Large Filing Separator Sheet

Case Number : 08-777-EL-ORD

File Date : 10/17/2008

Section : 2 of 2

Number of Pages : 84

Description of Document : Application for Rehearing All Duke Energy Ohio commercial or industrial consumers except those receiving service under Rate TS, Service at Transmission Voltage are eligible. Upon approval, Duke Ohio launched its marketing campaign that included direct mail letters to both eligible customers and vendors who provide services to customers in and around Duke Ohio's service territory. E-mail blasts were sent to large business customers and a vendor training was scheduled to provide education and training to its market providers to understand the program and the appropriate applications for the technologies.

The program is promoted on Duke Energy's Ohio business and large business websites where business customers could download and print all the applications containing all the necessary information necessary to participate and submit an application. In order to serve more business customers, Duke Energy Ohio set an incentive CAP of \$50,000 per facility.

Since program inception in July 2007 through June 30, 2008, 192 customers have participated, 231 applications have been received, 36,557 high efficiency measures have been installed, \$1,118,793 in incentives have been paid (\$808,000 of which was for lighting measures) and \$341,531 are reserved for projects due to be completed in 2008. Although we did not meet the spending goal for this time period, considering the time it takes for programs of this type to get proposals out in the market and projects completed, we are very pleased with the response to the program. As part of Duke Ohio's Quality Assurance plan to assure appropriate installation of equipment, applications for incentives will be reviewed and checked for accuracy and whether measures meet appropriate standards. Random field inspections will occur to assure installation. Duke Energy Ohio is currently conducting an impact evaluation of this program.

Duke Energy Ohio has contracted with GoodCents, Inc. through a bid process, to provide the back office support for implementation of this program. This program will be jointly implemented with the Duke Energy Indiana and Duke Energy Kentucky territories to reduce administrative costs and leverage promotion.

# School Incentive Program

Another component of the Commercial and Industrial Prescriptive Program is the Schools programs. Due to the special needs of schools and recognizing that saving energy costs in schools helps all taxpayers, Duke Energy Ohio and the DECP agreed to dedicate \$500,000 of the Commercial and Industrial Prescriptive Incentive Program budget for school measures and support. The measures identified for the Commercial and Industrial Prescriptive Incentive Program can help schools reduce their energy consumption. There are three parts to the program:

Assessments: Schools can contract with their vendor of choice to conduct an assessment of their facility. Duke Energy Ohio will pay 25% of the total cost of the assessment up to \$500. If they install any of the recommended high efficiency measures as a result of the assessment, they can receive another 25% of the total cost of the audit up to \$500.

**Prescriptive Program:** Schools will receive incentives for any of the Prescriptive measures installed as a result of the assessment.

**Custom:** Any additional measures identified in the assessment that provide energy savings opportunities and are not currently eligible for incentives in Duke Ohio's prescriptive program, can be submitted for evaluation to Duke Ohio's Marketing Analytics group for potential custom incentives.

Total combined incentives are capped at \$100,000 per facility in the schools program. All school consumers of Duke Energy Ohio are eligible except any school that may receive service under Rate TS, Service at Transmission Voltage. If all of the funds are not used by the schools within the year, they will be made available to other applicable commercial and industrial consumers. Likewise, if funds applicable to the Commercial and Industrial Prescriptive Incentive Program are not used by other commercial and industrial consumers, those funds will be made available to the schools above the earmarked amount.

To promote the program, Duke Ohio sent direct mail letters to School Superintendents and Building Operators, set up face to face meetings with some, and developed a K-12 website where all the information and applications for the schools program resides. Because the filing approval came in July and school projects are typically completed during the summer months, we did not get significant participation. For this filing period of July 1, 2007 through June 30, 2008, 18 schools have submitted 20 applications totaling \$60,216 in incentives for 1,015 high efficiency measures installed. Due to timing and through our marketing efforts we hope to see those numbers increase in this next filing period.

The School Incentive Program provides incentives to schools to install high efficiency equipment in applications involving new construction, retrofit, and replacement of failed equipment. This program will be jointly implemented with the proposed Commercial and Industrial Prescriptive Incentive Program.

An impact evaluation of this program is currently being conducted and will be included in the 2008 DSM filing.

# **Photovoltaic Schools Demonstration/Education Program**

This program was designed to introduce photovoltaics ("PV") into the mix of options under Duke Energy Ohio's DSM program. It seeks to create awareness of the technical achievements, environmental considerations, and public policy issues that have matured to make photovoltaics an option for meeting today's energy needs. The program also focuses on educating faculty and students in the Ohio public school system about the benefits of photovoltaics as a source of renewable energy, through the installation and use of three PV demonstration units. This program has been successfully implemented in the Duke Energy Indiana territory. This program advances the education of many parts of the market. It helps students, parents, teachers, and the school community, understand and work with PV as a potential resource. It also helps educate and build skills of contractors, electricians and other market providers for possible application in other locations. If the NEED program gets approval within this application, Duke Energy Ohio would tie curriculum development and participation in the NEED program with the PV application to leverage both activities. Duke Energy Ohio pays the expense of the PV purchase, installation, and basic monitoring. The first year budget request was \$75,000. Expected participation in this program is three schools per year.

At this time, Duke Energy Ohio has approved three Ohio schools for the 2008 Solar PV Program. The final selections were made after Duke Energy Ohio and the installer visited each school, made formal presentations, and assessed each site for the 2.0 kW Solar PV system. Selections are as follows:

1. Cincinnati Public Schools will receive a Solar PV system at Pleasant Ridge Montessori Elementary School, Ohio's first Public Elementary School registered for LEED Certification. Reflecting the Program's values, Pleasant Ridge demonstrates leadership in the advancement of high performance public schools and educates students and the community about the science and benefits of solar energy. The Solar PV system easily fits into the plan of the environmentally sensitive design. More importantly, it provides a much anticipated educational tool for the 579 students PreK-8 to demonstrate first hand the benefits of clean energy.

2. St. Clement School, an urban school in the St. Bernard District, will receive a Solar PV system. The Solar PV system will serve the classroom and be an interactive part of the curriculum for the 195 students PreK-8. With Smart Boards in classrooms, technology already plays an important role and students are eager to learn more from the Solar PV educational software. This program will inspire both students and teachers to learn and teach the benefits of Solar to the community.

3. William Henry Harrison High School is a leader in science and green education and will receive a Solar PV system to educate and demonstrate to its 1,300 students and the surrounding community. Set in a suburban Harrison, it is actively promoting Renewable Energy with events such as Family Science Night and learning tools such as the E3 Smart Program and the Energy Bike. The Solar Panels will be a strong educational component to the program and students will be able to monitor the data and learn about renewable energy.

Duke Energy Ohio has met with representatives at all three schools, conducted a site visit with the installer, received approval for the 2KW installations by the schools and is in the process of executing Interconnection Standards Agreements for the installations. All three installations should be completed by October 31<sup>st</sup>, 2008. Once installations are

complete, a promotional launch will follow and the school staff will begin educational training of the monitoring software which will be used in the classrooms.

# **RESEARCH PROGRAM:**

### House Call PLUS Research Program

**Opportunity**: With rising energy prices, there is an opportunity to increase savings in the residential market through more comprehensive building analysis and efficiency improvements. As shown through state programs in New York and California, a comprehensive audit program, utilizing diagnostic tools such as blower doors, infrared scanners and duct leakage tests, combined with a "one-stop" installation service can be effective at getting more measures installed cost effectively, thus increasing savings from 10% to 30%. This program is similar to the Home Performance with Energy Star and Duke Energy Ohio is currently working to develop a program that utilizes proven practices outlined by Energy Star. The process has been slowed by the lack of existing infrastructure for this type of program offer.

**Goal:** The purpose of program is to better understand the capabilities and skills of the contractors in the marketplace to provide a single source solution for energy efficiency. In addition, the program will help determine the value of offering a simplified process of

identifying energy saving opportunities in the home coupled with a simplified whole house implementation solution.

Approach: There will be two aspects to the research project.

1. Assessment of the Market: This effort will include research to determine the skills and capabilities within the marketplace to provide services.

 Applications Research: To help determine actual costs for services, Duke Energy Ohio will test various delivery models to determine customer acceptance.
 The program will offer both a consultant and contractor model for service delivery. The results will help Duke Energy Ohio understand the actual costs and feasibility of the services.

The outcome of this research would be used to help define and quantify the opportunity to impact the market for long term energy savings through this program. Training will be provided to selected market providers for program implementation. It is expected that 3-5 providers would receive the in-depth training. Where possible, training would be leveraged with the contractor training provided by the Ohio Office of Energy Efficiency.

The budget for year 1 is \$132,500 and year 2 is \$260,000.

The following table provides estimates of the energy efficiency and demand response impacts from the existing set of programs over the next four years.

ť	MWH			MW			MW			
2008	Residential	Non-Regidential	Tetel	Residential	Neo Residential	Teta	Power Shere	Power Macagar	Total Demand Response	MM
2009	68,492	29,941	98,432	18.9	9.1	29.0	1.2	24.6	25.9	5
2010	125,934	53,368	175,322	33.4	15,9	49.3	1.2	38.3	39.4	
2011	183,374	75,835	260,208	48.0	22.6	70.6	1.2 )	51.8	52.9	12
2012	86,814	96,152	186,965	12.6	28.9	41.5	1.2	56.3	57.4	9

### LOAD AMPACTS OF EXISTING PROGRAMS: CUMULATIVE FROM 2009

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# **APPENDIX B – NEW SAVE-A-WATT ENERGY EFFICIENCY PROGRAMS:**

### A. Residential Programs

### **Residential Energy Assessment Program (Conservation Program)**

This program will provide three levels of information to residential customers about their energy usage and measures they can take to reduce usage:

> 1) High level analysis and recommendations based on customers providing a limited amount of information about their home and equipment in response to a mailed energy survey (Mail-in Analysis).

 Customized recommendations based on customers providing thorough information about their home and equipment through an on-line diagnostic tool (On-line Analysis).

3) Specific recommendations based on an on-site audit of the home and its equipment (On-site Audit and Analysis). Additionally, the Low-Income Multi-Family Assessment will provide information to the tenants, the facility owners, the property managers, and Duke Energy Ohio.

Upon completion of the assessment, customers will receive an energy efficiency kit consisting of: two compact fluorescent lights, weather stripping, a low-flow shower head, a low-flow faucet aerator for a bathroom sink, a low-flow swivel aerator for the kitchen sink, shrink-wrap plastic for insulating a window, and insulation panels for receptacles and light switches located on exterior walls.

# Smart Saver<sup>®</sup> for Residential Customers (Conservation Program)

This program will provide incentives to residential customers for installing energy efficient equipment involving new construction, retrofit, and replacement of failed equipment. The different components of the portfolio are:

Residential Smart Saver<sup>®</sup> Compact Fluorescent Light Bulbs Incentive Program This program will provide market incentives to customers for the purchase of CFL bulbs and market support to retailers to increase market share of CFLs. Special incentives to buyers and in-store support will increase demand for the products, spur store participation, and increase availability of CFLs to consumers. Part of this program is to educate customers on the advantages (functionality and savings) of CFLs so that they will continue to purchase these bulbs in the future when no direct incentive is available.

# Residential Smart \$aver<sup>®</sup> for Air Conditioning Incentive Program

This program will provide incentives and marketing support to consumers and air conditioner contractors to promote the use of high efficiency air conditioners with electronically commutated motors (ECM).

# Low-Income Services (Conservation Program)

This program leverages state weatherization funding by reimbursing communitybased agencies for the installation of measures that reduce energy consumption associated with electric space heating and water heating in the homes of incomequalified Duke Energy Ohio customers. This program is designed to enhance delivery of the government-supported low-income weatherization program and supplement it with additional energy-efficiency measures. Duke Energy Ohio pays the community based organizations for the cost of the installations. To be eligible, customers must qualify for weatherization or heating bill assistance as part of state or federal programs. Customers with electric water heaters receive faucet aerators, energy-efficient showerheads, water heater jackets, pipe insulation, and compact fluorescent light bulbs. Customers with electric space heating and/or central air also receive caulking, weather stripping, outlet gaskets, door sweeps, foam seal, attic and/or wall insulation and duct mastic to reduce air infiltration.

