility for AER compliance. At this time, Duke Energy Ohio has no plans for biomass.

Duke Energy Ohio will continue to evaluate its options for satisfying its AER requirement and will make adjustments to the AER resources included in the selected resource plan based on factors such as cost recovery challenges, and the availability and prices of RECs.

K. RESOURCE PLAN

The development of the resource plan integrates the customer load forecast, energy efficiency programs, DSM programs, renewable resources, existing supply-side generation, and potential new supply-side resources into the planning process. Computer models used to perform this integration process are System Optimizer (SO) and Planning & Risk (PAR) owned by Ventyx (recently purchased by ABB).

SO is an expansion planning model that dynamically analyzes the cost-effectiveness of a multitude of combinations of resource alternatives to meet the reliability criteria of a minimum reserve margin. The model performs an economic dispatch of numerous potential combinations of resource plans to determine the lowest cost (PVRR) plan, considering capital, operations and maintenance costs, and total production costs. System Optimizer enables Duke Energy Ohio to consider various alternative planning environments such as different fuel price projections, supply side generation capital costs, and levels of future energy efficiency accomplishments. Using SO to identify the lowest cost expansion plans for alternative planning environments allows Duke Energy Ohio to examine the performance of the "best" resource plans in many possible future scenarios.

The various resource plans generated through SO are examined to identify potential alternative resource plans that will be tested in the detailed production costing simulations with the PAR model. The PAR model is similar to the detailed PROMOD production costing model (another Ventyx production costing model) in that both models perform detailed generating resource hourly dispatch to simulate total production costs of every modeled resource plan. In particular, alternative resource plans are developed to explore resource decisions that will be needed over the next 10 years. For example, plans with peaking capacity were developed for comparison with varying levels of intermediate capacity. After each alternative resource plan is modeled in PAR, the production costing results are compared along with total capital costs to compare the total cost to ratepayers for each plan. The resource plan that consistently performs cost effectively in multiple planning environments with due consideration of qualitative issues is selected as the most "robust" resource plan.

L. SYSTEM OPTIMIZER RESOURCE PORTFOLIO ALTERNATIVES

The SO capacity expansion model was used to develop alternative resource portfolios through 2020. There was not a significant difference between the EE economic potential and the requirements associated with SB 221 by 2021. Therefore, only the requirements associated with SB 221 were considered in SO portfolio development. Also, though it is the Company's belief that there will be a carbon-constrained future, the likelihood of legislation being passed prior to 2013 is unlikely. With the uncertainty of federal climate change legislation with regard to greenhouse gas reduction, Duke Energy Ohio has established a CO_2 price curve beginning in 2016 to represent the potential for future federal climate change legislation. The CO_2 prices that Duke Energy is utilizing are associated with proposed and debated legislation, including H.R. 2454 – the American Clean Energy and Security Act of 2009, which passed the U.S. House of Representatives on June 26, 2009. The prices utilized in the 2011 Resource Plan represent the lower end of the range of prices that were estimated in proposed legislation. The projected CO_2 allowance prices are less than $20/ton by 2020 and it is not likely that prices would be higher in the short-term. For this reason, portfolios were not evaluated for variation in CO_2 prices. The primary focus of the resource plan was to determine how best to meet the capacity and energy needs in the 2015 period while positioning the Company to meet AER requirements when fully implemented by 2025.

Sensitivities in load, fuel, and the associated energy prices were evaluated to determine the basis for the different portfolios to be further evaluated in detailed production costing analysis. These portfolios are outlined in Table 4 L.1 below.

Table 4 L.1

Resource Portfolio Alternatives (2012 – 2020)		
	CT and CC Resources	RPS Renewables
CT Portfolio	1,050 – 2,100 MW Peaking PPA and/or Resources	28 MW new build Solar 350 MW new build Wind
CC/CT Portfolio	1,050 – 1,450 MW Peaking Resource 650 MW CC in 2015	28 MW new build Solar 350 MW new build Wind

The capacity need between 2012 and 2015 averages approximately 1,360 MW per year in addition to capacity that the legacy generation assets will still serve. This need will be met through the Company's FRR plan to meet the 15.3% reserve margin. The capacity need will increase in the 2015 period to 2,261 MWs primarily due to the retirement assumption of Beckjord Units 1-6 (859 MWs). The 2015 timeframe could be volatile time in the capacity market due to the significant number of coal retirements expected due to the new environmental regulatory requirements. Nationwide estimates of retirements of coal generation in the 2015 timeframe fall in the range of 40 to 80 GWs. Depending on the rate of economic recovery and the impact on load growth, adoption rates of DSM, and the number of retired coal units, there could be a capacity shortage in the 2015 timeframe. For this reason, the option of continued operation of and investment in the existing system, coupled with self- build or peaking or intermediate resource purchases is maintained to reduce the risk of exclusively relying on the capacity market to customers.

M. RESOURCE PORTFOLIO ALTERNATIVE EVALUATION RESULTS

After the development of the alternative resource portfolios in SO, the PAR model was used to perform detailed production costing analysis for the CT Portfolio and the CC/CT Portfolio under the Proposed ESP construct for future resource needs.

