AEP OHIO EX. NO._____

BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application Seeking Approval of Ohio Power Company's Proposal to Enter into an Affiliate Power Purchase Agreement for Inclusion in the Power Purchase Agreement Rider	)	Case No. 14-1693-EL-RDR
In the Matter of the Application of Ohio Power Company for Approval of Certain Accounting Authority	)	Case No. 14-1694-EL-AAM

DIRECT TESTIMONY OF WILLIAM A. ALLEN IN SUPPORT OF AEP OHIO'S APPLICATION

Filed: October 3, 2014

INDEX TO DIRECT TESTIMONY OF
WILLIAM A. ALLEN

BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO
DIRECT TESTIMONY OF
WILLIAM A. ALLEN
ON BEHALF OF
OHIO POWER COMPANY

PERSONAL DATA

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is William A. Allen, and my business address is 1 Riverside Plaza, Columbus, Ohio 43215.

Q. BY WHOM ARE YOU EMPLOYED AND WHAT IS YOUR POSITION?

A. I am employed by the American Electric Power Service Corporation (AEPSC) as Managing Director of Regulatory Case Management. AEPSC supplies engineering, financing, accounting, and planning and advisory services to the electric operating companies of the American Electric Power System, one of which is Ohio Power Company ("OPCo," "Company," or "AEP Ohio").

Q. WOULD YOU PLEASE DESCRIBE YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND?

A. Yes. I received a Bachelor of Science in Nuclear Engineering from the University of Cincinnati in 1996 and a Master of Business Administration from the Ohio State University in 2004.

I was employed by AEPSC beginning in 1992 as a Co-op Engineer in the Nuclear Fuels, Safety and Analysis department and upon completing my degree in 1996 was hired on a permanent basis in the Nuclear Fuel section of the same department. In January 1997, the Nuclear Fuel section became a part of Indiana Michigan Power Company (I&M) due to

a corporate restructuring. In 1999, I transferred to the Business Planning section of the Nuclear Generation Group as a Financial Analyst. In 2000, I transferred back to AEPSC into the Regulatory Pricing and Analysis section as a Regulatory Consultant. In 2003, I transferred into the Corporate Financial Forecasting department as a Senior Financial Analyst. In 2007, I was promoted to the position of Director of Operating Company Forecasts. In that role, I was primarily responsible for the supervision of the financial forecasting and analysis of the AEP System's operating companies, including AEP Ohio. In 2010, I transferred to the Regulatory Services Department as Director of Regulatory Case Management. I was named to my current position in January 2013.

Q. WHAT ARE YOUR RESPONSIBILITIES AS MANAGING DIRECTOR OF REGULATORY CASE MANAGEMENT?

A. I am primarily responsible for the supervision, oversight and preparation of major filings with state utility commissions and the Federal Energy Regulatory Commission (FERC).

Q. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY IN ANY REGULATORY PROCEEDINGS?

A. Yes. I have previously testified before the Public Utilities Commission of Ohio (Commission) on behalf of AEP Ohio. I have also submitted testimony or testified before the Michigan Public Service Commission, the Indiana Utility Regulatory Commission, the West Virginia Public Service Commission and the Virginia State Corporation Commission on behalf of various other electric operating companies of the American Electric Power system.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to 1) summarize the Purchased Power Agreement (PPA) Rider that was proposed by the Company in its Electricity Security Plan filed in case nos. 13-2385-EL-SSO and 13-2386-EL-AAM (ESP III); 2) explain how the additional PPA identified in this proceeding would be incorporated into the PPA Rider; 3) address the economic benefits to the state of Ohio associated with the units included in this PPA; 4) discuss the transmission requirement if the plants included in this PPA would close and the associated customer costs; and, 5) identify the customer rate impacts from this PPA being added to the PPA rider.

Q. ARE YOU SPONSORING ANY EXHIBITS?

A. Yes. I am sponsoring the following exhibits:

Exhibit WAA-1	Calculation of PPA Rider Credit/(Charge)
Exhibit WAA-2	Economic Benefits of PPA Units

PPA RIDER

Q. CAN YOU DESCRIBE THE PPA RIDER PROPOSED BY THE COMPANY IN ITS ESP III FILING?

A. The Company's PPA Rider, as proposed in the Company's ESP III proceeding, is designed to stabilize customer rates by providing a hedge against market volatility. The Company initially proposed that its OVEC power participation benefits and requirements be included in the PPA Rider. Under the proposed PPA rider mechanism, the Company has the ability to petition the Commission to allow the inclusion of additional PPAs (or similar products subsequently approved by the Commission) in the PPA Rider throughout the ESP term. At the time of the filing of ESP III, the Company had not identified any additional PPAs to

include in the PPA Rider. As proposed, the PPA Rider should rise and fall in a manner that is counter to the market and as such will increase rate stability for customers. During any given time period, the PPA Rider could be a charge or credit on customer bills.

Q. IS THE COMPANY PROPOSING TO INCLUDE ADDITIONAL PPAS OR SIMILAR PRODUCTS IN THE PPA RIDER AT THIS TIME?

A. Yes. The primary purpose of this proceeding is to seek Commission approval of AEP Ohio's proposal to include an additional PPA associated with several Ohio generating plants in the PPA Rider.

Q. PLEASE DESCRIBE HOW THE CAPACITY, ENERGY, AND ANCILLARIES, ASSOCIATED WITH THIS PPA WILL BE TREATED BY AEP OHIO.

A. AEP Ohio will bid each of these generation-related items – capacity, energy, and ancillaries – into the PJM market. All of the revenues that the Company obtains from the sale of these generation-related elements will be used to offset the costs billed to the Company.

Q. WILL THE COMPANY'S PROPOSED TREATMENT OF THIS PPA HAVE ANY IMPACT ON THE AUCTIONS TO SERVE SSO LOAD?

A. No. As with the proposed treatment of the Company's OVEC entitlement, none of the energy or capacity associated with this PPA will be bid into the auction or used to offset any of the SSO load included in the auction. The energy, capacity and ancillaries associated with this PPA will simply be sold into the PJM market. This along with the nonbypassable nature of the PPA Rider, will ensure that this element of the Company's proposed ESP will have no adverse impact on the SSO auction or the ability of Competitive Retail Electric Service (CRES) providers to compete for customers on a level playing field. This proposal

allows customers to take advantage of market opportunities while providing added price stability.

Q. IN THE COMPANY'S RECENT ESP III PROCEEDING, IT WAS THE POSITION OF OTHER PARTIES THAT THERE ARE BETTER METHODS TO ADDRESS MARKET VOLATILITY SUCH AS LONG–TERM/FIXED PRICED CRES OFFERS. WHAT IS THE COMPANY'S POSITION ON THOSE ISSUES IN CONNECTION WITH THIS CASE?

A. While it is theoretically possible that a competitive supplier could offer long-term stable offers, the fact is that they do not currently do so. In my ESP III rebuttal testimony, I used June 2013 and June 2014 data from the Commission's Apples-to-Apples web page to review the current CRES offerings to residential customers across all six Ohio Electric Distribution Utilities (EDUs). This data demonstrated that CRES providers are not offering long term stable offers. The short-term nature of these contracts results in customers needing to sign new contracts on a regular basis which creates volatility for customers as they transition from one contract to another. My review of CRES offerings of comparable terms confirmed that significant volatility in the form of generation rate changes over periods as short as 12-months exists.

The risk of shopping customers seeing significant price volatility is exacerbated by the fact that many CRES contracts for residential customers include a rollover provision that automatically enrolls the customer in a new market-based variable rate plan or a fixed rate plan absent action by the customer. Unless the customer takes proactive action, a new and potentially higher rate unilaterally charged by the CRES provider will automatically apply.

Q. PLEASE DISCUSS WHY THE NONBYPASSABLE NATURE OF THE PPA RIDER IS IMPORTANT.

A. It is expected that as market prices change, the PPA Rider will be a credit on customer bills at times and a charge at other times. If the PPA Rider were bypassable, it would have the effect of encouraging customers to take service under the SSO when it is a credit and to take service from a CRES when it is a charge. This could increase migration to and from the SSO, which conceptually would increase the risk premium that auction participants would include in their offers.

Q. DO YOU EXPECT THAT THE PPA RIDER WILL PROVIDE A BENEFIT TO CUSTOMERS IN THE SHORT- AND LONG-TERM?

A. Yes. The primary function of the PPA Rider is to provide added price stability for customers through the ESP III period. If market prices remain low in the 2015/2016 planning year, the PPA Rider would be a net charge to customers, and if market prices increase over the remainder of the ESP period, the PPA Rider could be a net credit to customers. Over the long-term, if the PJM capacity market recovers to a sustainable level or energy prices increase to compensate, as I expect they will, the revenues received associated with this PPA should exceed the costs.

Q. HAVE YOU PROVIDED AN EXHIBIT THAT DETAILS HOW THE REVENUES AND EXPENSES ASSOCIATED WITH THIS PPA WILL BE NETTED TO DEVELOP THE ULTIMATE CHARGE OR CREDIT THAT WILL BE INCLUDED IN CUSTOMER BILLS?

A. Yes. Exhibit WAA-1 provides a detailed calculation of how the PPA Rider net credit or charge will be developed.

Q. HOW OFTEN ARE YOU PROPOSING THAT THE PPA RIDER BE UPDATED?

A. The Company originally proposed an annual true-up of the PPA Rider in the ESP III filing, however, the Company indicated during the proceedings that it is open to updating the rider on a quarterly basis. This response remains the same for the PPA Rider after inclusion of the additional PPA proposed in this proceeding.

Q. WILL THE REVENUES AND EXPENSES ASSOCIATED WITH THIS ADDITIONAL PPA PROPOSED TO BE INCLUDED IN THE PPA RIDER BE INCLUDED IN THE OVER/UNDER COMPONENT OF THE PPA RIDER MECHANISM?

A. Yes. Consistent with the Company's proposal in the ESP III proceeding, the PPA rider will include an over/under component to true up the forecasted revenues and expenses to the actual revenues and expenses.

ECONOMIC BENEFITS

Q. HAS THE COMPANY ESTIMATED THE ECONOMIC BENEFITS TO THE ECONOMY OF THE STATE OF OHIO FROM THE GENERATING UNITS INCLUDED IN THIS PPA?

A. Yes, the plants proposed in this PPA provide substantial benefits to Ohio's economy. In addition to the benefit of over $100 million annually provided by the OVEC units, the plants included in this PPA provide an annual economic benefit to the state in excess of $550 million from electricity production based on economic analysis performed by the Company which is included as Exhibit WAA-2. These plants directly employ over 1,100 individuals with associated mining employment of over 600 individuals. The total impact to the state, including direct and related workers, exceeds 4,600 jobs.