### **Pre-Paid Billing Services**

Providing consumers with the option of paying for their electrical use prior to consumption not only allows consumers to control their bills, but promotes energy savings. Implemented by several utilities around the country, "Pre-Paid Billing Services" or pre-paid meters provides participants with the metering to understand their energy usage and has resulted in 10% to 20% energy savings. Duke Energy Ohio plans to test this concept recruiting 100 consumers per year for the next four years and analyzing their energy savings compared to a control group.

Owner occupied single-family homes throughout the Duke Energy Ohio territory are eligible for the program. The primary method of participant recruitment is through direct mail to Duke Energy Ohio consumers by zip code areas. Other information is provided through bill stuffers, and call center referrals. Customers will have a prepaid metering device installed in their home. Consumers cannot usually see the impacts from changing the operation of equipment or lifestyle habits with normal utility meters. A pre-paid meter system allows consumers to see those impacts on a real-time basis. This provides immediate feedback and enables consumers to realize that the steps they took to modify their behavior to be more efficient actually saved money. It also allows consumers to adjust their payments to the utility to better meet their personal schedules and cash flow. There are no direct incentives provided to the consumer. Incentives are provided through the consumer's ability to control their utility costs, payment and usage.

Participants will be supported by the Duke Energy Ohio staff and call center. The equipment contractor will provide technical support. A competitive bid process will be used to chose a subcontractor to implement the program.

Once the program has been implemented, Duke Energy Ohio will monitor the subcontractor through random inspections of sites and review of the billing systems. Consumer satisfaction surveys will be conducted. A full evaluation of the energy and bill paying impacts of this program will be conducted. Energy Efficiency Education Program for Schools (Conservation Program) The program will identify the current science/energy curriculum standards for 4th and 9th grades where Duke Energy Ohio's online audit could be incorporated. The program will look to enlist students from these grades to participate in Duke Energy Ohio's online home audit tool, to promote on-site school audits, and to encourage students or their parents to install Duke Energy Ohio's energy efficiency kits (described earlier) and CFLs at their homes.

### **Power Manager (Demand Response Program)**

The purpose of the Power Manager program is to reduce demand by controlling residential air-conditioning usage during peak demand conditions in the summer months. The program is offered to residential customers with central air conditioning. Duke Energy Ohio attaches a load control device to the customer's air conditioner to enable Duke Energy Ohio to cycle it off and on via page when the load on the Duke Energy Ohio system reaches peak levels. Customers receive financial incentives for participating in this program based on the cycling option that is selected.

# Non-Residential Programs

# Non-Residential Energy Assessment Program (Conservation Program)

This program will provide four levels of information to non-residential customers about their energy usage and measures they can take to reduce usage:  Customized recommendations based on the customer providing thorough information about their facility and equipment through an online diagnostic tool (On-line Analysis).

2) Customized recommendations based on the customer providing thorough information about their facility and equipment during a telephone interview (Telephone Interview Analysis). This option may be limited to demand-metered customers.

3) Specific recommendations based on a one-day onsite audit of the facility and its equipment (On-site Audit and Analysis).

 Specific recommendations based on additional engineering and analysis dependent upon the customer paying the full cost of the expanded assessment.

# Smart Saver<sup>®</sup> for Non-Residential Customers (Conservation Program)

This program will provide incentives to non-residential customers for installing energy-efficient equipment involving new construction, retrofit, and replacement of failed equipment. The different components of the program are:

### Non-residential Prescriptive Incentive Program

This program will provide incentives to non-residential customers to install high efficiency equipment in applications involving new construction, retrofit, and replacement of failed equipment. The chosen technologies are the current applications seen as cost effective and easily implemented through incentives. This program promotes a fixed incentive amount for qualifying lighting, heating, ventilating and air-conditioning equipment, controls for lighting and/or air conditioning, high efficiency computers, motors, food service equipment, commercial washing machines, vending equipment controllers, window film, water heating equipment and thermal storage as well as a variety of specific use measures such as engineered nozzles for compressed air systems, night covers for refrigeration displays, head pressure control for refrigeration, insulated wraps for the barrels of injection molding machines and extruders, insulated ducts for pellet dryers or storage hoppers, and chilled water reset controls.

# Non-residential Custom Incentive Program

This program will provide a custom incentive amount for qualifying equipment that is not covered by the prescriptive incentive program. In order to determine the value and establish the incentive levels, these measures will be evaluated based on the particular load shape impact. These measures may change over time as well as the incentive levels in response to technology development, market/customer needs, and as standards for efficiency change.

# PowerShare<sup>®</sup> (Demand Response Program)

Duke Energy Ohio's innovative demand response pricing program is PowerShare<sup>®</sup>. The new, revised version of PowerShare<sup>®</sup> program provides financial incentives in the form of bill credits to industrial and commercial customers to reduce their electric demand during periods of peak load on the Duke Energy Ohio system. Customers may choose to participate in either CallOption or QuoteOption.

CallOption requires customers to commit to a pre-selected load reduction, based on historic or usual demand, at a selected strike price. The strike price is selected by the customer based upon the customer's willingness and ability to comply with the call for a load reduction. In return for a commitment to reduce load when called, CallOption customers receive a monthly premium payment from Duke Energy Ohio as a credit to the bill; in addition, when they are called to reduce load, the customers receive an energy credit based upon the strike price. CallOption customers may "buy through" when they are called upon to reduce load, but they must pay the market prices for any power taken that is subject to the CallOption. Customers are offered a day-ahead and same-day notification option. The level of incentive depends upon the selected parameters: the contracted-for option load and the strike price. The CallOption program includes "built-in" limitations on the number of occurrences (hours) the CallOption can be invoked during the time period.

The second option, QuoteOption, allows customers to elect whether or not to reduce load when called, at a selected minimum price. No monthly premium is paid to QuoteOption customers since they can elect not to respond when called, but an energy credit is paid for load reductions made in response to Duke Energy Ohio calls. Because customers have the right to elect whether or not to respond to a call, the QuoteOption essentially offers customers a no-risk proposition. While this election feature gives the Company less control over, and certainty of, load reductions, it also provides load reductions from a group of customers that would not participate if they had to contractually commit to load reductions.

The following table provides projected impacts for the extent of the ESP from the proposed set of energy efficiency programs.

•			· .	LOAD MPACT	IS OF PROPOSED P	ROGRÁN	S CUMULATIV	E FROM 2009	· · · · · · · · · · · · · · · · · · ·	
· · ·	Projected MWH AND NW Conserva				ntion Program Impacts			Prejected MW Demand Response Program Impacts		
Year	Residential	Line-Residential	Tutai	Residential	Non-Residential	Total	Power Share	Power Manager	Tetal Demand Response	MY
2009	58,226	46,476 :	164,782	9.7	10.7	20.3	53.0	29.4	25.9	46.2
2010	125,889	97,699 149,383	227,408 363,706	22.0 37.1	22.4 34.1	- 44.4 71.1	85.5 109.8	42.9 56.5	39.4 52.9	03.0 124.0
2012	310,737	206,345	617,082	54.5	. 46.9	101.6	121.2	56.5	57.4	159.9

### <u>APPENDIX C – ENVIRONMENTAL RISKS</u>

### 1. Ozone National Ambient Air Quality Standard (NAAQS)

In 1997, the United States Environmental Protection Agency (USEPA or EPA) announced a more stringent ozone standard to protect human health. That standard established new limits for the permissible levels of ground level ozone in the atmosphere. However, the effect of the standard and its implementation were delayed for years in court proceedings, as the standard was challenged, but ultimately upheld. Still, the Circuit Court for the District of Columbia invalidated the USEPA's implementation procedure for dealing with the 8-hour ozone standard. The USEPA has yet to finalize implementation rules for the 8-hour ozone standard in accordance with the Court's opinion. Compliance with the new standard could require significant reductions in volatile organic compounds (VOC) and nitrogen oxide  $(NO_x)$  emissions from utility, automotive and industrial sources including Duke Energy Ohio facilities. To assist states in attaining the new standard, the USEPA developed the Clean Air Interstate Rule (CAIR) to address the effects of transported emissions. As is described later, that rule required additional reductions from utility generating units, but was ultimately vacated by the Court.

In March 2008, the USEPA finalized a change to increase the stringency of the existing 8-hour ozone standard. States must recommend non-attainment area designations by March 2009, and USEPA must finalize those designations by March 2010. States will then have until 2013 to submit plans to implement the new

standards, if necessary. If additional emission reductions are required, sources would have to be in compliance between 2013 and 2030, depending on the severity of the ozone problem.

Various aspects of the implementation rules for the current and new standards are under development and/or litigation. Depending on the final outcome of the rules for the current and new standard, as well as each jurisdiction's non-attainment status, states may require affected sources to implement pollution controls in the future to reduce emissions which lead to the creation of ozone. Duke Energy Ohio will continue to monitor these developments and their potential impact on the Company.

### 2. New Particulate NAAQS (PM 2.5)

In 1997, USEPA announced new annual and daily particulate matter (PM) standards intended to protect human health. The standards establish limits for very small particulate, those considered respirable, which are less than 2.5 microns in diameter. The control of these very small particles could require significant reductions in gaseous sulfur dioxide and nitrogen oxides emissions. As with the ozone standard discussed above, USEPA's new PM standard and subsequent implementation were delayed for years because of legal challenges.

In 2005, USEPA finalized state non-attainment area designations to implement the new PM standard. To assist states in attaining the new PM standard, the USEPA developed the CAIR to address the effects of transported emissions. As described

later, that rule required additional emission reduction from utility generating units, but was ultimately vacated by the Court.

On April 27, 2007, USEPA finalized requirements for states to meet the implementation of the PM 2.5 standard which were subsequently challenged in court. Depending on the outcome of the implementation rule litigation, and each county's non-attainment status, states may require some sources to install pollution controls in the 2010 to 2015 timeframe to reduce emissions which lead to the formation of PM 2.5.

On October 17, 2006, the USEPA finalized its rule strengthening the 24-hour fine particle standard from the 1997 level of 65 micrograms per cubic meter, to 35 micrograms per cubic meter and retained the current annual fine particle limit. On August 19, 2008 the USEPA proposed non-attainment designations under the new rule for areas in Ohio. The USEPA and the States will now follow a schedule to implement the new 24-hour standard with attainment of the standard in the 2015 to 2020 timeframe.

Various aspects of the implementation rules for the current and new standards are under development and/or litigation. Depending on the final outcome of the rules for the current and new standard, as well as each jurisdiction's non-attainment status, states may require affected sources to implement pollution controls in the future to reduce emissions which lead to the creation of particulate matter. Duke Energy Ohio will continue to monitor these developments and their potential impact on the Company.

### 3. Clean Air Interstate Rule (CAIR

To assist in attaining the 1997 revised ozone and PM NAAQS, the USEPA developed the CAIR to address the effects of transported emissions. This rule, implemented over two distinct phases, required certain states to reduce emissions of NOx beginning in 2009 and SO2 beginning in 2010. The reductions were to come from utility generating units and other sources. In August 2005, the USEPA proposed a Federal Implementation Plan (FIP) to reduce interstate transport of fine particulate matter and ozone. This proposed rule would only be applicable to facilities in states without approved SIPs under the CAIR. The USEPA finalized the FIP in 2006. The Ohio Environmental Protection Agency (OEPA) finalized the development of CAIR implementation regulations in 2006.