The analysis compared a portfolio that relies on peaking resources for future capacity needs (CT portfolio) and one that relies on a mix of peaking and intermediate resources (CT/CC portfolio). The Present Value of Revenue Requirements (PVRR) for the portfolios is calculated as shown below. The IRP rules require consideration and discussion of rate impacts associated with a selected baseline resource plan and alternative plans. Due to several factors, primarily the regulatory uncertainties involved, this document does not address explicit rate impacts. It is assumed that a minimization of PVRR will equate to a minimization of rate impact for customers.

a) Capacity Cost – PVRR associated with securing capacity to meet customers' capacity needs.

b) Duke Energy Ohio Customer Energy Cost – PVRR associated with the cost of providing energy to meet customers' energy needs from the PJM energy market (through competitive suppliers in an energy auction).

c) Duke Energy Ohio Generation Profit – PVRR of the profit associated with the dispatch of all Company Generation to the PJM energy market.

d) Customer PVRR = Capacity Cost + Duke Energy Ohio Customer Energy Cost - 80% * Duke Energy Ohio Profit

A range of sensitivities was also considered for each portfolio as shown below:

- Load Forecast - High: plus 10 %; Low: minus 10% (represent a 95% confidence interval).

- Fuel & Energy Prices

- High: Natural Gas plus 20%; Coal plus 25%; and corresponding impact on the Energy market.
- Low: Natural Gas and Coal minus 40%; and corresponding impact on the Energy market.

- AER - Evaluation of portfolios assuming meeting approximately half of the compliance obligation the AER requirements in 2024.

The results of the analysis are shown below in Table 4 M.2. Table 4 M.2 reflects a comparison of the CT Portfolio to the CC/CT Portfolio. For example, in the Reference case, the CC/CT Portfolio resulted in a $19 million higher PVRR than the CT Portfolio.

Table 4 M.2 (Proposed ESP Portfolios)

Comparison of the CT Portfolio to the CC/CT Portfolio

(PVRR Cost deltas represented in $millions)

Portfolio	Reference	High Fuel	Low Fuel	High Load	Low Load	Low EE/ Renewables
CT Portfolio	Baseline	Baseline	Baseline	Baseline	Baseline	Baseline
CC/CT Portfolio	$ 19	$ (77)	$ 192	$ 19	$ 19	$ 19

In the Proposed ESP, the PVRR of the CT Portfolio is less than 0.1% better than the CC/CT Portfolio when compared to the total system PVRR. In the High Fuel sensitivities, the CC/CT Portfolio was preferred. In the Low Fuel sensitivities, the CT Portfolio was preferred, primarily because of the difference in capital cost between a CT and CC. Profits minimally impacted the results of this sensitivity.

Peaking capacity resource options include the PJM capacity markets and short-term purchase power agreements in the near term. However, over a longer term, the option to build or purchase intermediate generation (such as CCs) to offset some of the capacity need would reduce reliance on the capacity market and increase operational flexibility with consideration of construction lead times and prevailing market prices. Duke Energy Ohio will regularly assess the future near-term resource needs and make decisions on market capacity purchases, short-term PPAs or new build/purchase options in line with the strategic direction selected in the resource plan.

The primary advantages that the CC/CT Portfolio has over the CT Portfolio are that CCs have increased flexibility to meet the energy needs of Duke Energy Ohio customers and are more competitive in the PJM energy market.

There are additional advantages associated with having some CC in the future generation mix. CC capacity provides flexibility and increased fuel diversity for operations over a broader range of capacity factors. It also serves as a price hedge if natural gas prices are lower than projected or if coal prices are significantly higher than projected in the future. If the challenging requirements associated with SB 221 cannot be met and there is more energy to be served with conventional generation, CC generation would provide the flexibility to meet the demand.

In summary, there is a significant capacity need in the 2015 period at a time when there could be increased volatility in the capacity market. Securing a portion of this need with existing resources and additional firm intermediate capacity, secured either through purchasing assets or a self-build option, would minimize this risk. But the Company must have a reasonable assurance of the timely recovery of costs. As the future regulatory environment continues to unfold, it will impact how Duke Energy Ohio can best meet the significant capacity need in the 2015 timeframe. Monitoring the regulatory environment and possible resulting impacts to Duke

Energy Ohio generating assets will be a primary focus for the Company in 2011, prior to making any definitive long-term plans to meet this capacity need.