Q. ARE THERE ANY OTHER WAYS IN WHICH THIS PPA COULD PROVIDE ECONOMIC DEVELOPMENT BENEFITS TO THE STATE OF OHIO?

A. Yes. While the Company is proposing that all of the energy from this PPA be liquidated into the PJM market, the Company could use the costs from this PPA as a basis to price contracts with specific economic development customers that could benefit from a more stable price. The customer would still be served by the SSO auction but the discount from the tariff rate that they receive could be based upon the costs of the PPA. Any revenues received from these economic development customers could be used as an offset to the cost of the PPA in the same manner that market revenues are used to offset the cost of the PPA. I have been advised by Counsel that this type of structure could be used under the Special Arrangement provision of section R.C. 4905.31 of the Ohio Code.

TRANSMISSION REVENUE REQUIREMENT

Q. ARE THERE OTHER COSTS THAT CUSTOMERS IN OHIO WOULD INCUR IF THESE UNITS WERE TO RETIRE PREMATURELY?

A. Yes. As Company witness Bradish describes, the premature retirement of the units included in this PPA would result in transmission reliability issues. To mitigate these impacts, AEP would need to modify and upgrade its transmission system in Ohio and surrounding states at a cost of approximately $1.6 billion. The annual revenue requirement associated with these transmission upgrades would be approximately $300 million of which $86 million would be assigned to customers of AEP Ohio. Based upon the projected retail sales of AEP Ohio, this annual revenue requirement would increase customer rates by approximately $2/MWh.

CUSTOMER RATE IMPACT

Q. WHAT WOULD THE INITIAL IMPACT ON CUSTOMER'S BILLS WITH THE INCLUSION OF THIS ADDITIONAL PPA INTO THE PPA RIDER?

A. Based on the forecasted revenues and expenses provided by Company witness Pearce, customers would see an initial rate under the PPA Rider of $2.13/MWh – $0.15/MWh associated with OVEC[1] and $1.98/MWh associated with this PPA. The addition of this PPA into the PPA Rider is projected to provide an incremental customer benefit of $224M through the forecast period (2024). The PPA rider, when combined with the projected rate decreases from the Company's ESP III proposal[2], would result in a net decrease for a typical residential customer served under the Company's Standard Service Offer using 1,000 kWh ranging from approximately $4 to $9 per month.

Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?

A. Yes, it does.

[1] Case No. 13-2385-EL-SSO AEP Ohio Exhibits 8A and B.
[2] Case No. 13-2385-EL-SSO AEP Ohio Exhibit 12, Page 6.

Calculation of PPA Rider Credit/(Charge)

Line	Description	Amount
1	Capacity Revenues	$
2	Energy Revenues	$
3	Ancillary Service Revenues	$
4=1+2+3	Total Revenues	$
5	Demand Charges	$
6	Energy Charges	$
7	Related Transmission/PJM Charges	$
8=5+6+7	Total Expenses	$
9=4-8	Net PPA Rider Credit/(Charge)	$

Economic Benefits of AEPGR PPA Plants

Executive Summary

AEP Ohio has proposed adding certain sub-critical units to its proposed AEPGR PPA Rider. This rider will benefit both shopping customers and SSO customers by stabilizing rates. This will be the most direct benefit availed to Ohio. AEP Generation Resources has plans to close previously announced plants. The sub-critical units in the proposed PPA Rider were not included in those plans. However, there is no assurance that they will continue to operate. The proposed PPA Rider would provide more long-term certainty for these plants. The plants not only provide electricity for Ohio customers, it provides economic benefits to the local areas where the plants are sited and to the State of Ohio as a whole. The plants included in the AEPGR PPA Rider employ 1,147 workers and provide $86.2 million of direct income. The total employment effect on the combined regions and the state is 1,734 and 3,040, respectively. Likewise, the total income effect on the combined regions and the state is $109.4 million and $173.5 million, respectively. These plants consumed 5,451,000 tons of Ohio in 2013, which has a value of $293 million. The coal consumed by these plants reflects about 20 per cent of Ohio's total production. There were 604 miners employed to produce that coal and they received wages of $45.2 million. The total impact to the state from the mining activity was 1,600 workers and $91.2 of income. In addition to employment and income impacts on the state, nearly $9 million of property taxes were paid the AEP Generation Resources for these plants. Not only does AEP Generation Resources plants provide many benefits to the state, it directly or indirectly has a positive economic impact on regions of the state that have higher unemployment and lower average income than the Ohio in aggregate, i.e., the regions where the AEP Generation Resources facilities are located and the coalfields.

In summation, the AEP Generation power plants included in the proposed PPA Rider provide significant benefits in terms of employment and earnings in their regions and the state. Also, the Ohio produced coal consumed by plants provided significant income to the producers, as well as the number of coal mining jobs associated with that production. The electricity production and coal used in the generation both add to Ohio's gross state product.

Background

In December 2013, Ohio Power Company (AEP Ohio) filed an Application to initiate certain cases and proposed an Electric Security Plan (ESP). As part of its ESP, the Company proposed a Power Purchase Agreement Rider (PPA Rider). The Company's proposal is aimed at stabilizing rates for both shopping customers and standard service offer (SSO) customers alike.

The PPA Rider in the December filing only included the Company's Ohio Valley Electric Corporation (OVEC) contractual entitlement. However, the ESP Application noted that its proposal would enable the Company to petition the Commission to allow the inclusion of additional PPAs (or similar products) in the PPA Rider. In April 2014, the Company announced intentions to present a new PPA for inclusion in the PPA Rider as part of a separate case. The new PPA would be between AEP Ohio and AEP Generation Resources, Inc. (AEPGR), with a separate Application being filed and allowing the Commission to consider AEPGR PPA in parallel with the pending ESP case.

The weather events experienced in the winter of 2013/14 have provided an early warning about serious issues with electric supply and reliability, especially as it relates to generation resources in Ohio as compared to electric load in Ohio. While the AEPGR PPA will not avoid closure of units already planned for retirement in 2015, it would incorporate a long-term solution for other Ohio coal plants with economic characteristics that may not justify continued operation under current short-term market conditions but would be economically viable under a long-term view, particularly with a stabilized revenue stream to enable a long-term view of operational decisions. Importantly, the AEPGR PPA would help begin to address the current prospects faced by Ohio of being a perpetual importer of power and a taker of volatile market prices in the future. Among other things, those bleak prospects could undermine Ohio's economy not only for large industrial customers but for all commercial and residential customers.

The AEPGR PPA would include certain sub-critical units in the AEP GR fleet of generating units. More specifically, it would include all or parts of Cardinal, Conesville, Stuart and Zimmer Plants.

Cardinal Plant

The Cardinal Plant is located in Brilliant, Ohio (Jefferson County). It is comprised of three units. Units 1 and 2 were brought into service in 1967, with Unit 3 being brought into service in 1977. Units 1 and 2 have generating capacity of 590 MW, while Unit 3 has a generating capacity of 620. AEP Generation Resources owns Unit 1 and Buckeye Power owns Units 2 and 3. AEP Generation Resources operates the facility on behalf of all the owners. Cardinal Unit 1 will be included in the proposed AEPGR PPA and it had approximately 350 employees in 2013. It generated approximately 3,600,000 MWh of electricity in 2013 and used approximately

1,400,000 tons of Ohio produced coal. The property taxes for Cardinal Unit1 were approximately $1,800,000 in 2013.

Conesville Plant

The Conesville Plant is located in Conesville, Ohio (Coshocton County). It is comprised of three units. Unit 4 was brought into service in 1973, Unit 5 was brought into service in 1976 and Unit 6 was brought into service in 1978. Unit 4 has a generating capacity of 780 MW and Units 5 and 6 have generating capacities of 405 MW. All units are owned by AEP Generation Resources and they will be included in the AEPGR PPA. The plant had approximately 260 employees in 2013. Conesville Plant generated approximately 4,700,000 MWh of electricity and used approximately 2,800,000 tons of Ohio produced coal. Property taxes paid for the Conesville Plant were approximately $3,100,000 in 2013.

Stuart Plant

The Stuart Plan is located in Aberdeen, Ohio (Brown County). It is comprised of four units. Unit 1 was brought into service in 1971, Unit 2 was brought into service in 1970, Unit 3 was brought into service in 1972 and Unit 4 was brought into service in 1974. The plant has a total capacity of 2,334 MW. The plant is a joint venture of AEP Generation Resources, Duke Energy and Dayton Power and Light. AEP Generation Resources owns 26 percent of the facility (approximately 677 MW) and its share would be included in the AEPGR PPA. Duke Energy owns 39 percent of the plant. Dayton Power & Light owns the remaining 35 percent and operates the facility. The Stuart Plant employs approximately 375 workers. AEP Generation Resources share of the energy generated by the plant was approximately 3,500,000 MWh in 2013. AEP Generation Resources was responsible for $1,600,000 in Ohio property taxes.

Zimmer Plant

The Zimmer Plant is sited in Moscow, Ohio (Clermont County). The plant has one unit. The facility was brought into service in 1991 and it has a capacity of 1,300 MW. The plant is a joint venture of AEP Generation Resources, Duke Energy and Dayton Power & Light. AEP Generation owns 25.4 per cent of the facility (approximately 330 MW) and its share would be included in the AEPGR PPA. Duke Energy owns 46.5 percent of the plant and operates the facility. Dayton Power & Light owns the remaining 28.1 per cent. The Zimmer Plant has approximately 160 employees. AEP Generation Resources share of the energy generated by the plant was approximately 2,300,000 MWh in 2013. The Zimmer Plant used approximately

1,300,000 tons of Ohio in 2013. AEP Generation Resources was responsible for about $2,300,000 in Ohio property taxes in 2013.

Cardinal Region

The Cardinal Plant is physically located in Jefferson County in eastern Ohio. For the purposes of this study, the surrounding counties of Belmont, Carroll, Columbiana and Harrison will be included in the Cardinal Region. A map of this study area is included in Exhibit 1. These counties are in close proximity and have similar economic underpinnings.

The Cardinal Region had a population of approximately 289,000 in 2012. Population in the region declined at an average 0.3 per cent per year from the 2000 Census of the Population. Exhibit 2 provides population by county and region for 2000 through 2012. The unemployment rate for the region was approximately 8.4 per cent in 2013. Jefferson County, where the Cardinal Plant is sited, had an unemployment rate of 10.2 per cent in 2013. Exhibit 3 provides unemployment rates for 2000 through 2013 by county and region.

Personal income was $9.3 billion for the Cardinal Region in 2012. Exhibit 4 provides personal income by region and county for 2000 through 2012. The region's annual income per capita was $32,300. Exhibit 5 provides personal income per capita by region and county between 2000 and 2012.