In December 2005, numerous states, environmental organizations, industry groups and individual companies challenged various portions of the CAIR. On July 11, 2008 the Circuit Court of Appeals for the District of Columbia ruled that the USEPA had surpassed its authority under the Clean Air Act (CAA) in the development of the CAIR. Among other issues, the court determined that the CAIR, in using a cap-andtrade mechanism for the prevention of interstate transport of emissions, did not sufficiently address or guarantee the elimination of individual sources' significant contributions to downwind non-attainment. The court also determined that the use of a surrender ratio on the existing acid rain program SO2 allowances was unlawful. While the court decided to vacate CAIR in its entirety, it has not at this time issued its mandate. Issuance of the mandate could be delayed for an unknown period of time depending on appeals.

However, even without CAIR, Ohio and the other affected states are still required by the Clean Air Act to develop the necessary emissions reductions of  $SO_2$  and  $NO_x$  to bring many ozone and PM non-attainment areas into attainment in the 2009-2015 timeframe. The emissions reductions contained in CAIR were not intended by themselves to bring all the non-attainment areas into attainment, but rather address the effects of transported emissions. With the Court's recent ruling, it is not clear what actions the states may take in the absence of CAIR.

#### 4. North Carolina Section 126 Petition

Section 126 of the CAA authorizes downwind states to petition USEPA to control upwind source emissions that are significantly contributing to non-attainment in the state. In March 2004, the state of North Carolina filed a petition under Section 126 of the CAA in which it alleges that sources in 13 upwind states, including Ohio, significantly contribute to North Carolina's non-attainment with ozone and fine particulate matter ambient air quality standards. In August 2005, USEPA proposed to deny the North Carolina petition based upon the final CAIR and proposed CAIR Federal Implementation Plan (FIP). The USEPA finalized their Section 126 Petition decision in April 2006, by denying the North Carolina petition.

North Carolina has challenged USEPA's decision denying the petition and that litigation was being held in abeyance while CAIR litigation proceeded. With the CAIR vacature, the Court has not at this time determined how this litigation will proceed. Depending on the outcome, it is possible that greater or faster emissions reductions than those required under CAIR may be required in the future. Duke Energy Ohio will actively participate in any subsequent rulemaking process as necessary. Clean Air Mercury Rule (CAMR)

The OEPA adopted the USEPA version of the CAMR model rule on October 3, 2007. The Ohio rule maintained the emissions caps and regulatory timelines contained in the final USEPA CAMR Numerous states, environmental organizations, industry groups and individual companies have challenged various portions of the CAMR and the determination that it is not appropriate or necessary to regulate mercury emissions under Section 112 of the Clean Air Act and that coal-fired generating units should be "de-listed" from that Section.

On February 8, 2008, a three judge panel of the Circuit Court of Appeals for the District of Columbia ruled that EPA incorrectly "de-listed" coal-fired generating units from mercury regulation under Section 112 of the Clean Air Act. Following this ruling, the entire Clean Air Mercury Rule was based on a cap-and-trade compliance mechanism under Section 111 of the CAA. The USEPA appealed this decision to the full Circuit Court, but the full court declined to hear the appeal. Ultimately, this may be appealed to the Supreme Court.

With the CAMR vacated, it is not clear what actions the USEPA might take or in what time frame. It is possible that USEPA might undertake new rule making to develop a Maximum Achievable Control Technology (MACT) standard for mercury and perhaps other Hazardous Air Pollutants (HAPs). A MACT standard could require compliance on a unit-specific or facility-wide basis, and result in additional emission control installations beyond that expected under the original CAMR. It could be several more years before the final requirements of the CAMR are known. Duke Energy Ohio will continue to monitor these developments and their potential impact on the Company.

### 5. Regional Haze

In June 2005, the USEPA issued final regional haze rules, also known as the Clean Air Visibility Rules (CAVR). These rules establish planning and emission reduction timelines for states to use to improve visibility in national parks throughout the United States. The ultimate effect of the new regional haze rules is to eliminate man-made "regional haze" in the next 60 years. These new emission reduction rules could require newer and cleaner generation technologies and additional SO<sub>2</sub> and NO<sub>x</sub> emission controls on utility sources. However, EPA concluded in the final rule, that for utilities, a SIP compliant with CAIR would require more reductions than CAVR, and therefore no additional reductions would be required. However, states may choose to implement more stringent emission reductions than promulgated by the USEPA. However with the July 11, 2008 vacature of CAIR, and ultimate release of the court's mandate, the assumption that a SIP compliant with CAIR requires more reductions than CAVR will be rescinded. This in turn will require revisions to the states' visibility SIPs.

### 6. Clean Water Act Section 316(a) and 316(b)

Protection of single fish species and aquatic communities is a primary focus of water permitting for coal, oil, gas, and nuclear power plants and industrial facilities under the Clean Water Act Section 316(a) - heated cooling water discharges, and 316(b) – entrainment through cooling water intake systems and impingement on intake screens. The financial implications of new 316(a) and 316(b) regulations to electric generation capacity and plant operations are potentially large. Electric utilities generally have a far greater number of cooling water intake structures and higher flows than other industries.

All of Duke Energy Ohio's existing stations that have once-through cooling are potentially affected by Section 316(a) regulation of a station's heated cooling-water discharge. Currently the 316(a) is not considered to be a significant threat for the Duke Energy Ohio stations except for Stuart Station. Stuart Station is currently negotiating a new NPDES permit with Ohio EPA. Ohio EPA is concerned with elevated water temperatures in the Ohio River from Stuart Station. Some Station modifications to address the elevated temperatures in the Ohio River will likely be needed to comply with the new NPDES permit.

In December 2001, U.S. EPA published the final 316(b) rule for new cooling water intake sources. This rule will impact the design of cooling water intakes at any new power plants built in the future. The rule requires that new intake structures have closed cooling systems equipped with low design flow screens, using only a small

percentage of the intake stream's flow rate. Detailed biological studies are needed to support intake system design.

EPA signed the rule for existing facilities in February 2004. It applies to existing once through cooling facilities that have a design flow of 50 million gallons per day or more. It requires a facility to meet performance standards which are to reduce impingement mortality by 80-95% (compared to a baseline) and, if the intake flow is large enough compared to the water body, reduce entrainment by 60-90%. The impingement performance standards would apply to the Duke Energy Ohio plants that are covered by the final rule. Duke Energy Ohio plants are currently performing the biological studies required by the final rule.

On January 25, 2007, the U.S. Court of Appeals for the Second Circuit issued its opinion in *Riverkeeper, Inc. v. EPA*, Nos. 04-6692-ag (L) et. al. (2d Cir. 2007) remanding most aspects of EPA's rule back to the agency. The court effectively disallowed those portions of the rule most favorable to industry, and the decision creates a great deal of uncertainty regarding future requirements and their timing. Duke Energy Ohio is still unable to estimate costs to comply with the EPA's rule, although it is expected that costs will increase as a result of the court's decision. The magnitude of any such increase cannot be estimated at this time.

### 7. Bevill Determination

In May 2000, USEPA (or "Agency") issued a regulatory determination for fossil fuel combustion wastes (65 FR 32214, May 22, 2000). The USEPA determined current management practices for these wastes were adequate and did not warrant management under the subtitle C (hazardous waste) of the Resource Conservation and Recovery Act (RCRA). The Agency's decision was that all fossil fuel combustion wastes should be managed under the Subtitle D program of RCRA as a non-hazardous waste. However, the Agency also determined that some state Subtitle D regulatory programs contained gaps in their regulations and federal standards may be necessary. The USEPA also reserved the right to revisit the 2000 Non-Hazardous Regulatory Determination if future emission control additions change the characteristics for fossil fuel combustion wastes enough to warrant further study.

The utility industry has made significant improvements in its waste management practices over recent years and that the regulatory record continues to improve through implementation of more stringent state regulatory programs. The Agency published in the Federal Register on August 29, 2007, a notice of data availability (NODA) requesting comments on new information regarding the current management practices of coal combustion wastes in landfills and ash ponds. The NODA contained a report jointly issued by the EPA and DOE on all state issued permits for both landfills and ash ponds issued between 1994 and 2004. It also contained two proposals, one from the Electric Utility Industry called the Action Plan which addresses all gaps found by the USEPA in the various state regulatory programs, and another proposal from a consortium of non-governmental stakeholders that looked very much like a Subtitle C hazardous waste regulatory program. The Agency will have the discretion to initiate the development of federal standards under subtitle D of RCRA, or they can dismiss the rulemaking if the regulatory record demonstrates that practices continue to improve and state programs are adequately regulating these materials under their non-hazardous solid waste regulations. Duke Energy Ohio will continue to monitor these developments and their potential impact on the Company.

### 8. Arsenic

Arsenic is one of the eight Resource Conservation and Recovery Act (RCRA) metals, and one of thirteen priority pollutant metals. Trace amounts of arsenic exist in coal and oil and are released when those fuels are burned to produce electricity. Most of the arsenic attaches itself to particles of fly ash and is captured before being emitted to the air. Duke Energy Midwest's ash is primarily managed wet by being hydraulically sluiced to surface impoundments, or collected dry and is fixated with scrubber sludge and a lime additive to be land filled. Additionally, much of Duke Energy Midwest's ponded and dry ash is beneficially reused in structural fills or concrete applications.

In 2001, USEPA revised the arsenic drinking water standard under the Safe Water Drinking Act (SWDA) from 50 parts per billion (ppb) maximum contaminant level (MCL) to 10 ppb. State regulatory agencies typically incorporate SWDA drinking

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water MCLs into other regulatory programs such as groundwater quality standards (GWQS), soil assessment thresholds and remediation programs. The OEPA has incorporated the new arsenic MCL into the various state water and solid waste regulatory programs including its ground water quality standards. This new standard could mean substantial direct and indirect costs for the utility industry. The current state ground water monitoring programs for new facilities of implementation of the Utility Action Plan, mentioned earlier, around existing active ash ponds will require groundwater monitoring wells be installed around Duke Energy Ohio's ash ponds. The lower arsenic MCL may mean some of the Company's waste management units are placed in programs of further assessment which could eventually force Duke Energy Ohio into corrective action on these waste management units. These same facilities when monitored under the old standard may not trigger these actions. Corrective action for surface impoundments and landfills could be expensive, as mentioned previously.

Additionally, the MCL value is also linked to what in RCRA is referred to as the Toxicity Characteristic, or TC, level. This value is ordinarily set at 100 times the MCL and is used to determine when an industrial waste is hazardous, however this does not pertain to fossil fuel combustion waste. The current TC level for arsenic is 5 parts-per-million (ppm). If USEPA so chooses, it could initiate revision to this value to reflect the change in the MCL. This would change the arsenic TC level to 1 ppm and could mean having to handle some industrial wastes as hazardous waste. The change in the TC level is not automatic and would have to be proposed through notice and comment rulemaking. Duke Energy Ohio will continue to monitor the situation.

# 9.Global Climate Change

Duke Energy Corporation's focus on the issues surrounding global climate change began in 1994, shortly after the merger of PSI Energy and The Cincinnati Gas & Electric Company created the Cinergy Corp. Cinergy, which in 2006 merged with Duke Energy Corporation, first worked internally to evaluate its greenhouse gas emissions profile and determine an appropriate reduction strategy. Duke Energy Corporation's first efforts to address these emissions, which most scientists believe are contributing to global climate change, were made in conjunction with membership in the U.S. Department of Energy (DOE) Climate Challenge Participation Accord (Climate Challenge or Participation Accord) signed by Cinergy in February 1995. This accord, which encouraged companies to take voluntary steps to reduce their greenhouse gas emissions, expired December 31, 2000, but the actions Duke Energy Corp. took to reduce its Midwest emissions continue.

In keeping with its climate challenge commitment, Duke Energy Corp. continues to participate in the Rio Bravo forest preservation and sustainable management project as part of the U.S. Initiative on Joint Implementation (USIJI). The project, based in Belize, is a partnership with three other investor-owned utilities, The Nature Conservancy, The Programme for Belize (a non-profit environmental organization), and UtiliTree Carbon Company (a utility industry initiative through the Edison Electric Institute).