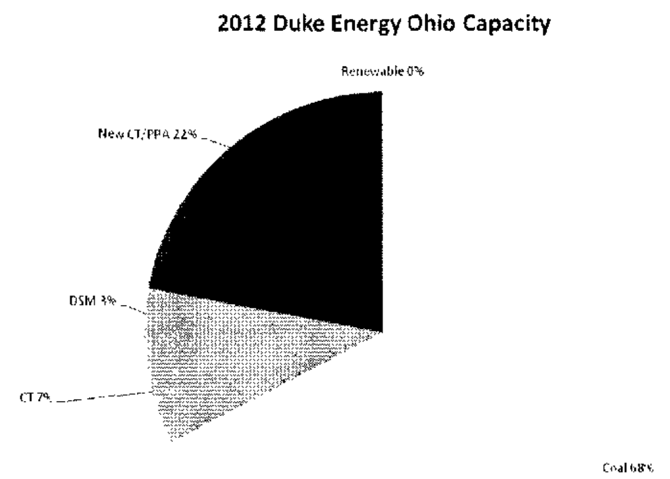
The Supply and Demand table as shown in Table 4 M.3 demonstrates that there is a 2,151 MW capacity need in 2024 with full implementation of SB 221 AER requirements, which further supports securing firm capacity in the 2015 timeframe. Chart 4 M.1 is a comparison of the capacity changes in the portfolio between 2012 and 2020 that demonstrates the increased system diversity with the increasing EE requirements, renewables, market purchases, and additional natural gas generation.

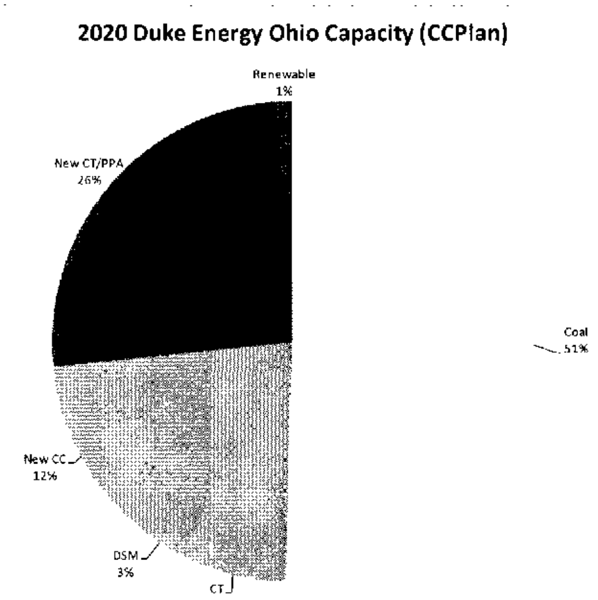
Table 4 M.3 Summer Projections of Load, Capacity and Reserves for Duke Energy Ohio 2011 Annual Plan

(Table Redacted)

Chart 4 M.1

Capacity comparison between 2012 and 2020





Appendix 4 A

PUCO Forms

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)

Current Calendar Year - 2011

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Net Demonstrated Capability	4013	4013	4013	4013	4013	3894	3894	3894	3894	4013	4013	4013
Net Seasonal Capability	4013	4013	4013	4013	4013	3894	3894	3894	3894	4013	4013	4013
Purchases	0	0	0	0	0	0	0	0	0	0	0	0
Sales	0	0	0	0	0	0	0	0	0	0	0	0
Renewables	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38
Available Capability[a]	4013	4013	4013	4013	4013	3894	3894	3894	3894	4013	4013	4013
Native Load	1259	1295	1238	1026	1195	1524	1795	1683	1554	1174	1225	1419
Energy Reduction Programs[c]	0	1	2	37	37	62	69	66	70	6	5	6
Available Reserve[d]	2755	2719	2776	2988	2818	2370	2099	2211	2340	2840	2788	2594
Internal Load[b]	1,259	1,296	1,240	1,063	1,232	1,586	1,864	1,749	1,624	1,180	1,230	1,425
Reserve[e]	2755	2720	2778	3025	2855	2432	2169	2277	2410	2846	2793	2600

Next Calendar Year - 2012

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Net Demonstrated Capability	4013	4013	4013	4013	4013	3894	3894	3894	3894	4013	4013	4013
Net Seasonal Capability	4013	4013	4013	4013	4013	3894	3894	3894	3894	4013	4013	4013
Purchases	0	0	0	0	1050	1050	1050	1050	1050	1050	1050	1050
Sales	0	0	0	0	0	0	0	0	0	0	0	0
Renewables	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52
Available Capability[a]	4015	4015	4015	4015	5065	4946	4946	4946	4946	5065	5065	5065
Native Load	3626	3529	3301	2930	3486	4111	4336	4340	3805	3195	3577	3577
Energy Reduction Programs[c]	18	18	26	131	134	198	207	203	200	31	20	23
Available Reserve[d]	389	486	714	1084	1579	835	609	605	1141	1869	1900	1487
Internal Load[b]	3,644	3,547	3,326	3,061	3,620	4,309	4,543	4,543	4,005	3,226	3,185	3,600
Reserve[e]	407	504	740	1215	1713	1033	816	808	1341	1900	1508	1510

a. Available Capability is equal to Net Seasonal Capability plus Purchases minus Sales plus Renewables.
b. Internal Load equals Native Load plus Energy Reduction Programs.
c. Includes both energy efficiency and demand response.
d. Available Reserve is equal to Available Capability minus Internal Load plus Energy Reduction Programs.
e. Reserve is equal to Available Capability minus Native Load plus Energy Reduction Programs.