The Cardinal Region had wage and salary employment of 88,600 in 2012. Exhibit 6 provides Cardinal Region employment by region and county. Employment in the region has declined at an average annual rate of 1.0 per cent per year since 2000. In addition, employment remains 7.6 per cent below the pre-recession level in 2007. The wage and salary disbursement in the region were $3.2 billion in 2012 and average wages were approximately $35,600 per worker. Wage and salary disbursements by county and region are provided on Exhibit 7. While, Exhibit 8 presents average wages per employee by county and region.

Conesville Region

The Conesville Plant is physically located in Coshocton County in central Ohio. For the purposes of this study, the surrounding counties of Guernsey, Holmes, Knox, Licking, Muskingum and Tuscarawas will be included in the Conesville Region. A map of this study area is included in Exhibit 1. These counties are in close proximity and have similar economic underpinnings.

Population in the Conesville Region was approximately 526,000 in 2012. Population in the region increased at an average annual rate of 0.5 per cent since the 2000 Census of the

Population. Exhibit 9 presents the population by county and region between 2000 and 2012. The unemployment rate for the region was 7.4 percent in 2013. Coshocton County, the home county of the Conesville Plant, had an unemployment rate of 9.6 per cent. Exhibit 10 provides unemployment rates by county and region for 2000 through 2013.

Conesville Region's personal income was approximately $18.3 million in 2012. Exhibit 11 presents personal income by county and region for 2000 through 2012. The region had an income per capita of $34,750 in 2012. County and regional income per capita for 2000 through 2012 is provided on Exhibit 12.

Wage and salary employment in the region was approximately 188,000 in 2012. Exhibit 13 provides wage and salary employment for the Conesville Region for 2000 through 2012. Regional employment has declined at an average annual rate of 0.9 per cent since 2000. Employment remains 3.3 per cent below pre-recession levels. Conesville Region wage and salary disbursements were approximately $7.0 billion in 2012 and average wages were approximately $37,200. Exhibit 14 and Exhibit 15 present county and region wage and salary disbursements and average wages, respectively.

Stuart-Zimmer Region

The Stuart Plant is physically located in Brown County and the Zimmer Plant is sited in Clermont County. These plants are located in contiguous counties and for this study, they will be included in the combined Stuart-Zimmer Region. For the purpose of analysis in this study, the surrounding counties of Adams, Clinton and Highland are included in the Stuart-Zimmer Region. A map of this study area is included in Exhibit 1. These counties are in close proximity and have similar economic underpinnings.

The Stuart-Zimmer region had a population of approximately 356,700 in 2012. Population in the region increased at an average annual rate of 0.7 per cent between 2000 and 2012. Exhibit 16 provides county and region population since 2000. It is worth noting that population growth for the region is strongly influenced by the growth in Clermont County, which benefits from its close proximity to Cincinnati. The unemployment rate for the Stuart-Zimmer Region was 8.1 per cent in 2013. Exhibit 17 presents unemployment rates by county and region for 2000 through 2013.

Personal income for the Stuart-Zimmer Region was approximately $12.5 billion in 2012. Exhibit 18 provides personal income by county and region for 2000 through 2012. Income per capita for the region was approximately $35,000 in 2012. Personal income per capita by county and region are provided on Exhibit 19.

The Stuart-Zimmer Region had wage and salary employment of approximately 97,000 in 2012. Exhibit 20 presents county and region employment for 2000 through 2012. Regional employment declined at an average annual rate of 0.7 per cent from 2000 through 2012. Employment in 2012 remained 15.7 per cent below the pre-recession levels. Stuart-Zimmer Region wage and salary disbursement were approximately $3.9 billion in 2012 and average wages were approximately $39,900. Exhibit 21 and Exhibit 22 provide county and region wage and salary disbursements and average wages, respectively.

Combined Study Region

The Combined Study Region is comprised of Cardinal Region, Conesville Region and Stuart-Zimmer Region. The Combined Study Region reflects the area that benefits the most by the existence of the power plants included in the AEPGR PPA.

The Combined Study Region had a population of approximately 1,200,000 in 2012. Population for the combined region grew at an average annual rate of 0.4 per cent between 2000 and 2012. In comparison, the State of Ohio's population grew at annual rate of 0.1 per cent over this period and the United States population expanded at a rate of 0.9 per cent per year. The Cardinal Region lagged both the U.S and Ohio in population growth. The Conesville Region and Stuart-Zimmer Region population growth exceeded Ohio and lagged the U.S. Exhibit 23 provides a comparison of population for the various groupings for 2000 through 2012. The unemployment rate for the combined region was 7.8 per cent in 2013. In comparison, the State of Ohio and the United States both had unemployment rates of 7.4 per cent. The Cardinal Region and Stuart-Zimmer Region lagged Ohio and the U.S. and both exceeded 8.0 per cent. The Conesville Region's unemployment rate was the same as Ohio and the U.S. Unemployment rate comparisons are provided on Exhibit 24.

Personal income for the Combined Study Region was approximately $40.1 billion in 2012. The per capita income for the Combined Study Region was approximately $34,200 in 2012. In comparison, income per capita for the State of Ohio and the United States were $40,100 and $43,700, respectively. Each of regions trailed Ohio and the U.S. in per capita income. Exhibit 25 and Exhibit 26 provided personal income and per capita personal income comparisons, respectively.

Wage and Salary employment for the Combined Study Region was approximately 373,700 in 2012. Employment in the region declined at an average annual rate of 0.9 per cent between 2000 and 2012. In comparison, employment for Ohio declined by 0.7 per cent per year and the U.S. employment increased at an average annual rate 0.1 per cent. Each of the regions trailed the U.S in employment growth. The Cardinal Region and the Conesville Region both exceeded Ohio in employment decline and the Stuart-Zimmer Region was the same as Ohio in employment decline. Employment comparisons are provided on Exhibit 27. Wage and salary disbursements

and average wages for the Combined Study Region were $14.0 billion and $37,500 in 2012, respectively. In comparison, Ohio and the U.S. average wages were $46,100 and $51,600, respectively. All regions lag Ohio and the U.S. in average wages. Exhibit 28 and Exhibit 29 provide comparisons of wage and salary disbursements and average wages, respectively.

Economic Impact Methodology

Economic base theory was used to develop impact multipliers in this study. This theory divides the local economy into two sectors. The basic sector drives growth in the local economy and is dependent upon external factors and exports goods and services from the region. The non-basic sector is driven by local business activity and primarily serves customers in the region. Location quotients are one method to determine basic and non-basic sectors. The location quotient measures the relative intensity of a sector in a region or a state versus the nation. Those sectors with location quotients greater than one were included in the basic sector. See Exhibit 30 for a discussion and citations related to economic base multipliers and location quotients. The direct impact of the converted plant is measured as the employment or output of the facility. The total impact is the direct impact multiplied by the economic base multiplier. The economic impacts have been estimated for both short and long term impacts to the region and state.

Economic Impacts of the Cardinal Plant

In 2013, the Cardinal Plant employed 353 workers. This level of employment has a total impact on the Cardinal Region and the state of 495 and 935 workers, respectively. It is estimated that the Cardinal Plant employees had an aggregate income of approximately $25,133,600. The total effect on income is estimated to be $31,704,699 and $51,972,896 for the Cardinal Region and the State of Ohio, respectively. Exhibit 31 provides the derivation the economic benefits of the Cardinal Plant.

Economic Impacts of the Conesville Plant

The Conesville Plant had 259 employees in 2013. This employment has a total impact on the Conesville Region and the state of 369 and 686 employees, respectively. It is estimated that the Conesville Plant employees had an aggregate income of approximately $18,544,000. The total income effect is estimated to $22,619,154 and $38,236,688 for the Conesville Region and Ohio, respectively. The economic impacts of the Conesville plant are provided on Exhibit 32.

Economic Impacts of the Stuart and Zimmer Plants

The Stuart and Zimmer plants had a combined 535 employment in 2013. This employment has a total impact on the Stuart-Zimmer Region and the state of 871 and 1,418 workers, respectively. It is estimated that the Stuart and Zimmer plants had an aggregate income of approximately $42,564,600. The total effect on income is estimated to be $55,060,704 and $83,241,720 for the Stuart-Zimmer Region and Ohio, respectively. Exhibit 33 provides the derivation the economic benefits of the Stuart and Zimmer Plants.

Economic Impacts of the Combined Plants

The combined plants employed 1,147 workers in 2013. This employment has a total impact on the Combined Study Region and Ohio of 1,734 and 3,040 employees, respectively. The aggregate income of the employees at the combined plants was approximately $86,242,600. The total effect on income is estimated to be $109,384,557 and $173,451,304, respectively. Exhibit 34 provides a table of the economic benefits to each region and the combined region.

Economic Impacts of Cardinal Coal Use

Cardinal Unit 1 used approximately 1,400,000 tons of Ohio produced coal in 2013 and the coal had a value of $63,826,000. The coal production supports 155 workers. This number of coal related workers has a total impact on the state of 411 employees. The coal miners are estimated to have a total income of $11.6 million and total income effect on the state is estimated to be $23.4 million. The Cardinal coal use impact analysis is provided in Exhibit 35.

Economic Impacts of Conesville Coal Use

Conesville Plant used approximately 2,784,000 tons of Ohio produced coal in 2013 and the coal had a value of $167,931,000. The coal production supports 308employees. This number of coal related workers has a total impact on the state of 817 workers. The coal miners are estimated to have a total income of $23.1 million and total income effect on the state is estimated to be $46.6 million. The Conesville coal use impact analysis is provided in Exhibit 36.