Duke Energy Corp. continues to lead the industry in promoting public policy positions in Washington that would regulate greenhouse gas emissions through a cap and trade market-based system. Cinergy first noted the emerging climate science in testimony presented in 2000 before the U.S. Senate Committee on Environment and Public Works. In 2003, Cinergy began calling for national greenhouse gas regulation. In December 2004, Cinergy published its Air Emissions Report to Stakeholders, which discussed the risks, challenges and opportunities of operating in a carbonconstrained environment. In the spring of 2005, Cinergy published its first annual report (for year 2004) which focused on the global climate change issue. In 2006, Duke became a founding member of the United States Climate Action Partnership (USCAP), an alliance of major businesses and leading environmental groups that, after a year of dialog and collaboration, developed a set of principles and recommendation to guide development if climate change legislation. In 2007, Duke Energy Corp. testified in both Senate and House committees on the specific design of an economically fair greenhouse gas regulatory program. Through participation in USCAP and other organizations, in 2008 Duke Energy Corp. actively participated in the debate surrounding America's Climate Security Act, introduced in the U.S. Senate as S. 2191, helping to ensure that stakeholders understood the proposed legislation's cost implications for Duke's customers.

Duke Energy Corp. reports its greenhouse gas emissions and offsets annually to the Department of Energy through the Section 1605(b) process. Its first report, in 1995, identified activities implemented between 1991 and 1994 that reduced or offset the Company's greenhouse gas emissions. Additionally, Duke Energy Corp. has participated in the Carbon Disclosure Project since 2003 and joined the Advisory Committee for development of the Multi-state Climate Registry in 2007.

Duke Energy Corporation's Section 1605(b) reports list activities that reduced or offset Duke Energy Midwest's GHG emissions. Activities implemented or supported by Cinergy Corp., and now Duke Energy Corp., that have reduced or offset its GHG emissions include:

- Electric generation from recovered landfill (methane) gas;
- Energy efficiency conservation and demand response programs;
- Landfill gas recovery for use as a natural gas supply;
- Rio Bravo carbon sequestration project;
- Trees planted at Duke Energy's Midwest facilities;
- Forestry projects with the Ohio and Ohio Chapters of The Nature
  Conservancy, Ducks Unlimited, and the National Wild Turkey Federation;
- Edison Electric Institute UtiliTree Carbon Co.;
- PowerTree Carbon Company, LLC;
- Beneficial reuse of coal ash;
- Efficiencies created through merged dispatching;
- Power plant efficiency programs;

- Coal gasification;
- Combined heat and power plant projects; and
- Paper and aluminum recycling.

In 1999, Cinergy agreed to participate in the USEPA voluntary sulfur hexafluoride  $(SF_6)$  Emissions Reduction Partnership for Electric Power Systems. The purpose of the agreement is to achieve environmental and economic benefits by reducing emissions of SF<sub>6</sub> during operation and maintenance of equipment used in the transmission and distribution of electricity.

One of Duke Energy Corporation's non-regulated subsidiaries, Duke Energy Generation Services, is developing and implementing a number of higher energy efficiency projects (*e.g.* combined heat and power, district heating and cooling, *etc.*). Duke Energy Corp. is also actively monitoring developments in the carbon markets, both the voluntary domestic markets and the regulated markets worldwide.

Research and development will be very important in any effort to reduce  $CO_2$ emissions by the electric industry. Duke Energy Corp. is participating in a number of research projects that are investigating the feasibility of capturing  $CO_2$  from waste gas streams and sequestering the  $CO_2$  geologically.

In 2002, Cinergy joined the USEPA's voluntary Climate Leaders program. Under this program, members were asked to work with USEPA to develop and report company-wide inventories of greenhouse gases. Companies were also encouraged to develop corporate-wide GHG reduction goals to be achieved over a 10-year period and provide annual progress reports.

In 2003, the Bush Administration released information on its voluntary approach to reducing greenhouse gas intensity by 18 percent over the next decade. The initiative is called "Climate VISION" (Voluntary Innovative Sector Initiatives: Opportunities Now). The initiative is administered by the Department of Energy. A number of industry associations, including the Edison Electric Institute, provided the administration with commitments that their member industries were willing to make to reduce and offset their GHG emissions voluntarily. The Edison Electric Institute, of which Duke Energy Corp. is a member, pledged to reduce the intensity of its members' carbon dioxide emissions by 3 to 5 percent more than business as usual.

In response to the Climate Leaders commitment, Cinergy announced in September 2003 a voluntary plan to reduce its greenhouse gas emissions to an average of five percent below 2000 levels during the period 2010 through 2012. Additionally, Cinergy committed to spend \$21 million between 2004 and 2010 on projects to reduce or offset its emissions. Cinergy also worked with Environmental Defense, a national environmental organization, to determine the goals and implementation of the program.
While Cinergy's original program expired upon the completion of the merger in April 2006, the new Duke Energy Corp. has announced voluntary greenhouse gas commitments to implement projects to avoid, offset, or reduce 10 million tons of greenhouse gas emissions over the next seven years. As in the predecessor program, \$21 million will be allocated over the period in support of this pledge. Similarly, Duke Energy Corp. will strive to spend at least two-thirds of the dollars on projects that have the potential to reduce emissions from Duke Energy Corporation's generation, transmission and distribution systems. To meet its GHG emission reduction goal, Duke Energy Corp. plans to use a combination of programs that will include new technologies, terrestrial carbon sequestration (forest and soil), energy efficiency programs, improved efficiency of its existing generating fleet, and emission offsets. Duke Energy Corp. will report its emissions annually.

While several bills have been proposed, there remains uncertainty as to if or when Congress will choose to regulate greenhouse gas emissions. In addition, on July 11, 2008 the USEPA released an Advance Notice of Proposed Rulemaking (ANPR) soliciting public input on the effects of climate change and the potential ramifications of the Clean Air Act in relation to greenhouse gas emissions. This action was in response to the April 2007 Supreme Court decision, in Massachusetts vs. USEPA, which found that greenhouse gas emissions could be regulated if the USEPA determines they cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare. At this point in time, it is not clear what action the USEPA of the Congress might ultimately take with respect to greenhouse gas emissions. Despite this uncertainty, Duke Energy Corp. believes greenhouse gases will eventually be regulated. Depending on the policy design, the regulatory program could be very costly. Duke Energy Corp. will continue to be on the forefront in policy analysis and recommendations and in looking for ways to decrease greenhouse gases while continuing to provide affordable energy as efficiently as possible. Duke Energy Corporation's plan for managing the potential risk and uncertainty of regulations relating to climate change includes the following:

- Implementing the voluntary greenhouse gas commitment;
- Measuring and reporting company-related sources of greenhouse gas emissions;
- Identifying and pursuing cost-effective greenhouse gas emission reductions and offsets;
- Funding research of more efficient and alternative electric generating technologies;
- Funding research to better understand the causes and consequences of climate change;
- Investing in renewable energy;
- Promoting energy efficiency;
- Encouraging a global discussion of the issues and how best to manage them – for example, Duke Energy Corp. is a founding member of the United States Climate Action Partnership, the Resources For the Future climate change forum, and participates actively in several other policy foray focused on climate change; and

• Advocating an economy-wide greenhouse gas reduction program.

# 10. Renewable Portfolio Standard (RPS)

The U.S. Congress has considered a number of Federal RPS proposals in the House of Representatives and the Senate. These proposals typically contain certain common design features, including: a renewable production target and schedule; a range of qualifying technologies; tradable renewable energy credits (RECs) and price caps; exemptions for certain classes of retail electricity suppliers; and sunset provisions. Though the various proposals have had common design elements, the specifics of each proposal vary significantly.

A federal RPS has passed the U.S. Senate on three occasions since 2002. In August 2007, the House passed a Federal RPS for the first time, as an amendment to a larger energy bill, by a 220-190 vote. The U.S. Senate, however, was unable to break a filibuster to include RPS in the final energy bill. The House-approved RPS would have required certain retail electric suppliers to include 15% renewable resources in their electric energy supply mix by 2020.

In Ohio, Governor Ted Strickland signed substitute Senate Bill 221 into law on May 1, 2008 establishing, among other things, an alternative energy portfolio standard (AEPS) for the state of Ohio. The law mandates that by 2025, at least 25 percent of all electricity sold in the state come from alternative energy sources. At least half of

the mandated amount, or 12.5 percent of electricity sold, must be generated by renewable resources such as wind and solar (solar must account for at least 0.5 percent of electricity use by 2025), hydropower, geothermal, or biomass. Also, at least half of the mandated amount must be generated within the state as opposed to buying RECs form projects outside of Ohio. In addition to renewables, the 12.5 percent of the overall 25 percent, the mandate can also be met through alternative energy resources like third-generation nuclear, fuel cells, energy efficiency programs, and clean coal technologies that can control CO2 emissions. The bill also creates a renewable energy credit (REC) tracking system, which allows utilities to buy, sell, bank, and trade credits to comply with the renewable energy and solar energy requirements. Additionally, electric utilities will be required to achieve energy savings of 22.5 percent by the end of 2025 through energy efficiency programs. Finally, utilities must also implement programs to reduce peak energy demand by one percent beginning in 2009, and an additional 0.75 percent per year through 2018. with the enactment of this legislation. Ohio becomes the 27<sup>th</sup> state to establish some type of renewable portfolio standard.

SB 221 authorizes the Public Utility Commission of Ohio (PUCO) to develop rules for decoupling, a mechanism that separates utility profits from the volume of electricity sales. The legislation also requires the PUCO to adopt rules establishing greenhouse-gas (GHG) reporting requirements, including participation in the Climate Registry, which aims to develop a common system for tracking GHG emissions between jurisdictions. Ohio defines "renewable energy resources" to be solar photovoltaic or solar thermal energy, wind energy, power produced by a hydroelectric facility, or geothermal energy. The definition continues to include: fuel derived from solid wastes as defined in R.C. 3734.01 through fractionalization, biological decomposition, or other process that does not principally involve combustion, biomass energy, biologically derived methane gas, or energy derived from non-treated by-products of the pulping process or wood manufacturing process, including bark, wood chips, sawdust, and lignin in spent pulping liquors. The definition also includes: any fuel cell used in the generation of electricity, wind turbine located in the states territorial waters of Lake Erie, storage facilities that promote better utilization of a renewable energy resource that generates primarily off-peak, or distributed generation.

## 11. New Source Review (NSR) Rulemaking Revisions:

The Clean Air Act's NSR provisions require that a company obtain a pre-construction permit if it plans to build a new stationary source of pollution or make a major change to an existing facility unless the changes are exempt. In December 2002 and March 2003, the USEPA finalized revisions to the NSR regulations, which represented the first substantial change to the NSR Program since the 1992 NSR Rule. Following USEPA's Reconsideration of the NSR in 2003, multiple petitions for review of the Rule were filed in the D.C. Circuit Court of Appeals. In June 2005, the D.C. Circuit Court issued a decision substantially upholding USEPA's NSR Rule. Two of the key provisions upheld by the Court included a "Demand Growth Exclusion" and the use of a historical baseline emissions period representative of higher historic capacity levels. However, the Court vacated two key provisions of the NSR Program: the "Clean Unit" applicability test of the 2002 NSR Rule and the "Pollution Control Exemption" of the 1992 NSR Rule.

In October 2003, the USEPA published its final rule on Routine Maintenance, Repair, and Replacement Regulation (RMRR) exclusion, referred to as the "Equipment Replacement Provision" (ERP). The ERP was challenged by the State of New York and other citizens groups, and a stay was issued of the ERP Rule in December 2003, while New York's petition challenging the ERP Rule was briefed on appeal. In March 2006, the D.C. Circuit Court issued a decision that vacated the ERP Rule.