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

Current Calendar Year - 2011

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Net Demonstrated Capability	4013	4013	4013	4013	4013	3894	3894	3894	3894	4013	4013	4013
Net Seasonal Capability	4013	4013	4013	4013	4013	3894	3894	3894	3894	4013	4013	4013
Purchases	0	0	0	0	0	0	0	0	0	0	0	0
Sales	0	0	0	0	0	0	0	0	0	0	0	0
Renewables	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38
Available Capability[a]	4013	4013	4013	4013	4013	3894	3894	3894	3894	4013	4013	4013
Native Load	1259	1295	1238	1026	1195	1524	1795	1683	1554	1174	1225	1419
Energy Reduction Programs[c]	0	1	2	37	37	62	69	66	70	6	5	6
Available Reserve[d]	2755	2719	2776	2988	2818	2370	2099	2211	2340	2840	2788	2594
Internal Load[b]	1,259	1,296	1,240	1,063	1,232	1,586	1,864	1,749	1,624	1,180	1,230	1,425
Reserve[e]	2755	2720	2778	3025	2855	2432	2169	2277	2410	2846	2793	2600

Next Calendar Year - 2012

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Net Demonstrated Capability	4013	4013	4013	4013	4013	3894	3894	3894	3894	4013	4013	4013
Net Seasonal Capability	4013	4013	4013	4013	4013	3894	3894	3894	3894	4013	4013	4013
Purchases	0	0	0	0	1050	1050	1050	1050	1050	1050	1050	1050
Sales	0	0	0	0	0	0	0	0	0	0	0	0
Renewables	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52
Available Capability[a]	4015	4015	4015	4015	5065	4946	4946	4946	4946	5065	5065	5065
Native Load	3626	3529	3301	2930	3486	4111	4336	4340	3805	3195	3577	3577
Energy Reduction Programs[c]	18	18	26	131	134	198	207	203	200	31	20	23
Available Reserve[d]	389	486	714	1084	1579	835	609	605	1141	1869	1900	1487
Internal Load[b]	3,644	3,547	3,326	3,061	3,620	4,309	4,543	4,543	4,005	3,226	3,185	3,600
Reserve[e]	407	504	740	1215	1713	1033	816	808	1341	1900	1508	1510

a. Available Capability is equal to Net Seasonal Capability plus Purchases minus Sales plus Renewables.
b. Internal Load equals Native Load plus Energy Reduction Programs.
c. Includes both energy efficiency and demand response.
d. Available Reserve is equal to Available Capability minus Internal Load plus Energy Reduction Programs.
e. Reserve is equal to Available Capability minus Native Load plus Energy Reduction Programs.

PUCO Form FE-R3:
Summary of Existing Electric Generation Facilities

STATION NAME & LOCATION	SYSTEM*	FOOT NOTES	UNIT	TYPE OF UNIT*	INSTALLATION DATE	TENTATIVE RETIREMENT YEAR	MAXIMUM GENERATING CAPABILITY (net kW) SUMMER	WINTER	ENVIRONMENTAL PROTECTION MEASURES*	MAXIMUM GENERATING CAPABILITY (net kW) Spring/Fall
W.C.Beckjord	DEO		1	CF-S	6-1952	Unknown	94,000	94,000	LNB, EP & FGC	94,000
New Richmond,			2	CF-S	10-1953	Unknown	94,000	94,000	LNB, EP & FGC	94,000
Ohio			3	CF-S	11-1954	Unknown	128,000	128,000	EP, FGC, LNB & OFA	128,000
			4	CF-S	7-1958	Unknown	150,000	150,000	EP, FGC, LNB & OFA	150,000
			5	CF-S	12-1962	Unknown	238,000	238,000	EP, FGC, LNB & OFA	238,000
		A	6	CF-S	7-1969	Unknown	155,000	158,000	EP, FGC, LNB & OFA	158,000
			1-GT	OF-GT	4-1972	Unknown	47,000	61,000	None	53,000
			2-GT	OF-GT	4-1972	Unknown	47,000	61,000	None	53,000
			3-GT	OF-GT	6-1972	Unknown	47,000	61,000	None	53,000
			4-GT	*OF-GT*	*6-1972*	*Unknown*	*47,000*	*61,000*	*None*	*53,000*
						Station Total:	1,047,000	1,106,000		1,074,000
Conesville Conesville, OH	DEO	B	4	CF-S	6-1973	Unknown	312,000	312,000	EP, CT, LNB, SO2 Scrubber SCR	312,000
Dicks Creek	DEO		1	GF-GT	9-1965	Unknown	92,000	110,000	SC	101,000
Middletown,			3	GF-GT	6-1969	Unknown	14,000	20,000	SC	15,000
Ohio			4	GF-GT	10-1969	Unknown	15,000	21,000	None	18,000
			5	GF-GT	10-1969	Unknown	15,000	21,000	None	18,000
						Station Total:	136,000	172,000		152,000
Killen Wrightsville, OH	DEO	C	2	CF-S	6-1982	Unknown	198,000	198,000	EP, LNB, CT, SO2 Scrubber SCR	198,000
Miami Fort	DEO		3-GT	OF-GT	7-1971	Unknown	14,000	20,000	None	15,000
North Bend,			4-GT	OF-GT	8-1971	Unknown	14,000	20,000	None	15,000
Ohio			5-GT	OF-GT	9-1971	Unknown	14,000	20,000	None	15,000
			6-GT	OF-GT	10-1971	Unknown	14,000	20,000	None	15,000
		D	7	CF-S	5-1975	Unknown	320,000	320,000	EP, LNB, CT SO2 Scrubber, SCR & SBS	320,000
		D	8	CF-S	2-1978	Unknown	320,000	320,000	EP, LNB, CT SO2 Scrubber, SCR & SBS	320,000
						Station Total:	696,000	720,000		700,000
J.M.Stuart Aberdeen,	DEO	E	1	CF-S	5-1971	Unknown	225,000	225,000	EP, LNB, SO2 Scrubber & SCR	225,000
Ohio		E	2	CF-S	10-1970	Unknown	225,000	225,000	EP, LNB, SO2 Scrubber & SCR	225,000
		E	3	CF-S	5-1972	Unknown	225,000	225,000	EP, LNB, SO2 Scrubber & SCR	225,000
		E	4	CF-S	6-1974	Unknown	225,000	225,000	EP, LNB, CT SO2 Scrubber & SCR	225,000
						Station Total:	900,000	900,000		900,000
W.H.Zimmer Moscow, OH	DEO	F	1	CF-S	3-1991	Unknown	605,000	605,000	EP, LNB, CT, SO2 Scrubber, SCR & SBS	605,000
							3,894,000	4,013,000		3,941,000