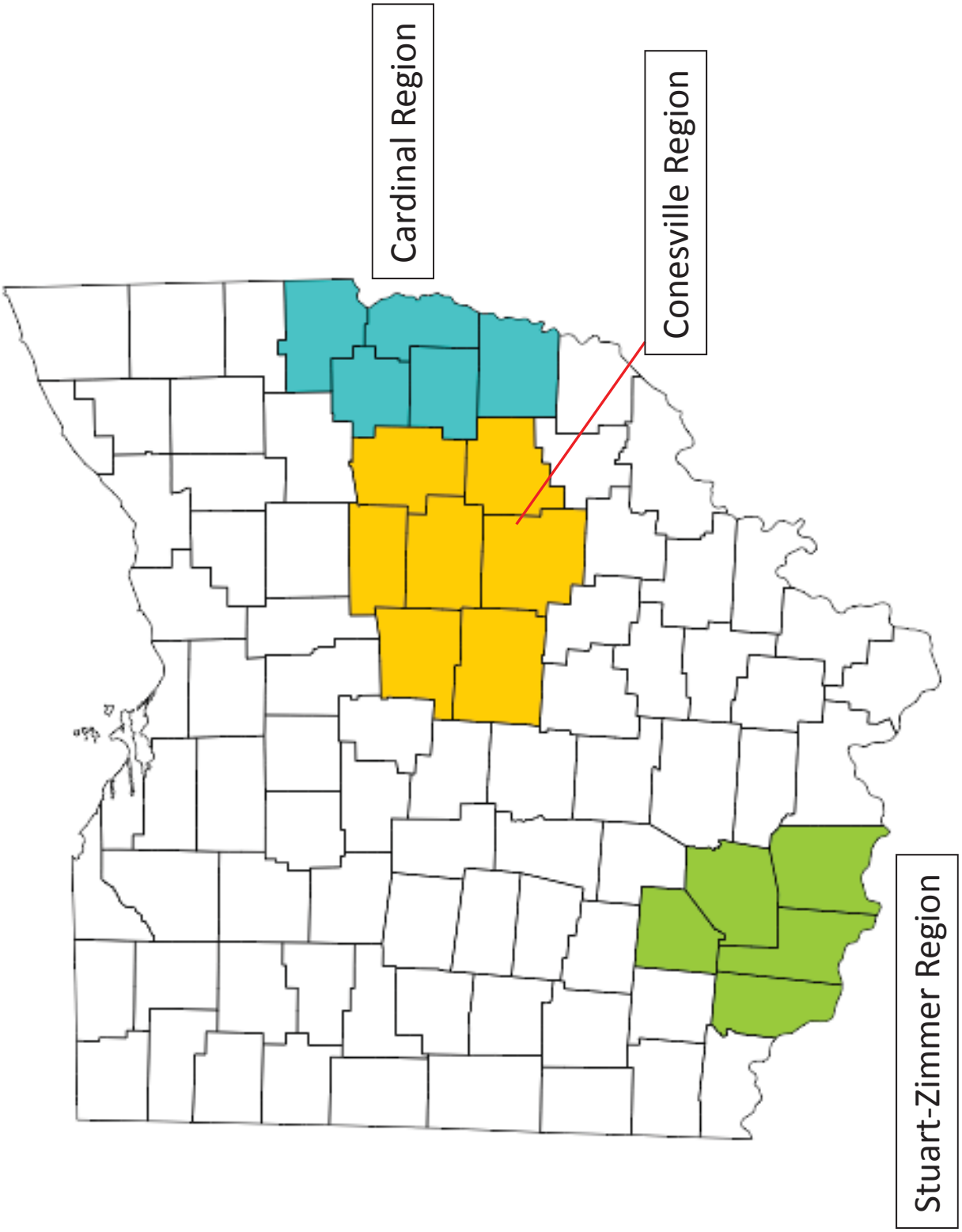
Economic Impacts of Stuart and Zimmer Coal Use

Stuart and Zimmer Plants used approximately 1,267,000 tons of Ohio produced coal in 2013 and the coal had a value of $61,095,000. The coal production supports 140 workers. This number of coal related workers has a total impact on the state of 372 workers. The coal miners are estimated to have a total income of $10.5 million and total income effect on the state is estimated to be $21.2 million. The Stuart and Zimmer coal use impact analysis is provided in Exhibit 37.

Combined Plants and the Ohio Coal Industry

The combined plants used approximately 5,451,000 tons of Ohio produced coal in 2013 and the coal had a value of approximately $292,852,000. The typical consumption of the Ohio coal by these plants reflects approximately 20.7 per cent of the state coal production. The coal production supports 604 employees. These coal related workers have a total impact on the state of 1,600 workers. See Exhibit 38 for the coal impacts induced by the plants in the AEPGR PPA. Ohio coal mining is concentrated in Belmont, Harrison, Jefferson, Noble, Perry and Tuscarawas counties. Over 92% of the Ohio coal production occurs in those counties. Exhibit 39 provides Ohio coal production by county through 2012. The presence of the coal industry in those counties is important. In 2013, these counties had a combined unemployment rate of 8.1%, which lags the State's 7.4%. Area unemployment rates are provided on Exhibit 40. As with the plant areas, the coal producing region's income per capita of $31,585 lags the state as a whole. Income and population for the coal producing region are provided on Exhibit 41. Without the coal purchases by AEP Generation Resources, the unemployment rate for these counties would be higher and economic well-being for these counties would be diminished.

EXHIBIT 1



Cardinal Region Population

County	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Average Growth Rate
Belmont	70,172	69,901	70,293	70,219	70,241	70,203	70,469	70,430	70,356	70,439	70,352	70,093	69,671	-0.1%
Carroll	28,851	28,961	29,172	29,325	29,297	29,118	29,163	29,062	28,999	28,917	28,800	28,836	28,587	-0.1%
Columbiana	112,048	111,370	111,097	111,000	110,627	109,784	109,673	109,153	108,469	107,948	107,820	107,244	106,507	-0.4%
Harrison	15,854	15,796	15,902	16,002	15,856	15,907	15,868	15,901	15,856	15,860	15,857	15,802	15,714	-0.1%
Jefferson	73,663	73,043	72,416	72,122	71,774	71,251	70,656	70,114	69,989	69,833	69,593	68,913	68,389	-0.6%
Region Total	300,588	299,071	298,880	298,668	297,795	296,263	295,829	294,660	293,669	292,997	292,422	290,888	288,868	-0.3%

Source: Bureau of Economic Analysis, CA 1-3 Personal Income Summary

Cardinal Region Unemployment Rates (%)

County	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Belmont	6.1	5.5	6.8	6.7	6.8	6.4	5.7	5.6	6.1	9.0	9.8	8.6	7.6	7.5
Carroll	4.4	4.8	6.6	7.7	7.3	6.6	6.0	6.1	7.6	13.4	12.5	9.9	7.7	7.6
Columbiana	4.8	5.4	6.8	7.5	7.3	7.0	6.4	6.2	7.2	13.1	12.4	9.9	8.2	8.1
Harrison	5.2	4.9	6.8	7.5	7.1	6.4	5.9	6.2	7.2	11.4	12.0	10.2	8.3	7.6
Jefferson	5.7	5.9	6.7	7.3	8.0	7.4	6.8	6.3	7.0	12.0	13.5	11.0	10.5	10.2
Cardinal Region	5.3	5.4	6.8	7.3	7.3	6.9	6.2	6.1	6.9	11.8	12.0	9.8	8.5	8.4

Source: Bureau of Labor Statistics

Cardinal Region Personal Income (Thousand $)

County	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Average Growth Rate
Belmont	1,535,170	1,646,097	1,693,218	1,740,058	1,766,223	1,800,107	1,852,989	1,953,057	2,058,536	2,048,186	2,077,734	2,212,899	2,318,699	3.5%
Carroll	645,300	654,876	653,839	668,340	695,576	723,547	742,869	770,068	782,123	752,829	771,025	817,757	832,163	2.1%
Columbiana	2,484,173	2,553,579	2,576,855	2,642,948	2,640,847	2,693,204	2,821,451	2,961,490	3,056,637	2,997,620	3,063,065	3,284,030	3,406,919	2.7%
Harrison	340,180	359,576	367,796	375,718	378,045	387,368	395,274	412,718	441,639	437,585	439,279	470,259	482,427	3.0%
Jefferson	1,644,226	1,717,294	1,765,768	1,805,403	1,864,412	1,864,481	1,939,996	2,043,451	2,164,062	2,127,691	2,116,612	2,234,907	2,291,174	2.8%
Region Total	6,649,049	6,931,422	7,057,476	7,232,467	7,345,103	7,468,707	7,752,579	8,140,784	8,502,997	8,363,911	8,467,715	9,019,852	9,331,382	2.9%

Source: Bureau of Economic Analysis, CA 1-3 Personal Income Summary

EXHIBIT 4

Cardinal Region Personal Income Per Capita ($)

County	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Average Growth Rate
Belmont	21,877	23,549	24,088	24,780	25,145	25,641	26,295	27,730	29,259	29,077	29,533	31,571	33,281	3.6%
Carroll	22,367	22,612	22,413	22,791	23,742	24,849	25,473	26,497	26,971	26,034	26,772	28,359	29,110	2.2%
Columbiana	22,171	22,929	23,195	23,810	23,872	24,532	25,726	27,132	28,180	27,769	28,409	30,622	31,988	3.1%
Harrison	21,457	22,764	23,129	23,479	23,842	24,352	24,910	25,955	27,853	27,590	27,703	29,759	30,700	3.0%
Jefferson	22,321	23,511	24,384	25,033	25,976	26,168	27,457	29,145	30,920	30,468	30,414	32,431	33,502	3.4%
Region Total	22,120	23,177	23,613	24,216	24,665	25,210	26,206	27,628	28,954	28,546	28,957	31,008	32,303	3.2%

Source: Bureau of Economic Analysis, CA 1-3 Personal Income Summary

Cardinal Region Employment (Thousands)

County	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Average Growth Rate
Belmont	25.305	25.480	25.843	25.903	26.122	26.005	25.778	25.914	25.126	24.125	23.867	23.865	23.918	-0.5%
Carroll	6.823	6.759	6.381	5.857	5.785	5.694	6.379	6.361	6.181	5.651	5.678	5.786	6.219	-0.8%
Columbiana	38.025	36.099	34.938	33.977	33.567	33.258	32.919	32.873	32.202	30.008	29.844	30.611	31.279	-1.6%
Harrison	4.158	4.247	4.111	3.836	3.937	4.039	3.912	3.783	3.673	3.469	3.376	3.358	3.537	-1.3%
Jefferson	26.234	26.103	26.039	26.808	26.216	26.160	26.413	26.907	27.664	25.488	23.902	23.850	23.647	-0.9%
Region Total	100.546	98.689	97.312	96.381	95.627	95.155	95.400	95.839	94.846	88.741	86.666	87.470	88.600	-1.0%

Source: U.S. Bureau of Economic Analysis (BEA); U.S. Bureau of Labor Statistics (BLS); Moody's Analytics Estimates

EXHIBIT 6

Cardinal Region Wage and Salary Disbursement (Million $)

County	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Average Growth Rate
Belmont	561	593	633	658	683	710	727	743	775	769	779	815	856	3.6%
Carroll	177	158	155	156	164	178	182	187	188	172	177	185	216	1.7%
Columbiana	929	929	941	960	958	970	1,000	1,030	1,034	980	989	1,048	1,092	1.4%
Harrison	99	104	102	103	110	114	115	113	117	113	112	113	130	2.3%
Jefferson	729	753	779	793	793	824	872	945	1,046	921	836	865	860	1.4%
Region Total	2,495	2,538	2,611	2,670	2,707	2,795	2,896	3,017	3,159	2,954	2,893	3,025	3,154	2.0%

Source: U.S. Bureau of Economic Analysis (BEA); U.S. Bureau of Labor Statistics (BLS); Moody's Analytics Estimates

EXHIBIT 7

Cardinal Region Average Wages ($)