In October 2005, USEPA proposed to replace the annual emissions increase test with an hourly emissions test. The proposed hourly emissions test was similar to the hourly emissions test in the New Source Performance Standards (NSPS) program. On April 25, 2007, USEPA proposed further options to change the emissions increase test that would only apply to existing electric generating units at power plants. Duke Energy Corp. continues to monitor the developments regarding this rulemaking, but it is unknown when a final rule will be issued.

# 12. NSR Lawsuits

In November 1999, and through subsequent amendments, the United States brought a lawsuit in the United States Federal District Court for the Southern District of Indiana

against Cinergy, CG&E, and PSI (now generally collectively known as Duke Energy Midwest) alleging various violations of the CAA. Specifically, the lawsuit alleges that the companies violated the CAA by not obtaining Prevention of Significant Deterioration (PSD), Non-Attainment New Source Review (NSR), and Ohio State Implementation Plan (SIP) permits for various maintenance projects at their owned and co-owned generating stations. Additionally, the suit claims that Cinergy (now generally known as Duke Energy Midwest) violated an Administrative Consent Order entered into in 1998 between the USEPA and Cinergy relating to alleged violations of Ohio's SIP provisions governing particulate matter at Unit 1 at the W.C. Beckjord Station. The suit seeks (1) injunctive relief to require installation of pollution control technology on various generating units at the W.C. Beckjord and Miami Fort Stations, and the Cayuga, Gallagher, Wabash River, and Gibson Stations, and (2) civil penalties in amounts of up to \$27,500 per day for each violation. In addition, three northeast states and two environmental groups have intervened in the case.

A jury trial on liability issues commenced on May 5, 2008, in Indianapolis, Indiana. Duke Energy Midwest lost the argument that all of the projects were the result of Routine Maintenance, Repair, and Replacement Regulation (RMRR), and therefore exempt from NSR. However, no increase in emissions could be proven by the government on any of the projects in the lawsuit except for SO2 and/or NOx claims on three small coal-fired units in Indiana. In addition, the PM violations on WCB. In March 2000, the United States also filed in the United States District Court for the Southern District of Ohio an amended complaint in a separate lawsuit alleging violations of the CAA relating to PSD, NSR, and Ohio SIP requirements regarding various generating stations, including a generating station operated by Columbus Southern Power Company (CSP) and jointly-owned by CSP, The Dayton Power and Light Company (DP&L), and CG&E. A bench trial occurred in mid 2006. CSP is a subsidiary of American Electric Power. On October 9, 2007, AEP announced a settlement agreement with the United States, eight states and thirteen citizen groups, resolving litigation regarding alleged violations of the NSR provisions of the CAA. AEP admitted no violations of law, and all claims against AEP were released, including the claim involving the generating station jointly owned by CSP, DP&L and CG&E.

On September 21, 2004, the Sierra Club, et al. filed a complaint in the United States District Court for the Southern District of Ohio alleging violations of the CAA relating to PSD, NSPS, Title V, and the Ohio SIP at the J. M. Stuart Station. Stuart Station is co-owned by DP&L, Duke Energy Ohio, and CSP, and is operated by DP&L. On August 7, 2008 DP&L announced the filing of a consent decree (CD) with the court in this matter. In the CD, DP&L did not admit to any violations of the law. This CD settlement must be considered and approved by the District Court. A ruling is expected by the end of the third quarter 2008 after the expiration of a 45-day public comment period and a review by the USEPA and the Department of Justice.

# 13. CO<sub>2</sub> Lawsuits

In July 2004, the states of Connecticut, New York, California, Iowa, New Jersey, Rhode Island, Vermont, Wisconsin, and the City of New York brought a lawsuit in the United States District Court for the Southern District of New York against Cinergy, American Electric Power Company, Inc., American Electric Power Service Corporation, The Southern Company, Tennessee Valley Authority, and Xcel Energy Inc. That same day, a similar lawsuit was filed in the United States District Court for the Southern District of New York against the same companies by Open Space Institute, Inc., Open Space Conservancy, Inc., and The Audubon Society of New Hampshire. These lawsuits allege that the defendants' emissions of  $CO_2$  from the combustion of fossil fuels at electric generating facilities contribute to global warming and amount to a public nuisance. The complaints also allege that the defendants could generate the same amount of electricity while emitting significantly less CO<sub>2</sub>. The plaintiffs are seeking an injunction requiring each defendant to cap its CO<sub>2</sub> emissions and then reduce them by a specified percentage each year for at least a decade. In September 2005, the district court granted the defendants' motion to dismiss the lawsuit. The plaintiffs have appealed this ruling to the Second Circuit Court of Appeals. Oral argument was held before the Second Circuit Court of Appeals on June 7, 2006.

In a separate action, on April 27, 2006, several states and environmental groups filed a petition asking the DC Circuit Court of Appeals to review USEPA's ability to establish  $CO_2$  emissions standards for boilers under the New Source Performance Standard regulations. Duke Energy Ohio will continue to monitor this litigation and its potential impact on the Company.

On February 26, 2008, the Native Village of Kivalina and the City of Kivalina, Alaska filed a lawsuit in the United States District Court for the Northern District of California. In the lawsuit, the plaintiffs allege that Duke Energy Corp. and numerous other defendants contribute to and alleged public nuisance of global warming by emitting greenhouse gasses, including carbon dioxide, into the atmosphere as a result of their business operations. Plaintiffs allege these greenhouse gas emissions have contributed to global warming, which has reduced the sea ice that acts as a protective barrier to costal winter storms. According to the plaintiffs, storm waves and surges are destroying Kivalina, and the village is in imminent danger of falling onto the sea. Plaintiffs also allege that Duke Energy Corp. and the other defendants acted in concert with each other to create, contribute to, and/or maintain the public nuisance of global warming. The lawsuit also raises civil conspiracy claims against some of the defendants, including Duke Energy Corporation, claiming that those defendants conspired to create a false scientific debate about global warming in order to deceive the public and perpetuate the alleged nuisance of global warming. Duke Energy Corp. continues to monitor the developments in this case, but it is unknown what the final outcome might be at this time.



Ohio

# The Duke Energy Ohio 2008 Integrated Resource Plan: Transmission Information Volume

October, 2008

This Transmission Information Volume is an integral part of the Duke Energy Ohio 2008 IRP filing. Please see the submittal letters and other specific filing attachments contained in the front of the <u>Duke Energy Ohio 2008 Integrated Resource Plan</u>.

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# TRANSMISSION VOLUME

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# 1. TRANSMISSION EXECUTIVE SUMMARY

### A. SYSTEM DESCRIPTION

In the certified service territories of its operating companies, Duke Energy Ohio, Duke Energy Kentucky and Duke Energy Indiana (together referred to as Duke energy Midwest) serves the energy needs of 1.61 million electric customers and approximately 523,000 gas customers. Its service area spans 25,000 square miles in North Central, Central, and Southern Indiana, Southwestern Ohio, and Northern Kentucky.

Duke Energy Ohio and its utility subsidiaries operate in contiguous territories, providing electric service to approximately 826,000 customers and gas service to about 523,000 customers in an area covering some 3,000 square miles in Southwestern Ohio and adjacent areas in Kentucky. Duke Energy Ohio's service territory includes the cities of Cincinnati and Middletown, Ohio.

The Duke Energy Midwest transmission system is comprised of the 345 kilovolt (kV) and 138 kV systems of Duke Energy Ohio and the 345 kV, 230 kV, and 138 kV systems of Duke Energy Indiana. The transmission system serves primarily to deliver bulk power into and/or across Duke Energy Midwest's service area. This bulk power is distributed to numerous substations that supply lower voltage sub-

transmission systems, distribution circuits, or directly serve large customer loads. Because of the numerous interconnections Duke Energy Midwest has with neighboring balancing authorities, the Duke Energy Midwest transmission system increases electric system reliability and decreases costs to customers by permitting the exchange of power and energy with other utilities on an emergency or economic basis.

Portions of the Duke Energy Ohio 345 kV transmission system are jointly owned with Columbus Southern Power (CSP) and/or Dayton Power & Light (DP&L). As of December 2007, 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 712 circuit miles of 138 kV lines. Duke Energy Ohio is directly connected to five balancing authorities (American Electric Power, Dayton Power and Light, East Kentucky Power Cooperative, Louisville Gas and Electric Energy, and Ohio Valley Electric Cooperative) as well as Duke Energy Indiana.

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# B. ELECTRIC TRANSMISSION FORECAST

The Duke Energy Midwest transmission system is planned as a single, integrated system, with primary objectives, as follows:

- To provide safe, adequate, reliable, and economical service to customers.
- To maintain the flexibility and ability to alter the plan in the future as circumstances change.
- To minimize risk

As of February 1, 2002 The Midwest Independent Transmission System Operator (MISO) took over functional control of the region's transmission system. As a member of the Midwest ISO (MISO), Duke Energy Ohio participates in the MISO planning processes, and is subject to the overview and coordination mechanisms of the MISO. Additional coordination occurs through a variety of mechanisms, including Reliability*First* Corporation (RFC) and joint meetings with the other entities held as necessary.

# 2. ELECTRIC TRANSMISSION FORECAST

## A. GENERAL DESCRIPTION

The Duke Energy Midwest transmission system is comprised of 138 kV, 230 kV, and 345 kV systems. The 345 kV system generally serves to distribute power from Duke Energy Midwest's large generating units on the system, and to interconnect the Duke Energy Midwest system with other systems. These interconnections enable the transmission of power from generating units and they provide capacity for economy and emergency power transfers. The 345 kV system is connected to the 138 kV and 230 kV systems through large transformers at a number of substations across the system. These 138 kV and 230 kV systems generally distribute power received through the transformers and also from several smaller generating units, which are connected directly at these voltage levels. 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 February 1, 2002, the Midwest Independent Transmission System Operator (MISO) took over functional control of the region's transmission. As a member of the Midwest ISO (MISO), Duke Energy Ohio participates in the MISO planning processes, and is subject to the overview and coordination mechanisms of the MISO. Additional coordination occurs through a variety of mechanisms, including Reliabiliy*First* Corporation (RFC) and joint meetings with the other entities held as necessary.

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# B. TRANSMISSION AND DISTRIBUTION PLANNING PROCESS

Transmission and distribution planning is a complex process which requires the evaluation of numerous factors to provide meaningful insights into the performance of the system. Duke Energy Midwest's distribution system planners gather information concerning actual distribution substation transformer and line loadings. The loading trend for each transformer is examined, and a projection of future transformer bank loading is made based on the historic load growth combined with the distribution planners' knowledge of load additions within the area. The load growth in a distribution planning area tends to be somewhat more uncertain and difficult to predict than the load forecasts made for Duke Energy Midwest as a whole.

Customers' decisions can dramatically impact not only the location of future capacity, but also the timing of system improvement projects. Because of this uncertainty, distribution development plans must be under continual review to make sure the proposed specific projects remain appropriate for the area's needs.

Transmission and distribution (T&D) planning generally depends on the specific location of the loads; therefore, the effects of co-generation capacity on T&D planning is locationspecific. To the extent that fewer new T&D resources are required to serve these customers or the local areas in which they reside, Duke Energy Midwest's T&D planning will reflect this change. It typically takes 18 to 24 months to add new distribution substation capacity to an area. Factors closely related to the future customer's load, such as local knowledge of growth potential based upon zoning, highway access, and surrounding development can help forecast ultimate distribution system needs.

The transmission system planners utilize the historical distribution substation transformer bank loading and trends, combined with the Duke Energy Midwest load forecast and resource plan and firm service schedules, to develop models of the transmission system. These models are utilized to simulate the performance of the transmission system under a wide variety of credible conditions to ensure that the expected performance of the transmission system meets both RFC and Duke Energy Midwest planning criteria. Should these simulations indicate that a violation of the planning criteria occurs, more detailed studies are conducted to determine the severity of the problem and possible measures to alleviate it. Duke Energy Midwest's planning criteria is included in Duke Energy Shared Services, Inc. FERC FORM 715 *Annual Transmission Planning and Evaluation Report*, April 1, 2008.