*LEGEND:

CF = Coal Fired
OF = Oil Fired
GF = Natural Gas Fired

S = Steam
GT = Simple-Cycle Combustion Turbine

DEO = Duke Energy Ohio

EP = Electrostatic Precipitator
SC = Smokeless Combustor
CT = Cooling Tower(s)
SCR = Selective Catalytic Reduction, Nox
WI = Water Injection, NOx
SI = Steam Injection, NOx
LNB = Low NOx Burners
OFA = Overfire Air
SNCR = Selective Non-Catalytic Reduction
FGC = Flue Gas Conditioning
SBS = Sodium Bisulfite/Soda Ash Injection System

FOOT NOTES:

(A) Unit 6 is commonly owned by Duke Energy Ohio (37.5% - Operator);
The Dayton Power and Light Company (50%) and Columbus Southern Power Company (12.5%).

(B) Unit 4 is commonly owned by Duke Energy Ohio (40%); The Dayton Power and Light Company (16.5%)
and Columbus Southern Power Company (43.5% - Operator).

(C) Unit 2 is commonly owned by Duke Energy Ohio (33%) and
The Dayton Power and Light Company (67% - Operator).

(D) Units 7 and 8 are commonly owned by Duke Energy Ohio (64% - Operator) and by
The Dayton Power and Light Company (36%).

(E) This station is commonly owned by Duke Energy Ohio (39%); The Dayton
Power and Light Company (35% - Operator) and Columbus Southern Power Company (26%).

(F) Unit 1 is commonly owned by Duke Energy Ohio (46.5% - Operator); The Dayton
Power and Light Company (28.1%) and Columbus Southern Power Company (25.4%).

PUCO Form FE-R4:
Actual Generating Capability Dedicated to meet Ohio Peak Load (as of 12/31/20xx)

	Unit Designation			
Year/Season	Unit Name	Description	Seasonal Total (MW)	
2010/Summer	Beckjord 1	Coal - Steam	94	
2010/Summer	Beckjord 2	Coal - Steam	94	
2010/Summer	Beckjord 3	Coal - Steam	128	
2010/Summer	Beckjord 4	Coal - Steam	150	
2010/Summer	Beckjord 5	Coal - Steam	238	
2010/Summer	Beckjord 6	Coal - Steam	155	Foot Note A
2010/Summer	Conesville 4	Coal - Steam	312	Foot Note B
2010/Summer	Killen 2	Coal - Steam	198	Foot Note C
2010/Summer	Miami Fort 7	Coal - Steam	320	Foot Note D
2010/Summer	Miami Fort 8	Coal - Steam	320	Foot Note D
2010/Summer	Stuart 1	Coal - Steam	225	Foot Note E
2010/Summer	Stuart 2	Coal - Steam	225	Foot Note E
2010/Summer	Stuart 3	Coal - Steam	225	Foot Note E
2010/Summer	Stuart 4	Coal - Steam	225	Foot Note E
2010/Summer	Zimmer 1	Coal - Steam	605	Foot Note F
2010/Summer	Beckjord GT 1	Combustion Turbine/Oil-fired	47	
2010/Summer	Beckjord GT 2	Combustion Turbine/Oil-fired	47	
2010/Summer	Beckjord GT 3	Combustion Turbine/Oil-fired	47	
2010/Summer	Beckjord GT 4	Combustion Turbine/Oil-fired	47	
2010/Summer	Dicks Creek 1	Combustion Turbine/Nat Gas-fired	92	
2010/Summer	Dicks Creek 3	Combustion Turbine/Nat Gas-fired	14	
2010/Summer	Dicks Creek 4	Combustion Turbine/Nat Gas-fired	15	
2010/Summer	Dicks Creek 5	Combustion Turbine/Nat Gas-fired	15	
2010/Summer	Miami Fort 3	Combustion Turbine/Oil-fired	14	
2010/Summer	Miami Fort 4	Combustion Turbine/Oil-fired	14	
2010/Summer	Miami Fort 5	Combustion Turbine/Oil-fired	14	
2010/Summer	Miami Fort 6	Combustion Turbine/Oil-fired	14	

FOOT NOTES:

(A) Unit 6 is commonly owned by Duke Energy Ohio (37.5% - Operator); The Dayton Power and Light Company (50%) and Columbus Southern Power Company (12.5%).