County	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Average Growth Rate
Belmont	22,158	23,279	24,505	25,400	26,129	27,303	28,201	28,654	30,837	31,866	32,633	34,149	35,786	4.1%
Carroll	25,938	23,379	24,266	26,590	28,392	31,237	28,539	29,471	30,374	30,432	31,210	31,902	34,766	2.5%
Columbiana	24,430	25,749	26,939	28,256	28,531	29,155	30,376	31,334	32,119	32,656	33,131	34,222	34,906	3.0%
Harrison	23,897	24,596	24,900	26,951	27,870	28,298	29,516	29,805	31,765	32,486	33,192	33,659	36,773	3.7%
Jefferson	27,792	28,839	29,922	29,562	30,231	31,487	33,008	35,107	37,809	36,120	34,985	36,257	36,367	2.3%
Region Total	24,816	25,717	26,829	27,698	28,305	29,378	30,359	31,485	33,312	33,288	33,382	34,582	35,598	3.1%

Source: U.S. Bureau of Economic Analysis (BEA); U.S. Bureau of Labor Statistics (BLS); Moody's Analytics Estimates

Conesville Region Population

County	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Average Growth Rate
Coshocton	36,724	36,975	37,149	37,288	37,421	37,363	37,339	37,184	36,953	36,878	36,897	36,893	36,779	0.0%
Guernsey	40,803	40,860	40,991	41,138	40,965	40,752	40,600	40,531	40,347	40,242	40,032	39,841	39,817	-0.2%
Holmes	39,049	39,805	40,475	40,844	41,370	41,630	41,828	41,826	42,029	42,275	42,448	42,727	43,025	0.8%
Knox	54,616	55,460	56,377	57,232	57,995	58,641	59,194	59,843	60,348	60,633	61,026	61,245	60,705	0.9%
Licking	146,268	148,226	150,061	152,582	155,264	157,950	160,263	162,375	163,916	165,283	166,746	167,194	167,537	1.1%
Muskingum	84,732	84,789	85,247	85,418	85,589	85,696	86,023	85,939	85,874	85,779	86,200	86,176	85,950	0.1%
Tuscarawas	91,043	91,319	91,735	92,015	92,348	92,286	92,271	92,511	92,634	92,584	92,565	92,485	92,392	0.1%
Region Total	493,235	497,434	502,035	506,517	510,952	514,318	517,518	520,209	522,101	523,674	525,914	526,561	526,205	0.5%

Source: Bureau of Economic Analysis, CA 1-3 Personal Income Summary

Conesville Region Unemployment Rates (%)

County	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Coshoction	4.3	5.4	6.5	7.3	8.9	8.1	6.8	6.8	8.5	13.2	12.4	11.4	10.1	9.6
Guernsey	6.3	5.6	6.6	7.5	7.9	7.1	6.4	6.4	8.6	11.9	11.9	10.1	8.5	8.2
Holmes	2.9	2.9	3.8	4.1	4.1	3.9	3.7	4.0	4.9	7.7	7.3	5.9	5.0	5.0
Knox	4.1	4.1	5.4	6.2	5.8	5.6	5.0	5.4	6.4	9.6	9.6	8.6	6.8	6.7
Licking	3.6	3.9	5.1	6.0	6.0	5.7	5.0	5.3	6.2	9.3	9.4	8.1	6.7	6.9
Muskingum	5.2	5.7	6.7	7.4	8.3	8.2	7.0	7.7	8.6	12.3	13.2	11.5	9.8	9.7
Tuscarawas	4.2	4.5	5.7	6.2	6.0	5.6	5.0	5.3	6.2	11.0	10.6	8.7	6.9	6.8
Conesville Region	4.3	4.5	5.6	6.4	6.5	6.2	5.5	5.8	6.8	10.5	10.4	8.9	7.4	7.4

Source: Bureau of Labor Statistics

EXHIBIT 10

Conesville Region Personal Income (Thousand $)

County	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Average Growth Rate
Coshocton	867,507	879,248	872,163	896,030	933,377	943,718	992,266	1,027,490	1,061,236	1,032,625	1,065,440	1,144,181	1,165,674	2.5%
Guernsey	829,180	899,580	921,946	950,681	980,252	996,765	1,021,611	1,067,345	1,109,321	1,134,116	1,152,273	1,227,100	1,274,101	3.6%
Holmes	745,110	797,945	815,508	853,519	932,552	965,786	992,082	1,025,542	1,046,590	1,049,531	1,087,282	1,207,641	1,258,210	4.5%
Knox	1,288,900	1,342,166	1,377,683	1,430,259	1,501,809	1,569,729	1,684,366	1,760,232	1,831,968	1,827,759	1,870,518	2,004,091	2,074,547	4.0%
Licking	4,030,601	4,234,360	4,306,655	4,431,543	4,679,909	4,945,810	5,305,955	5,569,867	5,752,815	5,786,603	5,907,253	6,318,818	6,676,400	4.3%
Muskingum	2,017,538	2,107,249	2,140,449	2,209,514	2,276,022	2,293,762	2,362,972	2,467,638	2,532,919	2,545,383	2,585,199	2,776,931	2,836,348	2.9%
Tuscarawas	2,066,641	2,153,690	2,193,381	2,281,160	2,350,495	2,436,520	2,542,520	2,664,493	2,718,691	2,614,164	2,688,555	2,892,938	3,000,195	3.2%
Region Total	11,845,477	12,414,238	12,627,785	13,052,706	13,654,416	14,152,090	14,901,772	15,582,607	16,053,540	15,990,181	16,356,520	17,571,700	18,285,475	3.7%

Source: Bureau of Economic Analysis, CA 1-3 Personal Income Summary

EXHIBIT 11

Conesville Region Personal Income Per Capita ($)

County	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Average Growth Rate
Coshocton	23,622	23,780	23,477	24,030	24,943	25,258	26,575	27,633	28,719	28,001	28,876	31,013	31,694	2.5%
Guernsey	20,322	22,016	22,491	23,110	23,929	24,459	25,163	26,334	27,495	28,182	28,784	30,800	31,999	3.9%
Holmes	19,081	20,046	20,148	20,897	22,542	23,199	23,718	24,519	24,902	24,826	25,614	28,264	29,244	3.6%
Knox	23,599	24,201	24,437	24,991	25,895	26,768	28,455	29,414	30,357	30,145	30,651	32,723	34,174	3.1%
Licking	27,556	28,567	28,699	29,044	30,142	31,313	33,108	34,302	35,096	35,010	35,427	37,793	39,850	3.1%
Muskingum	23,811	24,853	25,109	25,867	26,592	26,766	27,469	28,714	29,496	29,674	29,991	32,224	33,000	2.8%
Tuscarawas	22,700	23,584	23,910	24,791	25,453	26,402	27,555	28,802	29,349	28,236	29,045	31,280	32,472	3.0%
Region Total	24,016	24,957	25,153	25,770	26,723	27,516	28,795	29,955	30,748	30,535	31,101	33,371	34,750	3.1%

Source: Bureau of Economic Analysis, CA 1-3 Personal Income Summary

EXHIBIT 12

Conesville Region Employment (Thousands)

County	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Average Growth Rate
Coshocton	15.302	13.835	13.367	12.909	12.582	12.943	12.587	12.329	11.795	10.938	11.121	10.818	10.717	-2.9%
Guernsey	15.619	15.345	15.688	15.523	15.477	15.602	15.346	15.290	14.490	13.958	13.930	14.114	14.403	-0.7%
Holmes	17.325	17.121	16.836	16.685	17.358	18.041	17.711	17.796	17.376	16.721	16.907	17.701	18.371	0.5%
Knox	19.136	19.065	18.913	18.343	19.135	19.853	20.084	20.126	20.014	19.285	19.300	19.328	19.701	0.2%
Licking	56.461	54.749	52.281	52.712	54.095	54.839	56.145	56.649	55.737	53.646	52.466	54.646	55.583	-0.1%
Muskingum	44.861	43.196	41.625	39.148	38.597	37.215	36.008	35.219	34.511	33.108	32.325	33.202	33.357	-2.4%
Tuscarawas	40.188	38.716	37.399	37.316	36.948	37.017	37.635	37.224	36.646	34.048	34.423	35.081	36.103	-0.9%
Region Total	208.893	202.026	196.108	192.636	194.192	195.510	195.516	194.632	190.570	181.706	180.471	184.890	188.235	-0.9%

Source: U.S. Bureau of Economic Analysis (BEA); U.S. Bureau of Labor Statistics (BLS); Moody's Analytics Estimates

EXHIBIT 13

Conesville Region Wage and Salary Disbursement (Million $)

County	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Average Growth Rate
Coshocton	400	390	391	400	405	399	410	424	423	381	396	396	401	0.0%
Guernsey	369	401	430	446	446	457	456	475	483	485	478	502	538	3.2%
Holmes	409	426	440	463	485	510	523	543	539	526	536	571	615	3.5%
Knox	526	544	570	580	627	655	706	725	755	729	739	778	821	3.8%
Licking	1,636	1,639	1,627	1,676	1,782	1,854	1,920	1,970	1,999	1,970	1,934	2,051	2,122	2.2%
Muskingum	1,102	1,150	1,162	1,169	1,207	1,166	1,171	1,188	1,197	1,175	1,159	1,232	1,248	1.0%
Tuscarawas	957	962	977	1,013	1,067	1,100	1,149	1,175	1,181	1,086	1,130	1,191	1,256	2.3%
Region Total	5,398	5,512	5,596	5,747	6,020	6,142	6,336	6,500	6,576	6,351	6,372	6,722	7,001	2.2%

Source: U.S. Bureau of Economic Analysis (BEA); U.S. Bureau of Labor Statistics (BLS); Moody's Analytics Estimates

Conesville Region Average Wages ($)

County	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Average Growth Rate
Coshocton	26,109	28,167	29,224	30,978	32,213	30,818	32,586	34,408	35,883	34,788	35,576	36,643	37,385	3.0%
Guernsey	23,619	26,162	27,378	28,708	28,839	29,320	29,720	31,091	33,325	34,748	34,317	35,591	37,356	3.9%
Holmes	23,636	24,868	26,145	27,746	27,933	28,288	29,540	30,532	31,037	31,453	31,727	32,263	33,491	2.9%
Knox	27,461	28,547	30,143	31,632	32,785	32,987	35,174	36,026	37,709	37,781	38,266	40,253	41,686	3.5%
Licking	28,971	29,932	31,121	31,789	32,946	33,806	34,193	34,768	35,859	36,713	36,864	37,528	38,176	2.3%
Muskingum	24,571	26,633	27,914	29,864	31,273	31,342	32,521	33,737	34,687	35,482	35,860	37,103	37,405	3.6%
Tuscarawas	23,808	24,846	26,114	27,152	28,872	29,710	30,530	31,559	32,215	31,906	32,841	33,953	34,791	3.2%
Region Total	25,842	27,285	28,535	29,832	31,000	31,413	32,405	33,399	34,509	34,950	35,309	36,354	37,193	3.1%