# Duke Energy Shared Services, Inc. FERC FORM 715 Annual Transmission Planning and Evaluation Report HAS BEEN WITHHELD AS CRITICAL ENERGY INFRASTRUCTURE INFORMATION.

Additionally, as indicated earlier, Duke Energy Midwest, as a member of the MISO, will coordinate models and studies with the MISO. The MISO will review Duke Energy

Midwest's proposed plans and make comments and suggestions. Ultimately, the MISO has responsibility for development of the regional transmission plan.

# C. SYSTEM-WIDE RELIABILITY MEASURE

At the present time, there is no measure of system-wide reliability that covers the entire system (transmission, distribution, and generation).

# D. EVALUATION OF ADEQUACY FOR LOAD GROWTH

The transmission system of Duke Energy Midwest is adequate to support load growth and the current level of projected long-term power purchases and sales over the next ten years. This assumes that the planned transmission system expansions are completed as currently scheduled. For details on the planned transmission projects see Section G, Transmission Project Descriptions. Duke Energy Midwest's transmission system, as with the transmission system of any other utility, can be significantly affected by the actions of others. In an attempt to evaluate these effects, RFC develops a series of power flow simulation base cases that reflect the expected transmission system configuration and transactions. Should actual conditions differ significantly from those assumed in the base cases, a re-evaluation of the adequacy of the Duke Energy Midwest transmission system would be required.

## E. LOSS EVALUATION

Screening analyses were performed to determine the effect of spending capital dollars solely for the purpose of reducing losses. Since it is becoming increasingly more difficult to construct new transmission lines on new right of way, the analyses assumed that existing transmission lines would be reconductored to reduce losses. The results of the analyses showed that it is NOT economical to spend capital dollars solely for the benefit of reducing losses on a system-wide basis.

For example, an analysis on the Duke Energy Ohio system assumed average costs for reconductoring and it used a weighted, average value for the existing losses on the transmission lines. This weighted value was based on existing miles of line in service by voltage class and conductor size. A power flow case was run to determine the existing losses at system peak load by voltage class. This was used as a benchmark when calculating the amount of loss reduction by reconductoring to determine the reasonableness of the results. In this analysis, close to one billion dollars would be required to reconductor the entire Duke Energy Ohio transmission system resulting in a reduction of approximately 37 megawatts of losses during the peak loading period. The cost per kilowatt would be over \$20,000.

These analyses clearly show that a system wide program of reducing losses on the Duke Energy Midwest transmission system through transmission-related alternatives is not economical. As a result, no loss-reduction alternatives were passed to the integration process. Duke Energy Midwest will continue to evaluate specific cases where it may be economical to reconductor lines based on line loss reduction. The above discussion is not to imply that power and energy losses are not considered. Loss performance is factored into the choice between alternate projects intended to meet other system performance objectives.

## F. TRANSMISSION EXPANSION PLANS

The transmission system expansion plans for the Duke Energy Midwest system are developed for the purpose of meeting the projected future requirements of the transmission system. The basic methodology used to determine the future requirements is power flow analysis. Power flow representations of the Duke Energy Midwest electric transmission system, which allow computer simulations to determine MW and MVAR flows and the voltages across the system, are maintained for the peak periods of the current year and for future years. These power flow base cases simulate the system under normal conditions with typical generation, and no transmission outages. They are used to determine the general performance of the existing and planned transmission system under normal conditions.

Contingency cases based on the peak load base cases are studied to determine system performance for planned and unplanned transmission and generation outages. The results of these studies are used as a basis to determine the need for and timing of additions to the transmission system.

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# G. TRANSMISSION PROJECT DESCRIPTIONS

The following planned transmission projects include new substation transformers, transmission capacitors, transmission circuits, and upgrades of existing circuits.

Duke Energy Ohio has completed a program to install transmission voltage capacitors. These capacitors are necessary to maintain and improve the over-all transmission voltage profile, reduce system losses, and reduce interconnection reactive imports. Duke Energy Ohio will continue to evaluate the system to determine when additional transmission voltage capacitors are required to meet these goals. Alternatives to capacitor installations include construction of additional transmission capacity, static VAR compensators, or local generation.

A new 138 kV circuit from the Rochelle Substation to a new distribution substation is planned by December 2010. A new 138 kV circuit from the new distribution substation to the Ashland Substation is planned by December 2011.

The cash flows associated with the planned major new Duke Energy Ohio transmission facility projects can be found in Table 1 of the Transmission Short-Term Implementation Plan (STIP).

# SHORT TERM IMPLEMENTATION PLAN

# Description of Projects

See the Table 1 below.

# Criteria and Objectives for Monitoring Success

Milestones and criteria used to monitor the transmission facilities projects are

typical of construction projects and measured on the following factors:

- Comparison of the actual completion date to the targeted completion date
- Comparison of the actual cost to the budgeted cost

# Anticipated Time Frame and Estimated Costs

The cash flows associated with the major new transmission facility projects

planned are shown below.

# Table 1

				CASH FLOWS (\$000)*		
PROJECT NAME	MILES or MVA	kV	PROGRESS/ COMPLETION DATE	2009	2010	2011
Rochelle-new substation 138 kV	1.1 miles	138	12/31/2010	1,000	4,000	
Ashland-new substation 138 kV	1.3 miles	138	12/31/2011		1,000	6,300

# **DUKE ENERGY OHIO TRANSMISSION PROJECTS**

\*Budgetary estimates excluding AFUDC

Anticipated Project Milestones

The completion of these projects, by their planned in-service dates, are the project

milestones.

# DUKE ENERGY OHIO

# REQUEST FOR PROPOSALS FOR

# PEAKING/INTERMEDIATE POWER SUPPLY

# IN RESPONSE TO OHIO SENATE BILL 221



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# Found In Separate Documents:

Exhibit E	Functional Specifications Peaking Resource
Exhibit F	Functional Specifications Intermediate Resource
Exhibit G	Information Request for Peaking and Intermediate Resource

# 1.0 Purpose of Request for Proposals

DUKE ENERGY OHIO, INC. (DUKE ENERGY) has a need for up to 1,400 MWs of peaking and/or intermediate resources in the 2009 to 2012 tim efframe. DUKE ENERGY will consider Power Purchase Agreements (PPA) and Asset Ownership to satisfy this requirement.

Specific requirements for this Request for Proposals (RFP) are as follows:

- Resource need up to 1,400 M Ws of peaking and/or intermediate capacity
- Life of Asset PPA (30 years) or Asset Ownership
- Peaking and/or intermediate resources must begin delivery in 2009 2012 timeframe
- Life of Asset PPAs must be 30 years in duration and tied to a spec ific asset
- Preference will be given to assets located in the Midwest ISO (MISO) footprint or that are currently deliverable to MISO
- Bids must be for a minimum block of 50 MWs
- Bidders must deliver energy to the CIN.CGE commercial pricing node within MISO

This RFP is being offered by DUKE ENERGY to evaluate opportunities available in the marketplace to meet the requirements of the recently approved Ohio Senate Bill 221 signed into law by Governor Ted Strickland on May 1, 2008. Specifically, this RFP is focused on evaluating opportunities through a competitive bid process to procure generation resources, either through a long-term contract or acquisitions, dedicated to serve Ohio consumers for the life of the contract or asset.

A separate RFP for Renewables Resources has been issued to address the renewable aspects of Ohio Senate Bill 221, therefore this RFP is focused on traditional supply side resources.

Duke Energy has retained Burns & McDonnell to act as an independent third party consultant to assist in the evaluation of this RFP. All bidders will directly interface with Burns & McDonnell for RFP clarification issues and RFP bid submittal.

Duke Energy Corp., the ultimate parent company of DUKE ENERGY, is one of the largest electric power companies in the United States, supplying and delivering energy to approximately 3.9 million U.S. customers. Through its subsidiaries, Duke Energy Corp. has nearly 37,000 megawatts of electric generating capacity in the Midwest and the Carolinas, and natural gas di stribution services in Ohio and Kentucky. DUKE ENERGY's operations provide 4,700 m egawatts of safe, reliable and competitively priced electricity to customers in southwest Ohio.

Headquartered in Charlotte, N.C., Duke Energy Corp. is a Fortune 500 company traded on the New York Stock Exchange under the symbol DUK. More information about the company is available on the Internet at: <u>www.duke-energy.com</u>.

# 2.0 Instructions to Bidders

- 2.1 General
  - 2.1.1 Nothing contained in this Request for Proposals shall be construed to require or obligate DUKE ENERGY to select any proposals or limit the ability of DUKE ENERGY to reject all proposals in its sole and exclusive discretion. DUKE ENERGY further reserves the right to withdraw and terminate this RFP at any time prior to the execution of a contract.
  - 2.1.2 The submission of a proposal to DUKE ENERGY shall constitute a bidder's acknowledgment and acceptance of all the terms, conditions and requirements of this RFP, including Exhibits.
  - 2.1.3 Subject to 2.1.4, all proposals submitted to DUKE ENERGY pursuant to this RFP shall become the exclusive property of DUKE ENERGY and may be used for any reasonable purpose by DUKE ENERGY.
  - 2.1.4 DUKE ENERGY and Burns & McDonnell shall consider materials provided by bidder in response to this R FP to be confidential only if such materials are clearly designated as "Confidential". Bidders should be aware that their proposal, even if marked "Confidential", may be subject to discovery and disclosure in regulatory or judicial proceedings that may or may not be initiated by DUKE ENERGY. Bidders may be required to justify the requested confidential treatment under the provisions of a protective order issued in such proceedings. If required by an order of an agency or court of competent jurisdiction, DUKE ENERGY may produce the material in response to such order without prior consultation with the bidder.
  - 2.1.5 Bidders shall be responsible for all costs and issues associated with bids; contract negotiations; completion of the contract; all taxes, duties, fees and other charges associated with the delivery of capacity and energy under the contract; and com pliance with all local, state and federal laws that may affect the contract.
  - 2.1.6 DUKE ENERGY anticipates that transmission access and capacity will be a factor in the selection of the final bid(s). For purchased power, the delivery point shall be the CIN.CGE commercial pricing node within MISO (Delivery Point). All costs and coordination required for any applicable Transmission Service Requests to the Delivery Point shall be the responsibility of the bidder.

# 2.2 Overview of Process

- 2.2.1 DUKE ENERGY, through Burns & McDonnell, has set-up an e-mail box to collect all written communication and questions from potential bidders as well as a web site to provide uniform communication including updates and specific detail as may be provided from time to time through this bidding process. The e-mail address is <u>DukeEnergyOhioRFP@burnsmcd.com</u>. The web site is DukeEnergyOhioRFP.com.
- 2.2.2 The bid process will include the activities and events as indicated in the schedule shown in Exhibit A. Bid opening will be performed in private by Burns & McDonnell on a confidential basis. Proposals will be reviewed for completeness and offers that do not include the information requirements of this RFP will be notified and allowed five business days to conform. The evaluation of the bids will be performed by DUKE ENERGY with assistance provided by Burns & McDonnell. Bidders selected for the Short List may be invited to begin negotiations of final details of the offers.

# 2.3 Notice of Intent to Bid

- 2.3.1 Each potential bidder is **requested** to advise DUKE ENERGY of its intent to submit a proposal by submitting a Notice of Intent to Bid (NOIB), attached hereto as **Exhibit B**.
- 2.3.2 The Notice of Intent to Bid form may be faxed or e-mailed, to the following address:

Jon Summerville Burns & McDonnell Fax: (816) 822-3027 Email: <u>DukeOhioRFP@burnsmcd.com</u>

The bidder contact information as supplied in the NOIB response provides a vehicle for Burns & McDonnell to communicate any updates/revisions to the RFP in a timely manner. Therefore, we encourage bidders to submit a NOIB by August 15, 2008.

- 2.4 Deadline and Method for Submitting Proposals
  - 2.4.1 Proposals must be submitted in the complete name of the party expecting to execute any resulting contract with DUKE ENERGY.