(B) Unit 4 is commonly owned by Duke Energy Ohio (40%); The Dayton Power and Light Company (16.5%) and Columbus Southern Power Company (43.5% - Operator)

(C) Unit 2 is commonly owned by Duke Energy Ohio (33%) and The Dayton Power and Light Company (67% - Operator).

(D) Units 7 and 8 are commonly owned by Duke Energy Ohio (64% - Operator) and by The Dayton Power and Light Company (36%).

(E) This station is commonly owned by Duke Energy Ohio (39%); The Dayton Power and Light Company (35% - Operator) and Columbus Southern Power Company (26%).

(F) Unit 1 is commonly owned by Duke Energy Ohio (46.5% - Operator); The Dayton Power and Light Company (28.1%) and Columbus Southern Power Company (25.4%).

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

	2006	2007	2008	2009	2010	2011	2012	2013
	-5	-4	-3	-2	-1	0	1	2
Net Demonstrated Capability	3961	3906	3906	3906	3894	3894	3894	3894
Net Seasonal Capability	3961	3906	3906	3906	3894	3894	3894	3894
Purchases	1050	1058	1064	979	758	0	1050	1000
Sales				369	1035	0	0	0
Renewables[d]						0.38	1.52	2.66
Available Capability[a]	5011	4964	4970	4516	3617	3894	4946	4897
Native Load	4366	4436	4074	3675	2317	1795	4340	4376
Energy Reduction Programs[c]	0	23	0	0	11	69	203	207
Available Reserve[e]	645	528	896	841	1300	2099	605	521
Internal Load[b]	4366	4459	4074	3675	2328	1864	4543	4583
Reserve[f]	645	551	896	841	1311	2169	808	728

	2014	2015	2016	2017	2018	2019	2020	2021
	3	4	5	6	7	8	9	10
Net Demonstrated Capability	3894	3685	3685	3685	3685	3685	3685	3685
Net Seasonal Capability	3894	3685	3685	3685	3685	3685	3685	3685
Purchases	1000	1100	1100	1050	1000	950	900	850
Sales	0	0	0	0	0	0	0	0
Renewables[d]	10.3	17.94	25.58	33.22	40.86	48.5	56.14	62.64
Available Capability[a]	4904	4803	4811	4768	4726	4684	4641	4598
Native Load	4439	4441	4424	4432	4436	4417	4398	4388
Energy Reduction Programs[c]	232	283	311	339	367	423	478	534
Available Reserve[e]	466	362	387	336	290	267	243	210
Internal Load[b]	4671	4725	4735	4771	4803	4840	4876	4921
Reserve[f]	698	645	698	675	657	690	720	744

a. Available Capability is equal to Net Seasonal Capability plus Purchases minus Sales plus Renewables.
b. Internal Load equals Native Load plus Energy Reduction Programs.
c. Includes both energy efficiency and demand response.
d. Renewable Capacity on Summer Peak.
e. Available Reserve is equal to Available Capability minus Internal Load plus Energy Reduction Programs.
f. Reserve is equal to Available Capability minus Native Load plus Energy Reduction Programs.
g. Load forecast assumes wires-connected customers from 2012 forward.

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

	2006	2007	2008	2009	2010	2011	2012	2013
	-5	-4	-3	-2	-1	0	1	2
Net Demonstrated Capability	4080	4025	4025	4025	4013	4013	4013	4013
Net Seasonal Capability	4080	4025	4025	4025	4013	4013	4013	4013
Purchases	0	625	577	700		0	1050	1000
Sales						0	0	0
Renewables[d]						0.38	1.52	2.66
Available Capability[a]	4080	4650	4602	4725	4013	4013	5065	5016
Native Load	3551	3505	3526	2271	1459	3626	3676	3729
Energy Reduction Programs[c]	0	0	0	0	0	18	33	48
Available Reserve[e]	529	1145	1076	2454	2554	388	1388	1287
Internal Load[b]	3551	3505	3526	2271	1459	3644	3709	3777
Reserve[f]	529	1145	1076	2454	2554	406	1421	1335