Source: U.S. Bureau of Economic Analysis (BEA); U.S. Bureau of Labor Statistics (BLS); Moody's Analytics Estimates

Stuart-Zimmer Region Population

County	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Average Growth Rate
Adams	27,317	27,522	27,817	28,111	28,328	28,522	28,615	28,538	28,686	28,500	28,584	28,498	28,350	0.3%
Brown	42,566	42,839	43,368	43,794	43,995	44,161	44,334	44,490	44,668	44,740	44,867	44,676	44,381	0.3%
Clermont	177,960	179,845	182,143	184,446	187,281	189,486	192,209	194,346	195,891	196,512	197,759	198,466	199,085	0.9%
Clinton	40,566	40,777	41,042	41,250	41,557	41,775	42,499	42,576	42,656	42,418	41,890	41,955	41,886	0.3%
Highland	41,019	41,295	41,857	42,269	42,938	42,967	43,562	43,845	43,700	43,578	43,584	43,412	42,998	0.4%
Region Total	329,428	332,278	336,227	339,870	344,099	346,911	351,219	353,795	355,601	355,748	356,684	357,007	356,700	0.7%

Source: Bureau of Economic Analysis, CA 1-3 Personal Income Summary

EXHIBIT 16

Zimmer-Stuart Region Unemployment Rates (%)

County	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Adams	7.1	7.4	9.6	9.7	9.3	8.2	7.5	7.6	9.3	14.3	14.0	12.4	11.2	11.4
Brown	5.1	5.8	6.9	7.1	6.9	6.7	6.8	6.5	7.6	12.4	11.7	10.7	9.0	8.8
Clermont	3.6	4.0	5.4	5.5	5.4	5.3	5.0	5.0	5.9	9.6	9.8	8.6	7.1	7.0
Clinton	3.5	3.7	5.0	5.6	6.0	5.4	4.7	4.7	6.0	14.4	16.3	13.0	10.4	10.0
Higland	4.4	5.0	6.0	6.3	6.3	5.8	5.5	5.9	7.4	15.2	16.1	12.5	9.7	9.7
Stuart-Zimmer Region	4.1	4.6	5.9	6.1	6.1	5.8	5.4	5.5	6.5	11.4	11.7	10.0	8.2	8.1

Source: Bureau of Labor Statistics

EXHIBIT 17

Stuart-Zimmer Region Personal Income (Thousand $)

County	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Average Growth Rate
Adams	558,007	568,350	567,938	591,691	627,445	644,484	665,929	710,162	722,307	726,584	730,712	781,103	777,608	2.8%
Brown	962,888	1,012,762	1,017,342	1,060,012	1,124,364	1,161,100	1,200,689	1,260,286	1,297,054	1,293,850	1,302,500	1,366,015	1,399,594	3.2%
Clermont	5,319,360	5,515,230	5,640,099	5,765,082	6,149,912	6,392,908	6,712,444	6,865,557	7,028,617	6,860,397	6,959,393	7,335,604	7,648,003	3.1%
Clinton	1,074,179	1,080,151	1,083,564	1,143,114	1,209,320	1,248,237	1,345,903	1,419,363	1,465,617	1,406,571	1,317,209	1,383,413	1,417,632	2.3%
Highland	862,869	937,535	944,304	985,458	1,055,101	1,098,598	1,170,390	1,221,106	1,224,894	1,221,971	1,161,980	1,218,944	1,236,885	3.0%
Region Total	8,777,303	9,114,028	9,253,247	9,545,357	10,166,142	10,545,327	11,095,355	11,476,474	11,738,489	11,509,373	11,471,794	12,085,079	12,479,722	3.0%

Source: Bureau of Economic Analysis, CA 1-3 Personal Income Summary

EXHIBIT 18

Stuart-Zimmer Region Personal Income Per Capita ($)

County	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Average Growth Rate
Adams	20,427	20,651	20,417	21,048	22,149	22,596	23,272	24,885	25,180	25,494	25,564	27,409	27,429	2.5%
Brown	22,621	23,641	23,458	24,205	25,557	26,292	27,083	28,327	29,038	28,919	29,030	30,576	31,536	2.8%
Clermont	29,891	30,667	30,965	31,256	32,838	33,738	34,923	35,326	35,880	34,911	35,191	36,962	38,416	2.1%
Clinton	26,480	26,489	26,401	27,712	29,100	29,880	31,669	33,337	34,359	33,160	31,444	32,974	33,845	2.1%
Highland	21,036	22,703	22,560	23,314	24,573	25,568	26,867	27,851	28,030	28,041	26,661	28,079	28,766	2.6%
Region Total	26,644	27,429	27,521	28,085	29,544	30,398	31,591	32,438	33,010	32,353	32,162	33,851	34,987	2.3%

Source: Bureau of Economic Analysis, CA 1-3 Personal Income Summary

EXHIBIT 19

Stuart-Zimmer Region Employment (Thousands)

County	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Average Growth Rate
Adams	7.226	6.826	6.527	6.292	6.539	6.711	6.842	6.938	6.598	6.103	6.103	6.063	5.712	-1.9%
Brown	7.656	7.244	7.294	7.569	7.925	8.304	8.200	8.394	8.390	8.101	8.428	8.374	8.492	0.9%
Clermont	50.146	50.432	51.776	52.050	53.800	54.633	59.393	59.864	58.563	55.104	53.598	54.375	55.807	0.9%
Clinton	27.474	26.332	25.056	24.340	24.395	25.359	27.579	27.636	25.942	19.674	16.723	16.272	16.093	-4.4%
Highland	12.551	11.867	12.064	11.951	12.084	12.310	12.303	11.994	11.295	10.680	10.379	10.353	10.713	-1.3%
Region Total	105.053	102.701	102.718	102.202	104.743	107.317	114.316	114.826	110.788	99.664	95.232	95.437	96.816	-0.7%

Source: U.S. Bureau of Economic Analysis (BEA); U.S. Bureau of Labor Statistics (BLS); Moody's Analytics Estimates

EXHIBIT 20

Stuart-Zimmer Region Wage and Salary Disbursements (Million $)

County	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Average Growth Rate
Adams	166	162	160	166	183	191	207	228	211	194	198	210	201	1.6%
Brown	196	188	192	204	221	229	241	266	276	274	294	295	298	3.5%
Clermont	1,681	1,783	1,776	1,852	2,034	2,092	2,279	2,368	2,305	2,159	2,135	2,229	2,348	2.8%
Clinton	818	817	828	876	913	969	1,127	1,144	1,152	985	686	649	667	-1.7%
Highland	295	303	319	334	349	365	368	377	358	345	335	336	353	1.5%
Region Total	3,156	3,253	3,275	3,432	3,701	3,845	4,223	4,384	4,302	3,957	3,648	3,719	3,866	1.7%

Source: U.S. Bureau of Economic Analysis (BEA); U.S. Bureau of Labor Statistics (BLS); Moody's Analytics Estimates

EXHIBIT 21

Stuart-Zimmer Region Average Wages ($)

County	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Average Growth Rate
Adams	23,008	23,776	24,469	26,426	28,038	28,422	30,261	32,794	31,982	31,787	32,491	34,640	35,162	3.6%
Brown	25,593	25,888	26,384	26,980	27,915	27,560	29,444	31,743	32,932	33,774	34,893	35,235	35,042	2.7%
Clermont	33,515	35,361	34,301	35,573	37,815	38,294	38,368	39,559	39,361	39,181	39,838	40,994	42,068	1.9%
Clinton	29,767	31,022	33,046	35,996	37,421	38,194	40,880	41,412	44,394	50,081	41,005	39,865	41,437	2.8%
Highland	23,531	25,542	26,453	27,919	28,914	29,631	29,936	31,471	31,676	32,289	32,285	32,463	32,920	2.8%
Region Total	30,042	31,676	31,886	33,579	35,337	35,829	36,942	38,180	38,830	39,702	38,311	38,967	39,927	2.4%

Source: U.S. Bureau of Economic Analysis (BEA); U.S. Bureau of Labor Statistics (BLS); Moody's Analytics Estimates

EXHIBIT 22

Ohio Plant Regions, State of Ohio and United States Population

Region	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Average Growth Rate
Cardinal	300,588	299,071	298,880	298,668	297,795	296,263	295,829	294,660	293,669	292,997	292,422	290,888	288,868	-0.3%
Conesville	493,235	497,434	502,035	506,517	510,952	514,318	517,518	520,209	522,101	523,674	525,914	526,561	526,205	0.5%
Stuart-Zimmer	329,428	332,278	336,227	339,870	344,099	346,911	351,219	353,795	355,601	355,748	356,684	357,007	356,700	0.7%
Regions Total	1,123,251	1,128,783	1,137,142	1,145,055	1,152,846	1,157,492	1,164,566	1,168,664	1,171,371	1,172,419	1,175,020	1,174,456	1,171,773	0.4%
State of Ohio	11,363,543	11,387,404	11,407,889	11,434,788	11,452,251	11,463,320	11,481,213	11,500,468	11,515,391	11,528,896	11,538,290	11,541,007	11,544,225	0.1%
United States	282,162,411	284,968,955	287,625,193	290,107,933	292,805,298	295,516,599	298,379,912	301,231,207	304,093,966	306,771,529	309,326,225	311,587,816	313,914,040	0.9%

Source: Bureau of Economic Analysis, CA 1-3 Personal Income Summary

EXHIBIT 23

Zimmer-Stuart Region Unemployment Rates (%)

Region	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Cardinal	5.3	5.4	6.8	7.3	7.3	6.9	6.2	6.1	6.9	11.8	12.0	9.8	8.5	8.4
Conesville	4.3	4.5	5.6	6.4	6.5	6.2	5.5	5.8	6.8	10.5	10.4	8.9	7.4	7.4
Stuart-Zimmer	4.1	4.6	5.9	6.1	6.1	5.8	5.4	5.5	6.5	11.4	11.7	10.0	8.2	8.1
Regions Total	4.5	4.8	6.0	6.5	6.6	6.2	5.6	5.7	6.7	11.1	11.2	9.5	7.9	7.8
State of Ohio	4.0	4.4	5.7	6.2	6.1	5.9	5.4	5.6	6.6	10.2	10.0	8.7	7.4	7.4
United States	4.0	4.7	5.8	6.0	5.5	5.1	4.6	4.6	5.8	9.3	9.6	8.9	8.1	7.4

Source: Bureau of Labor Statistics

EXHIBIT 24

Ohio Plant Regions, State of Ohio and United States Personal Income (Thousand $)