- 2.4.2 All proposals submitted in response to this RFP must be received by Burns & McDonnell no later than 4:00 P M CST August 29, 2008. DUKE ENERGY will not accept proposals received after this date and time.
- 2.4.3 Bidders are required to provide three (3) bound sets of all documents, including exhibits, as part of its proposal. It is further required that multiple proposals submitted by each bidder be identified separately. Proposals must be delivered to the following address:

DUKE ENERGY OHIO RFP c/o Jon Summerville Burns & McDonnell 9400 Ward Parkway Kansas City, MO 64114

Emailed proposals will **NOT** be accepted and will not be recognized as complying with the date and time requirements.

# 2.5 Questions and Interpretation of RFP

DUKE ENERGY requires that all questions concerning this RFP be submitted in writing to Burns & McDonnell at the e-mail address indicated in Section 2.3.2. Answers will be posted as available to the web site. Bidders are encouraged to check the web site for updates. DUKE ENERGY will not be responsible for other explanations or interpretations of the RFP than those included on the web site.

Written questions will be accepted until seven days before the proposal submittal deadline. Answers will typically be posted on the website the first Monday after a week of receiving the questions.

It shall be the obligation of the bidder to identify any conflicting statements, need for clarification, or omissions of pertinent data from the RFP before bids are due. Any questions not resolved by the bid due date shall be identified in the proposal and a statement made as to the basis of the proposal.

- 2.6 Requirements of Transmission
  - 2.6.1 All bidders must be able to deliver energy to the MISO transmission system. If the energy source is not currently located on the MISO system, it is the responsibility of the bidder to identify the transmission service necessary for delivery and account for any associated fees.
  - 2.6.2 For purchased power, the delivery point shall be the CIN.CGE commercial pricing node within MISO (Delivery Point). All costs and coordination required for any applicable Transmission Service

bidder.	Requests to the Delivery Point shall be the responsibility of the
2.6.3	The proposal will be screened based on current or anticipated congestion and losses associated with the transmission of power to the Delivery Point.
2.6.4	The bidder shall indicate the interconnection point (M ISO CP Node) for an existing generating source. If the proposed source is not currently connected to the MISO system, the connection point used in analysis will be the closest point on the grid monitored by MISO for LMP.
2.6.5	Bidders located in MISO will be required to submit interconnection applications to MISO as appropriate for feasibility and obtain their approval for the planned interconnection to the grid.
2.6.6	Capacity provided shall meet the Reliability First/NERC Guides and Midwest ISO capacity resource requirements for use by DUKE ENERGY in meeting its capacity obligations. Bidder shall provide DUKE ENERGY with sufficient documentation necessary to demonstrate compliance. Bidder will provide the status of the ability of the capacity source to satisfy the definition of Generation Resource, as such term is defined in the MISO Open Access Transmission and Energy Markets Tariff (TEMT) and MISO Business Rules.

2.6.7 All proposals shall provide the results of the deliverability tests of the Midwest ISO for assurance that the stated capacity is deliverable to the Midwest ISO system. If the generating facility(ies) are located outside the Midwest ISO, Bidder shall identify the type of firm transmission service being provided for delivery to the Midwest ISO.

# 3.0 **Proposal Organization**

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The bidder understands that DUKE ENERGY will rely on the representations contained in the proposal and this Agreement in its evaluation and consideration of proposals submitted pursuant to the RFP. The bidder further understands that its inability to substantiate and verify any such representation may result in the termination of further consideration and/or evaluation of the proposal. All such representations made in the proposal are true and accurate to the best of the bidder's knowledge and belief. All proposals must include the following minimum components and are requested to provide the information in the order provided:

3.1 Summary

An executive summary providing the highlights and special features of the proposal is required.

## 3.2 Statements

- 3.2.1 A statement from the bidder clearly indicating the time period during which the proposal will remain effective. DUKE ENERGY requires that the structure of the proposals remain effective until December 31, 2008, at a minimum.
- 3.2.2 A signed Certification and Indemnity Agreement must be provided, which is to be completed entirely by the Supplier and signed by an authorized representative, a copy of which is attached hereto as Exhibit C.
- 3.2.3 All documentation and signatures required depending on the nature of the proposal.

## 3.3 Contract Terms

A comprehensive listing and description, including a rationale if warranted, of all contract terms and conditions that the bidder would seek during contract negotiations.

### 3.4 Proposal Limitations

A listing of any economic, operational or system conditions (including sensitivities to anticipated dispatch levels) that might affect the bidder's ability to deliver capacity and energy as offered and how the bidder will provide the proposed availability.

## 3.5 Term Sheet

## 3.5.1 Life of Asset Purchase Power Agreement (30 Years)

Information on the product, cost of the capacity and energy and other information shall be provided as per the sample Term Sheet contained in **Exhibit D**. Proposals shall provide a fixed or indexed price for the capacity and energy for their proposed term including the cost for all losses, congestion costs, ancillary services, transmission delivery fees, MISO or other associated fees, taxes, duties, and any other costs associated with the furnishing of the capacity and associated energy to the proposed DUKE ENERGY Delivery Point. No special pricing terms or conditions shall be permitted. For consideration in the evaluation process, proposals must contain a statement that all such fees have been included in the proposed price.

## 3.5.2 Asset Sale/Purchase

Each proposal submitted for the sale of an asset to Duke Energy must be structured such that there is a lum p-sum payment due at closing. Though a lump sum price is required, DUKE ENERGY may also consider alternative purchase proposals for the same asset that utilize some form of construction period financing or progress payments. Any such arrangements need to be approved prior to implementation by the PUCO pursuant to Senate Bill 221.

# 3.6 Company Financial Data

Information on the makeup of the company and its parent organization shall be provided along with the most current annual financial reports and SEC Form 10-k (if applicable to the bidder). If this information is available on the company's web site, then bidder should provide the web page address where the information can be downloaded.

# 3.7 Security and Reliability of Physical Delivery

DUKE ENERGY requires secure and reliable phy sical delivery of the capacity and associated energy corresponding to all power supply offers. Security and reliability of physical delivery will be guaranteed by either (1) substantial evidence of contractual credit as surance by a third party, (2) parent corporation commitment accompanied by an investment level credit rating from a major rating agency, or (3) various combinations of 1 and 2. All forms of credit assurance are subject to approval by DUKE ENERGY.

## 4.0 Proposal Content

For consideration in the evaluation process, proposals must contain the information outlined in the sample Term Sheet provided in Exhibit D.

Supporting information outlined in the following paragraphs for the respective proposal type will be beneficial in assisting the evaluation of the proposal. Should this information not be submitted with the proposal, DUKE ENERGY may require the bidder to submit this information in order to verify the bidder's ability to meet DUKE ENERGY's requirements for resource acquisitions and any future contract resulting from this RFP process. In addition, DUKE ENERGY has requirements for the resources it acquires. Bidders are directed to the Functional Specifications contained in **Exhibits E and F** for the detailed requirements for new build asset sale/purchase proposals.

## 4.1 Technical Information

Provide sufficient technical information to fully describe the project and allow a determination of the status and condition of proposed sources of capacity. The information outlined in Exhibit G should be provided.

#### 4.2 Price Proposal

Proposals must provide a detailed description of the pricing terms and conditions. (See Sample Term Sheet, **Exhibit D**). During any subsequent discussions and/or negotiations, DUKE ENERGY may request modification to the proposed pricing scheme in order to accommodate its own operational or administrative requirements. For consideration in the evaluation process, proposals must contain the information outlined in the following paragraphs for the respective proposal type.

Note: DUKE ENERGY requires that bidders utilizing coal or gas as a source fuel use an industry accepted standard basis to build its energy price forecast. Bidders shall specify the index, source location of fuel, type of fuel, and Btu content, as well as the expected transportation m ethod and cost.

### 4.2.1 Asset Sale/Purchase

Bidders may offer capacity and energy from new or existing resources on an asset/sale purchase basis. Under this arrangement, DUKE ENERGY acquires all future ownership responsibilities and provides a payment in accordance with a purchase agreement to be negotiated. The bidder must demonstrate that it has the requisite authorization to make an offer to purchase the facility represented in its proposal.

## 4.2.1.1 New Resources (See Exhibits E-G)

Bidder Proposals for New Resources should provide:

- (i) Bidder proposed purchase price to DUKE ENERGY must include all costs of developing, designing, constructing, and start-up of the facility to commercial operations. DUKE ENERGY will evaluate the financing of the equity purchase from its sources.
- (ii) An estimate of the costs and timing of ongoing annual capital additions associated with each proposed generation facility.
- (iii) An estimate of annual fixed O&M costs associated with each proposed generation facility.
- (iv) An estimate of annual emission allowances, variable O&M, and startup costs associated with each proposed generation facility for loading at its expected operating annual capacity factor.
- (v) Estimated percent annual unit equivalent availability factor (EAF) as defined in the NERC GADS Definitions.
- (vi) All costs associated with delivery of the energy to DUKE ENERGY's Delivery Point excluding any ancillary services to be provided by DUKE ENERGY.

## 4.2.1.2 Existing Resources

Bidder Proposals for Existing Resources should provide:

- (i) A lump sum payment, which includes all costs of acquisition of the proposed capacity including transfer of title, permits, etc. to DUKE ENERGY.
- (ii) An estimate of the costs and timing of ongoing annual capital additions associated with each proposed generation facility.
- (iii) An estimate of annual fixed O&M costs associated with each proposed generation facility.
- (iv) An estimate of annual emission allowances, variable O&M, and startup costs associated with each proposed generation facility for loading at its expected operating annual capacity factor. Estimated percent annual unit availability and guaranteed minimum percent annual unit availability.
- (v) All costs associated with delivery of the energy to DUKE ENERGY's Delivery Point excluding ancillary services to be provided by DUKE ENERGY.
- 4.2.2 Life of Asset Power Purchase Agreement (30 years)

Bidders may offer capacity and energy from new or existing resources or from a utility system on a life of asset power purchase agreement (30 years) basis. Under this arrangement, the bidder retains all ownership responsibilities and DUKE ENERGY provides only a capacity and energy payment in accordance with a purchase agreement to be negotiated. The bidder must demonstrate that it has the requisite regulatory authorization to make sales contemplated by its proposal.

- 4.2.2.1 Proposed capacity cost, and availability for new or existing resources shall be provided. DUKE ENERGY reserves the right to estimate the availability of a resource at its sole discretion if a reasonable availability is not provided by the bidder. Proposed capacity rates shall include all losses, wheeling and other charges associated with delivery to the DUKE ENERGY Delivery Point with the exception of ancillary services to be provided by DUKE ENERGY.
  - (i) The bidder shall provide the starting capacity rate and applicable formula for escalation with proposed indices or a schedule of capacity rates for the proposed contract term.
  - (ii) The bidder shall identify the type of transmission service being provided, delivering parties and delivery point(s) of energy to DUKE ENERGY's system.
- 4.2.2.2 Proposed energy rates shall include all losses, wheeling and other charges associated with delivery to the DUKE ENERGY Delivery Point with the exception of ancillary services to be provided by DUKE ENERGY.
  - (i) The bidder shall provide the starting energy rate and applicable formula for escalation with proposed indices or a schedule of energy rates for the proposed contract term.
  - (ii) The actual delivered energy, in any month, shall be determined in accordance with the metering procedures as set forth in the contract which will be negotiated between DUKE ENERGY and the successful bidder.
  - (iii) The bidder should specify the basis (i.e. annually, quarterly, monthly, etc.) and type of all payments it expects to receive. In the case of a fully dispatchable generating facility, such payments might include start-up payments (\$/start) or spinning payments (\$/operating hour). The bidder may further specify a pricing formula, schedule, or some combination of the two, for determining these payments.