	2014	2015	2016	2017	2018	2019	2020	2021
	3	4	5	6	7	8	9	10
Net Demonstrated Capability	4013	3804	3804	3804	3804	3804	3804	3804
Net Seasonal Capability	4013	3804	3804	3804	3804	3804	3804	3804
Purchases	1000	1100	1100	1050	1000	950	900	850
Sales	0	0	0	0	0	0	0	0
Renewables[d]	10.3	17.94	25.58	33.22	40.86	48.5	56.14	62.64
Available Capability[a]	5023	4922	4930	4887	4845	4803	4760	4717
Native Load	3740	3745	3750	3756	3745	3736	3730	3724
Energy Reduction Programs[c]	81	100	108	125	159	193	227	261
Available Reserve[e]	1283	1177	1180	1131	1100	1066	1031	993
Internal Load[b]	3821	3845	3858	3881	3904	3929	3957	3984
Reserve[f]	1364	1276	1287	1256	1259	1259	1258	1254

a. Available Capability is equal to Net Seasonal Capability plus Purchases minus Sales plus Renewables.
b. Internal Load equals Native Load plus Energy Reduction Programs.
c. Includes both energy efficiency and demand response.
d. Renewable Capacity on Summer Peak.
e. Available Reserve is equal to Available Capability minus Internal Load plus Energy Reduction Programs.
f. Reserve is equal to Available Capability minus Native Load plus Energy Reduction Programs.
g. Load forecast assumes wires-connected customers from 2012 forward.

NOTE: Plans for facilities listed on this Form are entirely speculative and consequently should not be regarded as "planned" electric generation facilities. The Company continues to monitor markets and evaluate options as appropriate.

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

1. Facility Name	Solar 2011	
2. Facility Location	TBD	
3. Facility Type	Photovoltaic	
4. Anticipated Capability	1 MW	
5. Anticipated Capital Cost	[redacted]	[redacted]
6. Application Timing	1 year	
7. Construction timing	1 year	
8. Planned Pollution Control Measures	N/A	
9. Fuel	Sun	
10. Miscellaneous		

1. Facility Name	Solar 2012 - Solar 2019 (1 plant added per year)	
2. Facility Location	TBD	
3. Facility Type	Photovoltaic	
4. Anticipated Capability	3 MW (per plant)	
5. Anticipated Capital Cost	[redacted]	[redacted]
6. Application Timing	1 year	
7. Construction timing	1 year	
8. Planned Pollution Control Measures	N/A	
9. Fuel	Sun	
10. Miscellaneous		

1. Facility Name	Wind 2014 - Wind 2021 (1 plant added per year)	
2. Facility Location	TBD	
3. Facility Type	Wind	
4. Anticipated Capability	50 MW (per plant)	
5. Anticipated Capital Cost	[redacted]	[redacted]
6. Application Timing	1 year	
7. Construction timing	1 year	
8. Planned Pollution Control Measures	N/A	
9. Fuel	Wind	
10. Miscellaneous		

1. Facility Name	Woody Biomass	
2. Facility Location	TBD	
3. Facility Type	Biomass	
4. Anticipated Capability	50 MW	
5. Anticipated Capital Cost	[redacted]	[redacted]
6. Application Timing	1 year	
7. Construction timing	5 years	
8. Planned Pollution Control Measures	NOx &Particulate	
9. Fuel	Wood	
10. Miscellaneous		

PUCO Form FE-R10 (continued):
Specifications of Planned Electric Generation Facilities

1. Facility Name	4 x 160 CT
2. Facility Location	TBD
3. Facility Type	Combustion Turbine
4. Anticipated Capability	632 MW
5. Anticipated Capital Cost	[redacted] [redacted]
6. Application Timing	1 year
7. Construction timing	3 year
8. Planned Pollution Control Measures	NOx
9. Fuel	Natural Gas
10. Miscellaneous	

1. Facility Name	Combined Cycle w/Duct Firing & Chilling
2. Facility Location	TBD
3. Facility Type	Combined Cycle
4. Anticipated Capability	620 MW
5. Anticipated Capital Cost	[redacted] [redacted]
6. Application Timing	1 year
7. Construction timing	4 years
8. Planned Pollution Control Measures	NOx
9. Fuel	Natural Gas
10. Miscellaneous	