Region	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Average Growth Rate
Cardinal	6,649,049	6,931,422	7,057,476	7,232,467	7,345,103	7,468,707	7,752,579	8,140,784	8,502,997	8,363,911	8,467,715	9,019,852	9,331,382	2.9%
Conesville	11,845,477	12,414,238	12,627,785	13,052,706	13,654,416	14,152,090	14,901,772	15,582,607	16,053,540	15,990,181	16,356,520	17,571,700	18,285,475	3.7%
Stuart-Zimmer	8,777,303	9,114,028	9,253,247	9,545,357	10,166,142	10,545,327	11,095,355	11,476,474	11,738,489	11,509,373	11,471,794	12,085,079	12,479,722	3.0%
Regions Total	27,271,829	28,459,688	28,938,508	29,830,530	31,165,661	32,166,124	33,749,706	35,199,865	36,295,026	35,863,465	36,296,029	38,676,631	40,096,579	3.3%
State of Ohio	326,074,771	334,872,927	340,841,801	350,348,502	363,796,209	375,381,483	395,086,238	409,348,002	419,004,250	409,401,905	418,535,061	446,135,562	462,423,562	3.0%
United States	8,554,866,000	8,983,388,000	9,145,998,000	9,479,611,000	10,043,284,000	10,605,645,000	11,376,460,000	11,990,244,000	12,429,284,000	12,073,738,000	12,423,332,000	13,179,561,000	13,729,063,000	4.0%

Source: Bureau of Economic Analysis, CA 1-3 Personal Income Summary

EXHIBIT 25

Ohio Plant Regions, State of Ohio and United States Per Capita Personal Income ($)

Region	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Average Growth Rate
Cardinal	22,120	23,177	23,613	24,216	24,665	25,210	26,206	27,628	28,954	28,546	28,957	31,008	32,303	3.2%
Conesville	24,016	24,957	25,153	25,770	26,723	27,516	28,795	29,955	30,748	30,535	31,101	33,371	34,750	3.1%
Stuart-Zimmer	26,644	27,429	27,521	28,085	29,544	30,398	31,591	32,438	33,010	32,353	32,162	33,851	34,987	2.3%
Regions Total	24,279	25,213	25,448	26,052	27,034	27,790	28,981	30,120	30,985	30,589	30,890	32,932	34,219	2.9%
State of Ohio	28,695	29,407	29,878	30,639	31,766	32,746	34,412	35,594	36,386	35,511	36,274	38,657	40,057	2.8%
United States	30,319	31,524	31,798	32,676	34,300	35,888	38,127	39,804	40,873	39,357	40,163	42,298	43,735	3.1%

Source: Bureau of Economic Analysis, CA 1-3 Personal Income Summary

EXHIBIT 26

Ohio Plant Regions, State of Ohio and United States Employment (Thousands)

Region	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Average Growth Rate
Cardinal	100.546	98.689	97.312	96.381	95.627	95.155	95.400	95.839	94.846	88.741	86.666	87.470	88.600	-1.0%
Conesville	208.893	202.026	196.108	192.636	194.192	195.510	195.516	194.632	190.570	181.706	180.471	184.890	188.235	-0.9%
Stuart-Zimmer	105.053	102.701	102.718	102.202	104.743	107.317	114.316	114.826	110.788	99.664	95.232	95.437	96.816	-0.7%
Regions Total	414.491	403.415	396.138	391.219	394.563	397.982	405.233	405.296	396.203	370.110	362.369	367.798	373.652	-0.9%
State of Ohio	5,624.959	5,542.767	5,446.025	5,397.575	5,408.183	5,426.867	5,436.050	5,426.242	5,359.367	5,068.125	5,030.167	5,097.750	5,190.066	-0.7%
United States	132,030.000	132,079.583	130,628.167	130,314.917	131,731.667	133,996.500	136,403.083	137,934.667	137,169.667	131,220.417	130,272.250	131,848.667	134,098.417	0.1%

Source: U.S. Bureau of Economic Analysis (BEA); U.S. Bureau of Labor Statistics (BLS); Moody's Analytics Estimates

EXHIBIT 27

Ohio Plant Regions, State of Ohio and United States Wage and Salary Disbursements (Million $)

Region	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Average Growth Rate
Cardinal	2,495	2,538	2,611	2,670	2,707	2,795	2,896	3,017	3,159	2,954	2,893	3,025	3,154	2.0%
Conesville	5,398	5,512	5,596	5,747	6,020	6,142	6,336	6,500	6,576	6,351	6,372	6,722	7,001	2.2%
Stuart-Zimmer	3,156	3,253	3,275	3,432	3,701	3,845	4,223	4,384	4,302	3,957	3,648	3,719	3,866	1.7%
Regions Total	11,049	11,303	11,482	11,848	12,428	12,782	13,455	13,902	14,038	13,262	12,914	13,465	14,021	2.0%
State of Ohio	187,386	190,021	192,249	197,099	205,029	210,429	218,064	224,982	226,723	215,450	218,732	228,440	239,159	2.1%
United States	4,823,727	4,950,126	4,992,939	5,133,972	5,417,452	5,688,841	6,051,688	6,391,260	6,528,738	6,244,126	6,368,609	6,628,286	6,917,186	3.0%

Source: U.S. Bureau of Economic Analysis (BEA); U.S. Bureau of Labor Statistics (BLS); Moody's Analytics Estimates

EXHIBIT 28

Ohio Plant Regions, State of Ohio and United States Average Wages ($)

Region	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Average Growth Rate
Cardinal	24,816	25,717	26,829	27,698	28,305	29,378	30,359	31,485	33,312	33,288	33,382	34,582	35,598	3.1%
Conesville	25,842	27,285	28,535	29,832	31,000	31,413	32,405	33,399	34,509	34,950	35,309	36,354	37,193	3.1%
Stuart-Zimmer	30,042	31,676	31,886	33,579	35,337	35,829	36,942	38,180	38,830	39,702	38,311	38,967	39,927	2.4%
Regions Total	26,658	28,019	28,985	30,285	31,498	32,117	33,203	34,301	35,431	35,831	35,637	36,611	37,523	2.9%
State of Ohio	33,313	34,283	35,301	36,516	37,911	38,775	40,114	41,462	42,304	42,511	43,484	44,812	46,080	2.7%
United States	36,535	37,478	38,223	39,397	41,125	42,455	44,366	46,335	47,596	47,585	48,887	50,272	51,583	2.9%

Source: U.S. Bureau of Economic Analysis (BEA); U.S. Bureau of Labor Statistics (BLS); Moody's Analytics Estimates

EXHIBIT 30

Economic Base Multiplier

T=Total Employment

B=Base Employment

N=Non-Base Employment

The simplified economic base multiplier is T divided by B

Sectors considered in base employment are those with a location quotient of greater than 1.

All other sectors are in non-base employment.

See http://faculty.washington.edu/krumme/systems/multiplier.html for a description of multiplier derivation. See http://www.rri.wvu.edu/WebBook/Schaffer/index.html for a discussion regional economic base theory.

Location Quotient

e(i) = regional employment in sector i

e = total regional employment

E(i) = national employment in sector i

E = total national employment

LQ(i) = regional location quotient for sector i

LQ(i) =(e(i)/e)/(E(i)/E)

See http://www.rri.wvu.edu/WebBook/Schaffer/chap02.html#Heading14 for discussion of location quotients.

Employment and Earnings Impact of Cardinal Plant on the Region and Ohio

EXHIBIT 31

(1) Direct Employment	353
(2) Area Employment Multiplier	1.402
(3) Total Area Employment Impact (1)*(2)	495
(4) State Emploment Multiplier	2.65
(5) Total State Employment (1)*(4)	935
(6) Cardinal Plant Average Wages	71,200
(7) Region Average Wages	46,306
(8) Cardinal Earnings (1)*(6)	25,133,600
(9) Other Earnings ((3)-(1))*(7)	6,571,099
(10) Total Area Earning Impact (8)+(9)	31,704,699
(11) State Average Earnings	46,080
(12) Cardinal Earnings (1)*(6)	25,133,600
(13) Other Earnings ((5)-(1))*(11)	26,839,296
(14) Total State Earnings Impact (12)+(13)	51,972,896

Employment and Earnings Impact
of Conesville Plant on the Region and Ohio

EXHIBIT 32

(1) Direct Employment	259
(2) Area Employment Multiplier	1.423
(3) Total Area Employment Impact (1)*(2)	369
(4) State Emploment Multiplier	2.65
(5) Total State Employment (1)*(4)	686
(6) Conesville Average Wages	71,600
(7) Region Average Wages	37,193
(8) Conesville Earnings (1)*(6)	18,544,400
(9) Other Earnings ((3)-(1))*(7)	4,074,754
(10) Total Area Earning Impact (8)+(9)	22,619,154
(11) State Average Earnings	46,080
(12) Coneville Earnings (1)*(6)	18,544,400
(13) Other Earnings ((5)-(1))*(11)	19,692,288
(14) Total State Earnings Impact (12)+(13)	38,236,688

EXHIBIT 33

Employment and Earnings Impact
of Stuat and Zimmer Plants on the Region and Ohio

(1) Direct Employment	535
(2) Area Employment Multiplier	1.628
(3) Total Area Employment Impact (1)*(2)	871
(4) State Emploment Multiplier	2.65
(5) Total State Employment (1)*(4)	1,418
(6) Stuart-Zimmer Average Wages	79,560
(7) Region Average Wages	37,193
(8) Stuart-Zimmer Earnings (1)*(6)	42,564,600
(9) Other Earnings ((3)-(1))*(7)	12,496,104
(10) Total Area Earning Impact (8)+(9)	55,060,704
(11) State Average Earnings	46,080
(12) Stuart-Zimmer Earnings (1)*(6)	42,564,600
(13) Other Earnings ((5)-(1))*(11)	40,677,120
(14) Total State Earnings Impact (12)+(13)	83,241,720

Cardinal, Conesville, Stuart and Zimmer Plants
Employment, Earnings and Economic Impact

EXHIBIT 34

	Cardinal	Conesville	Stuart-Zimmer	Combined Plants
Direct Employment	353	259	535	1,147
Direct Earnings ($)	25,133,600	18,544,400	42,564,600	86,242,600
Region Employment Impact	495	369	871	1,734
Region Earnings Impact ($)	31,704,699	22,619,154	55,060,704	109,384,557
State Employment Imact	935	686	1,418	3,040
State Earnings Impact ($)	51,972,896	38,236,688	83,241,720	173,451,304