### 5.0 **Proposal Evaluation and Contract Negotiations**

- 5.1 Initial Review
  - 5.1.1 Proposals will be evaluated based on but not limited to the following: price, transmission feasibility, economic analysis, cost of delivery, deliverability of source fuel (natural gas, oil, etc.), relevant experience, credit rating or other evaluation c riteria. The short list will be developed based upon the results of this initial analysis. Bidders whose proposals were considered to not meet the required threshold of this RFP will be notified via email that their bid proposal was unsuccessful in moving on to the Short List.
  - 5.1.2 DUKE ENERGY may request that a bidder provide additional information or clarification to its original proposal. Burns & McDonnell shall make such requests in writing and will also specify a deadline
    - for compliance. Failure to provide the requested inf ormation or clarification by the deadline will result in the disqualification of the proposal.
  - 5.1.3 DUKE ENERGY may select any number of proposals, or reject all proposals or at any time withdraw and terminate this RFP pursuant to Section 2.1.1, as it, in its sole and exclusive judgment deems appropriate.
- 5.2 Short List Development
  - 5.2.1 Burns & McDonnell will provide information to DUKE ENERGY with company information redacted. DUKE ENERGY will evaluate the proposals based on prices, terms and other resource performance factors.
  - 5.2.2 During the evaluation process, Burns & McDonnell may choose to initiate discussions with one or more bidders for the purposes of obtaining clarifying information. For purposes of this RFP, discussions shall simply indicate DUKE ENERGY's interest in a particular proposal and its desire to obtain from the bidder additional detailed information that may not necessarily be contained in the proposal. Discussions with a bidder shall in no way be construed as commencing "negotiations" with a bidder. DUKE ENERGY intends to use such discussions as a method of reducing the number of proposals to those, if any, that DUKE ENERGY determines warrant further evaluation and, possibly, contract negotiations. If DUKE ENERGY intends to initiate discussions, it will notify the bidder of such intention and require the bidder of such proposal to confirm, in writing, the offer and representations contained in its original proposal.

5.2.3 If DUKE ENERGY is not interested in a particular proposal, it will notify the bidder as soon as practical after such determination is made.

### 5.3 Contract Negotiations

- 5.3.1 DUKE ENERGY will notify a bidder in writing of its interest in commencing contract negotiations with that bidder. DUKE ENERGY's commencement of and active participation in such negotiations shall not be construed as a commitment from DUKE ENERGY to execute a contract. If, however, a contract is successfully negotiated, it shall not be effective unless and until fully executed by DUKE ENERGY in accordance with its procedures and any and all required regulatory approvals have been received to DUKE ENERGY's satisfaction.
- 5.3.2 DUKE ENERGY will consider standard contracting formats in use by the industry or contracts proposed by bidders as the basis for any contract negotiations resulting from this RFP. DUKE ENERGY has contracted for capacity and energy using a variety of contract formats including the EEI and ISDA with Power Annex format contracts.
- 5.3.3 Bidders selected for the Short List will have the opportunity to refresh their pricing. Any short listed bidder that provides a refreshed price above that of the next best bid not on the short list may be disqualified from the short list at DUKE ENERGY's sole discretion.
- 5.3.4 During the contract negotiation phase, price will continue to be the primary evaluation factor. DUKE ENERGY will also be considering contract terms to determine the most attractive offer or set of offers.
- 5.3.5 DUKE ENERGY reserves the right at any time, during contract negotiations, at its sole discretion, to terminate or, once terminated, to resume negotiations with a bidder.
- 5.3.6 DUKE ENERGY will require that certain provisions be included in its contracts. Such provisions may include, but are not limited to, insurance, indemnification, performance guarantees, liquidated damages for non-performance, firm security (depending on the financial means and historical performance of the bidder), ability of DUKE ENERGY to reassign its entire rights, or a por tion thereof, to the contract to another party, and a provision that allows DUKE ENERGY to terminate the contract in the event that certain state and

federal regulatory approvals are not received to the satisfaction of DUKE ENERGY.

5.3.7 This RFP contains general guidelines and requirements for developing and submitting proposals. Nothing herein shall be construed to bind DU KE ENERGY unless and until a contract with a bidder has been successfully negotiated, executed, and is effective. Once effective, the contract will govern the relationship between and responsibilities of the parties. The costs for responding to the R FP and any subsequent contract negotiations are the responsibility of the bidder.

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## Exhibit A <u>Schedule</u>

The schedule as outlined below and referred to throughout this document is based on DUKE ENERGY's expectations as of the release date of this RFP.

Release of RFP	July 29, 2008
Notice of Intent to Bid	August 15, 2008
Proposal Submittal Deadline	August 29, 2008
Initial Selection of Short List	October 10, 2008
Complete Negotiations	1 <sup>st</sup> Quarter 2009

DUKE ENERGY reserves the right to extend or otherwise modify any portion of the schedule or terminate the RFP process at its sole discretion.

1.	Upon r RFP.	eviewing the	RFP, we	plan to submit a proposal on the [	OUKE ENERGY OHIO
2.	Bidder	: _			
3.	Contac	:: _			
4.	Mailing e-mail	address: _			
5.	Tel Nu	mber: ()		Fax Number: ()	
6.	Signature of respondent:				
	Title:				
	Date:				
Fax to		816.822.30	27	Burns & McDonnell Attn: Jon Summerville	
E-Mail	to:	DukeEnerg	yOhioRFP	@burnsmcd.com	

## Exhibit B NOTICE OF INTENT TO BID Due by August 15, 2008

## Exhibit C Certification and Indemnity Agreement

THIS CERTIFICATION AND INDEMNITY AGREEMENT ("Agreement") is made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 2008, by and between Duke Energy Ohio, Inc. ("Duke Energy") and \_\_\_\_\_\_ ("Supplier").

WHEREAS, Supplier has submitted a Proposal to Duke Energy ("Proposal") in response to Duke Energy's Request for Proposals for Renewable Energy Resources beginning in 2008 ("RFP"), and

WHEREAS, the RFP provides general guidelines for the development and submission of such Proposal and entails the evaluation of such Proposal on the basis of its individual characteristics, as assessed by Duke Energy in accordance with economic assessments and operational considerations, and other pertinent f actors, and

WHEREAS, Duke Energy will rely on the information set forth in the Proposal when making its assessments and determinations.

NOW, THEREFORE, in consideration of the covenants and agreements hereinafter set forth and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Supplier hereby certifies and agrees as follows:

### Certification

Supplier hereby certifies, represents and warrants to Duke Energy as follows:

The Supplier understands that Duke Energy will rely on the representations contained in the Proposal and this Agreement in its evaluation and consideration of proposals submitted pursuant to the RFP. The Supplier further understands that its inability to substantiate and verify any such representation may result in the termination of further consideration and/or evaluation of Supplier's Proposal. All such representations made in the Proposal are true and accurate to the best of the Supplier's knowledge and belief.

#### Covenants

The Supplier covenants that:

At its own cost and expense (including reasonable attorney fees), Supplier shall defend Duke Energy and its respective subsidiaries, affiliates, successors and assigns, and each and every one of its respective past, present, or future officers, directors, trustees, employees, shareholders, executors, administrators, successors, and assigns, from and against any and all manner of past, present, or future claims, demands, disputes, controversies, complaints, suits, actions, proceedings, or allegations of any kind which in any manner relate to, arise out of, or result from any false statement in the Proposal or breach of any covenant or representation set forth in this agreement by the Supplier.

#### Successors and Assigns

If the Supplier transfers the ownership, or an interest therein, in the Supplier's rights, interests or property, whether real or personal relating to Supplier's Proposal, the Supplier warrants that such transfer shall be pursuant to a transfer agreement that shall provide D uke Energy, subsidiaries, affiliates, successors and assigns, and each and every one of its respective past, present, or future officers, directors, trustees, employees, shareholders and agents, as well as their heirs, executors, administrators, successors and assigns with a degree of protection at least equivalent to that afforded them under this Agreement.

Certified and Agreed:

By:

Title:

Date:

Attest:

# Exhibit D-Life of Asset PPA (30 Years) Sample Term Sheet

Note to bidder: Provide a separate term sheet for each different Term or capacity offering		
Product	Unit Firm capacity as defined in the EEI Master Power Purchase and Sales Agreement, Schedule P.	
Seller		
Purchaser	DUKE ENERGY OHIO, INC.	
Transmission Interconnection Point		
Delivery Point	CIN.CGE Commercial Pricing Node within MISO	
Gas Pricing Point		
Term of Contract		
Capacity Amount	(Minimum of 50 MW)	
	DUKE ENERGY OHIO will evaluate any amount from minimum to Capacity Amount in increments of 50MW unless bidder so notes that only the Capacity Amount can be evaluated.	
Energy	As Scheduled	
Scheduling	Scheduling shall be performed to the maximum flexibility allowed by MISO and in accordance with the MISO Agreement.	
Pricing Information:		
a. Capacity Pricing		
Capacity Price	(\$/MW-yr)	
Year of Capacity Price	e Quote	
Capacity Price Escala	tion/Year(%)	

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b.	Energ	y Pricing (Provide energy prici	ing in one of the following formats)
	a.	Escalating Price Over Term	(\$/M Wh) Escalating at% per year
	b.	Production Cost Based i. Variable O&M ii. Guaranteed Heat Rat iii. Gas Pricing Point	te (HHV) (\$/MWh) (Btu/kwh)
		(Variable O&M + Guaranteed	d Heat Rate * Gas Price over Term)
	C.	Scheduled Payment	(\$/M Wh) in Year 1 (\$/MWh) in Year 2 (\$/MWh) in Year 3 through end of Term
	Year	of Energy Price Quote	
	Note:	Energy pricing to include all al and other fees necessary for	ncillary service costs, Midwest ISO charges, taxes delivery to the Delivery Point.

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Guaranteed Heat \_\_\_\_\_ Btu per kWh (HHV) Rate

Guaranteed	 %
Availability	

## Exhibit D-Ownership Offer -Life of Unit Sample Term Sheet

Note to Bidder: Provide a separate term sheet for each different asset option offered

Resource	
Primary Fuel Source	
Primary Fuel Pricing Point	
Secondary Fuel Source	
Secondary Fuel Pricing Point	
MISO Commercial Pricing Node	
Seller	
Purchaser	DUKE ENERGY OHIO, INC.
Capacity Amount	(Minimum of 50 MW)
	DUKE ENERGY OHIO will evaluate any amount from minimum to Capacity Amount in increments of 50MW unless bidder so notes that only the Capacity Amount can be evaluated.
Energy	As Scheduled
Scheduling	Scheduling shall be performed to the maximum flexibility allowed by MISO and in accordance with the MISO Agreement.
Purchase Price (Provide purchase p	rice in one of the following formats)
a. Fixed Purchase Price Ov	er Life of Asset(\$/MW-year)
<ul> <li>b. Lump Sum Payment Lump Sum Payment Yea</li> </ul>	r \$\$ (\$)
Fixed O&M	(\$/MW-month)
Fixed O&M Escalation	(% per year)
Year of Fixed O&M Cost Quote	
Variable O&M	(\$/MW h)

DUKE ENERGY OHIO Request for Proposals for Power Supply

Variable O&M Escalation	(% per y ear)
Year of Variable O&M Cost Quote	
Capital Spending Schedule	Provide schedule of any upgrades or life extension efforts
Maintenance Spending Schedule	Provide schedule of annual maintenance expenses
Guaranteed Heat Rate	Btu per kWh (HHV) minimum load (define MW load) Btu per kWh (HHV) 50% load Btu per kWh (HHV) 70% load Btu per kWh (HHV) 90% load Btu per kWh (HHV) 100% load (define MW load)
Availability	Attach scheduled maintenance outages planned for next five years and equivalent forced outage performance for past five years (if from an existing resource).
Minimum run time	( hours)
Start time to Synchronization	(hou <b>rs</b> )
Start up Cost	(\$/start)
Start up Cost Escalation	(% per y ear)
Year of Start up Cost Quote	
Ramp Rate	(MW/hour)