Appendix 4 B

Cross-Reference Table of RP Requirements

CROSS-REFERENCE OF RESOURCE PLAN DEVELOPMENT REQUIREMENTS

Requirement	Location	Reference
Discussion and analysis of anticipated technological changes expected to influence:		
generation mix	Sections K, L and M	4901:5-5-06 A.1
use of energy efficiency and peak-demand reduction programs	Section H	4901:5-5-06 A.1
availability of fuels	Section E, part 2	4901:5-5-06 A.1
type of generation	Sections K, L and M	4901:5-5-06 A.1
use of alternative energy resources	Section J	4901:5-5-06 A.1
Discussion and analysis of availability and potential development of alternative energy resources	Section J, all parts	4901:5-5-06 A.2
Discussion and analysis of research, development, and demonstration efforts relating to alternative energy resources	Section J, all parts	4901:5-5-06 A.3
Discussion and analysis of the impact of environmental regulations on generating capacity, cost, and reliability	Section E, part 4 and Section F, all parts	4901:5-5-06 A.4
Discussion and analysis of textual material not specifically required, but of importance to the resource forecast	Sections B, F, I and J	4901:5-5-06 A.5
Electricity resource forecast forms		
Form FE-R1	Appendix A	4901:5-5-06 A.6.a
Form FE-R2	Appendix A	4901:5-5-06 A.6.b
Form FE-R3	Appendix A	4901:5-5-06 A.6.c
Form FE-R4	Appendix A	4901:5-5-06 A.6.d.i
Form FE-R5	Appendix A	4901:5-5-06 A.6.dii
Form FE-R6	Appendix A	4901:5-5-06 A.6.d.iii
Form FE-R7	Appendix A	4901:5-5-06 A.6.d.iv
Form FE-R8	Appendix A	4901:5-5-06 A.6.d.v
Form FE-R9	Appendix A	4901:5-5-06 A.6.d.vi
Form FE-R10	Appendix A	4901:5-5-06 A.6.e.i
		4901:5-5-06 A.6.e.ii
Existing generation system description	Section E, part 1 and Appendix A	4901:5-5-06 B.1.a
Existing pooling, mutual assistance, and all purchase/sales agreements including costs and amounts	Section G	4901:5-5-06 B.1.b

CROSS-REFERENCE OF RESOURCE PLAN DEVELOPMENT REQUIREMENTS

Requirement	Location	Reference
System load profile	PUCO Forms FE-D1-6	4901:5-5-06 B.2.a
Maintenance requirements of existing and planned units	Section E, part 3	4901:5-5-06 B.2.b
Number, size, and availability of existing and planned units	Section E, parts 1 & 3, Appendix A	4901:5-5-06 B.2.c
Forecast uncertainty	Section D, part 1	4901:5-5-06 B.2.d
Option uncertainty with respect to cost, availability, in-service dates, and performance	Section H, part 2 & Section I, part 2 Sections J & K	4901:5-5-06 B.2.e
Lead times for construction and implementation	Appendix A, Form FE-R10	4901:5-5-06 B.2.f
Power interchange with other electric systems	Section G	4901:5-5-06 B.2.g
Price-responsive demand and price elasticity due to the implementation of time-differentiated pricing options	Section M	4901:5-5-06 B.2.h
Regulatory climate	Sections A, B, D, F, H, J, L & M	4901:5-5-06 B.2.i
Reliability criteria and reliability measures used	Section D, part 2 & Section J, part 5	4901:5-5-06 B.2.j.i
Reliability criteria and engineering analysis performed	Section D, part 2 & Section J, part 5	4901:5-5-06 B.2.j.ii
Reliability criteria and economic analysis performed	Section D, part 2 & Section J, part 5	4901:5-5-06 B.2.j.iii
Reliability criteria and any judgments applied	Section D, part 2 & Section J, part 5	4901:5-5-06 B.2.j.iv
Resource plan description of base case projected resource mix	Sections K, L & M	4901:5-5-06 B.3.a
Resource plan discussion of projected system reliability	Section D, part 2 & Section J, part 5	4901:5-5-06 B.3.b.i
Resource plan discussion of projected adequacy of fuel supply	Section E, part 2	4901:5-5-06 B.3.b.ii
Resource plan discussion of revenue requirements and rate impacts of base and alternative plans	Sections C & M	4901:5-5-06 B.3.c
Resource plan methodology discussion of: decision-making process, criteria, and standards employed overall planning objectives (4901:5-5-03 paragraph A) key assumptions and judgments used in development	Sections C, D, I, J, K, L & M	4901:5-5-06 B.3.d.i 4901:5-5-06 B.3.d.ii 4901:5-5-06 B.3.d.iii
Discussion of adequacy, reliability, and cost-effectiveness of the plan	Sections A, C, D, E, F, H, I, J, K, L & M	4901:5-5-06 B.3.e.i
Discussion of evaluation equality among all resource options	Sections H, I, J, K & M	4901:5-5-06 B.3.e.ii
Discussion of adequate consideration of potential rate and customer bill impacts	Sections C & M	4901:5-5-06B.3.e.iii.a

CROSS-REFERENCE OF RESOURCE PLAN DEVELOPMENT REQUIREMENTS		
Requirement	Location	Reference
Discussion of adequate consideration of environmental impacts and their associated costs	Section E, part 4 & Section F	4901:5-5-06B.3.e.iii.b
Discussion of adequate consideration of other economic impacts and their associated costs	Sections C, D, I, J, K, L & M	4901:5-5-06B.3.e.iii.c
Discussion of adequate consideration of plan impact on financial status of the company	Section M	4901:5-5-06B.3.e.iii.d
Discussion of adequate consideration of plan impact on other strategic decisions (flexibility, diversity, size and lead times, and lost investment opportunities)	Sections C, D, I, J, K, L & M	4901:5-5-06B.3.e.iii.e
Discussion on adequate consideration of plan impact on equity among customer classes	Section M	4901:5-5-06B.3.e.iii.f
Discussion on adequate consideration of plan impact over time	Sections C, D, I, J, K, L & M	4901:5-5-06B.3.e.iii.g
Discussion on adequate consideration of plan impact on other matters the commission considers appropriate		4901:5-5-06B.3.e.iii.h