Employment and Earnings Impact
on Ohio of Cardinal Plant Coal Purchases

EXHIBIT 35

(1)State Coal Production	26,344,046
(2) State Coal Mining Employment	2,918
(3) Miners per Ton of Coal (2)/(1)	0.000110765
(4) Tons of Ohio Coal Used	1,400,000
(5) Ohio Coal Miners Supported by Cardinal Purchases (3)*(4)	155
(6) State Employment Multiplier	2.65
(7) Total Employment Impact (5)*(6)	411
(8) State Wage and Salary Payments	218,785,067
(9) State Average Mining Wages	74,978
(10) State Average Wages	46,080
(11) Coal Mining Earnings (5)*(9)	11,626,881
(12) Other Earnings ((7)-(5))*(10)	11,790,365
(13) Total Earnings Impact	23,417,247

Employment and Earnings Impact
on Ohio of Conesville Plant Coal Purchases

EXHIBIT 36

(1)State Coal Production	26,344,046
(2) State Coal Mining Employment	2,918
(3) Miners per Ton of Coal (2)/(1)	0.000110765
(4) Tons of Ohio Coal Used	2,784,000
(5) Ohio Coal Miners Supported by Conesville Purchases (3)*(4)	308
(6) State Employment Multiplier	2.65
(7) Total Employment Impact (5)*(6)	817
(8) State Wage and Salary Payments	218,785,067
(9) State Average Mining Wages	74,978
(10) State Average Wages	46,080
(11) Coal Mining Earnings (5)*(9)	23,120,884
(12) Other Earnings ((7)-(5))*(10)	23,445,984
(13) Total Earnings Impact	46,566,867

Employment and Earnings Impact
on Ohio of Stuart and Zimmer Plants Coal Purchases

EXHIBIT 37

(1)State Coal Production	26,344,046
(2) State Coal Mining Employment	2,918
(3) Miners per Ton of Coal (2)/(1)	0.000110765
(4) Tons of Ohio Coal Used	1,267,000
(5) Ohio Coal Miners Supported by Conesville Purchases (3)*(4)	140
(6) State Employment Multiplier	2.65
(7) Total Employment Impact (5)*(6)	372
(8) State Wage and Salary Payments	218,785,067
(9) State Average Mining Wages	74,978
(10) State Average Wages	46,080
(11) Coal Mining Earnings (5)*(9)	10,522,328
(12) Other Earnings ((7)-(5))*(10)	10,670,281
(13) Total Earnings Impact	21,192,608

Cardinal, Conesville, Stuart and Zimmer Plants
Coal Use and Economic Impacts

EXHIBIT 38

	Cardinal	Conesville	Stuart-Zimmer	Combined Plants
Ohio Coal Used (tons)	1,400,000	2,784,000	1,267,000	5,451,000
Coal Value ($)	63,826,000	167,930,880	61,094,740	292,851,620
Miners Supported	155	308	140	604
Miners Wages ($)	11,626,881	23,120,884	10,522,328	45,270,093
Total Employment Impact	411	817	372	1,600
Total Earnings Impact ($)	23,417,247	46,566,867	21,192,608	91,176,722

Ohio Coal Production by County (Tons)

County	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Athens	543,824	1,248,192	1,157,778	1,162,172	1,215,027	1,148,579	799,687	287,558	92,173	0	0	0	0
Belmont	5,880,307	7,629,057	9,059,426	10,930,069	11,967,388	13,770,265	7,615,853	5,619,776	6,760,123	8,977,674	13,197,000	12,252,148	15,155,856
Carroll	46,670	114,263	145,935	247,751	438,545	520,341	505,864	392,877	148,396	85,333	136,000	202,040	152,609
Columbiana	521,622	215,778	160,358	362,557	382,965	277,922	416,406	281,266	348,358	125,213	100,000	138,494	49,230
Coshocton	54,530	63,816	262,191	433,591	468,051	473,539	154,439	169,624	252,204	386,438	265,000	154,862	0
Gallia	202,761	221,057	271,232	166,980	0	0	0	0	0	0	0	0	0
Guernsey	21,148	8,327	35,029	0	0	0	0	0	0	20,079	221,000	235,283	354,802
Harrison	3,021,273	3,544,834	2,935,670	3,651,481	3,828,637	3,577,368	3,172,507	2,391,539	3,219,794	3,327,188	3,371,000	3,370,001	3,020,758
Holmes	153,074	141,190	0	0	0	0	0	0	0	0	0	0	0
Jackson	1,196,190	1,305,575	702,921	363,883	162,820	323,896	461,449	354,801	355,265	475,561	528,000	669,768	481,467
Jefferson	669,865	912,273	1,225,657	1,107,400	923,716	951,178	952,800	936,608	2,298,189	2,989,376	1,744,000	1,602,298	923,186
Mahoning	12,380	16,875	19,213	15,348	17,884	12,585	8,359	13,350	12,835	8,143	13,000	21,541	3,969
Meigs	3,819,766	4,291,350	416,932	0	0	0	0	0	0	296,049	1,553,000	444,551	0
Monroe	0	0	0	0	0	0	4,554,330	7,019,807	6,685,769	5,111,400	978,000	2,577,158	0
Morgan	826,283	537,469	0	0	0	0	0	0	0	0	0	0	0
Muskingum	704,784	701,248	477,642	132,482	105,204	31,432	233,038	216,824	199,693	137,370	9,000	0	0
Noble	567,065	578,262	336,485	246,491	335,410	500,902	575,471	622,674	777,694	741,894	756,000	720,582	704,995
Perry	918,775	1,052,138	827,203	779,525	717,107	816,434	885,962	1,558,968	2,099,063	1,978,726	2,946,000	3,225,884	3,547,749
Stark	674,518	696,906	496,579	407,650	474,573	407,936	197,324	283,349	444,748	415,596	338,000	323,230	431,117
Tuscarawas	659,978	784,425	957,460	1,067,200	1,237,405	1,514,341	1,652,748	1,618,224	1,663,496	1,654,921	1,782,000	1,529,821	941,173
Vinton	1,926,446	1,628,756	1,382,075	1,103,690	1,033,268	844,682	532,705	515,827	677,793	593,560	427,000	461,428	577,135
Washington	57,289	98,752	116,709	114,934	152,615	0	0	0	0	0	0	0	0
Total	22,478,548	25,790,543	20,986,495	22,293,204	23,460,615	25,171,400	22,718,942	22,283,072	26,035,593	27,324,521	28,364,000	27,929,089	26,344,046

Source: Ohio Department of Natural Resources "Report on Ohio Mineral Industries: An Annual Summary of the State's Economic Geology" Various Issues

EXHIBIT 39

EXHIBIT 40

Ohio Primary Coal Producing Area and Ohio Unemployment Rates (per centage)

	Counties							
Year	**Belmont**	**Harrison**	**Jefferson**	**Noble**	**Perry**	**Tusacarawas**	**Area**	**Ohio**
2000	6.1	5.2	5.7	6.4	5.3	4.2	5.2	4.0
2001	5.5	4.9	5.9	5.7	5.7	4.5	5.3	4.4
2002	6.8	6.8	6.7	7.2	6.8	5.7	6.4	5.7
2003	6.7	7.5	7.3	8.6	7.9	6.2	6.9	6.2
2004	6.8	7.1	8.0	8.5	8.8	6.0	7.1	6.1
2005	6.4	6.4	7.4	8.1	8.1	5.6	6.6	5.9
2006	5.7	5.9	6.8	7.1	7.3	5.0	6.0	5.4
2007	5.6	6.2	6.3	7.3	7.3	5.3	6.0	5.6
2008	6.1	7.2	7.0	8.5	8.5	6.2	6.8	6.6
2009	9.0	11.4	12.0	14.2	13.1	11.0	11.2	10.2
2010	9.8	12.0	13.5	14.7	12.9	10.6	11.6	10.0
2011	8.6	10.2	11.0	12.6	11.2	8.7	9.7	8.7
2012	7.6	8.3	10.5	10.5	9.7	6.9	8.4	7.4
2013	7.5	7.6	10.2	9.6	9.3	6.8	8.1	7.4

Source: Bureau of Labor Statistics

Ohio Primary Coal Producing Counties
Personal Income (Thousand $), Population and Area Per Capita Personal Income ($)

	Belmont County		Harrison County		Jefferson County		Noble County		Perry County	
Year	Income	Population	Income	Population	Income	Population	Income	Population	Income	Population
2000	1,535,170	70,172	340,180	15,854	1,644,226	73,663	222,279	14,108	634,726	34,099
2001	1,646,097	69,901	359,576	15,796	1,717,294	73,043	231,856	13,857	661,413	34,375
2002	1,693,218	70,293	367,796	15,902	1,765,768	72,416	240,720	13,931	687,204	34,629
2003	1,740,058	70,219	375,718	16,002	1,805,403	72,122	243,593	14,221	705,423	34,944
2004	1,766,223	70,241	378,045	15,856	1,864,412	71,774	253,718	14,352	742,958	35,117
2005	1,800,107	70,203	387,368	15,907	1,864,481	71,251	260,943	14,210	762,187	35,254
2006	1,852,989	70,469	395,274	15,868	1,939,996	70,656	268,106	14,616	789,958	35,430
2007	1,953,057	70,430	412,718	15,901	2,043,451	70,114	281,962	14,614	824,692	35,582
2008	2,058,536	70,356	441,639	15,856	2,164,062	69,989	292,255	14,653	855,286	36,150
2009	2,048,186	70,439	437,585	15,860	2,127,691	69,833	294,693	14,649	869,854	35,996
2010	2,077,734	70,352	439,279	15,857	2,116,612	69,593	299,423	14,637	885,669	36,060
2011	2,212,899	70,093	470,259	15,802	2,234,907	68,913	314,210	14,697	941,557	36,210
2012	2,318,699	69,671	482,427	15,714	2,291,174	68,389	327,831	14,579	952,927	36,015

	Tuscarawas County		Coal Area Total		
	Income	Population	Income	Population	Per Capita
2000	2,066,641	91,043	6,443,222	298,939	21,554
2001	2,153,690	91,319	6,769,926	298,291	22,696
2002	2,193,381	91,735	6,948,087	298,906	23,245
2003	2,281,160	92,015	7,151,355	299,523	23,876
2004	2,350,495	92,348	7,355,851	299,688	24,545
2005	2,436,520	92,286	7,511,606	299,111	25,113
2006	2,542,520	92,271	7,788,843	299,310	26,023
2007	2,664,493	92,511	8,180,373	299,152	27,345
2008	2,718,691	92,634	8,530,469	299,638	28,469
2009	2,614,164	92,584	8,392,173	299,361	28,034
2010	2,688,555	92,565	8,507,272	299,064	28,446
2011	2,892,938	92,485	9,066,770	298,200	30,405
2012	3,000,195	92,392	9,373,253	296,760	31,585

Source: U.S. Bureau of Economic Analysis (CA 1-3 Personal Income Summary)

EXHIBIT 41

Summary: Testimony -Direct Testimony of William A. Allen electronically filed by Mr. Steven T Nourse on behalf of Ohio Power Company