

The Economic and Fiscal Impact of a Proposed Powerplant in Rogers City

Commissioned by:
Wolverine Power Cooperative
Rogers Township
City of Rogers City
Presque Isle County Economic Development Commission

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Executive Summary

PURPOSE OF REPORT

Wolverine Power Cooperative, City of Rogers City, Rogers Township, and Presque Isle County Economic Development Commission commissioned Anderson Economic Group (AEG) to provide an independent study of the economic impact of a new solid fuel power plant on the area surrounding Rogers City, Michigan. We provide estimates of the net economic and fiscal impact on the regional economy of Presque Isle, Alpena, Montmorency, and Cheboygan Counties.

OVERVIEW OF APPROACH

We define net impact as the difference between the results of two scenarios: a “without the development” scenario, where the plant is not built, and a “with the development” scenario, where Wolverine Power Cooperative builds and operates the proposed 600 megawatt power plant in the Rogers City area. We follow a conservative methodology that accounts for costs and economic substitution.

OVERVIEW OF FINDINGS

This report describes the findings of our analysis in detail. We find that the proposed power plant development would:

- Create jobs during its construction, which will take place between 2009 and 2013. The construction will create over 6,000 single year duration jobs during that period in Presque Isle, Alpena, Montmorency, and Cheboygan Counties, and over 3,900 in Presque Isle County alone.
- Create jobs during the plant’s operation, beginning in 2014, including 100 full-time equivalent jobs at the plant, and 132 additional, indirectly-created jobs in the four county region, 77 of which would be in Presque Isle County.
- Create \$1.2 billion in property value on the development site. After accounting for property tax exemptions, this will result in \$570 million in taxable value, with \$552 million created in Rogers Township, and \$18 million in Rogers City.
- Create over \$11.7 million in residential property value (\$5.8 million in taxable value) in Rogers Township and Rogers City. This will result in \$0.96 million in taxable value in Presque Isle County, \$2.51 million in Rogers Township, and \$3.34 million in Rogers City.
- To serve the population added to the communities (approximately 161 people to Rogers City, 57 to Rogers Township, and 24 elsewhere in Presque Isle County), Presque Isle County will face approximately \$40 thousand in new cost pressures, while Rogers City will face \$75 thousand, and Rogers Township will face approximately \$4,360.
- Rogers City and Rogers Township could lose approximately \$19,900 and \$232 in statutory state revenue sharing, respectively. (Because of the way the state revenue sharing formula is constructed, adding significant property value, as with this project, reduces a community’s statutory state revenue sharing receipts.)
- Create a positive net fiscal impact on Presque Isle County, Rogers City and Rogers Township. Accounting for new tax revenue and new spending due to an increase in population, we estimate a positive net fiscal impact of over \$1.6 million on Presque Isle County, \$88,894 on Rogers City, and \$272,663 on Rogers Township in 2015.

ABOUT ANDERSON ECONOMIC GROUP

Anderson Economic Group, LLC is a consulting firm in East Lansing, Michigan, and Chicago. AEG’s past clients include state, city, and county governments, corporations, and nonprofit organizations. For more information about AEG visit: <http://www.AndersonEconomicGroup.com>

I. Introduction and Outline of Proposed Project

PURPOSE OF REPORT Wolverine Power Cooperative, Rogers City, Rogers Township, and Presque Isle County Economic Development Commission commissioned Anderson Economic Group (AEG) to provide a credible, independent study of the likely economic impact of a proposed coal-based power plant on the area surrounding Rogers City, Michigan. In this report we provide a complete analysis of the plant's effect on the regional economy of Presque Isle, Alpena, Montmorency, and Cheboygan Counties, including the net economic and fiscal impact of the project, and the impact on the shipping industry and housing market in the region.

PROPOSED DEVELOPMENT Wolverine Power Cooperative plans to build a powerplant facility in the area around Rogers City, Michigan. The proposed site is within an already-mined portion of a limestone quarry, and lies mostly in Rogers Township, with some water-front property in Rogers City. The plant would consist of two 300 MW turbines. Though the plant's design would allow the use of alternative fuels such as biomass for up to 20% of the plant's fuel, current plans rely on coal, and fuels similar to coal (such as petroleum coke), while the logistic and economic feasibility of using some biomass is investigated.

The power plant analyzed in this study is part of Wolverine Power Cooperative's "Wolverine Clean Energy Venture," which also includes a wind turbine farm. This study only considers the base load plant portion of that project, and does not attempt to quantify the impact of the any wind turbine developments.

OVERVIEW OF APPROACH This report summarizes our estimates of the proposed power plant's net impact on employment, and the net fiscal impact.

Net Impact Defined. We define net impact as the difference between the results of two scenarios.¹ The first is the "without the development" scenario, where the proposed power plant is not built, and the value of the development site remains what it is today, growing by some nominal rate each year. The second is the "with the development" scenario, where Wolverine Power Cooperative builds and operates the proposed 600 megawatt power plant in the Rogers City area.

AEG Experience. AEG has completed a number of other impact assessments, which often are recognized afterwards as the most reliable and timely available.² Our analysis uses a consistent, conservative methodology that avoids double-counting of costs or benefits, properly accounts for the shifting and sub-

1. We use the term "net impact" in conjunction with both fiscal impact analysis (examining government revenue and expenditures) and economic impact analysis (examining indicators of the health of the economy such as employment and earnings).

stitution of economic activity, and does not unnecessarily inflate the impact by using excessive “multipliers.” Unfortunately, many economic impact reports do not follow a consistent methodology nor a conservative approach, and we caution against comparing the results from this analysis with “impact” assessments.

Fiscal Impact Implications. Our estimate of the proposed plant’s fiscal impact takes into account both revenues and expenditures caused by the plant’s construction and operation. Our analysis of revenues accounts for a property tax abatement under PA 198 of 1974 and a property tax exemption for pollution control equipment under PA 451 of 1994. We make no predictions about the reaction that the governments of Presque Isle County, the City of Rogers City or Rogers Township would have to the proposed development and change in fiscal pressures, which could include changes in spending levels or priorities or changes in levels of taxation.

ABOUT ANDERSON ECONOMIC GROUP

Anderson Economic Group, LLC is a consulting firm that specializes in economics, public policy, financial valuation, market research, and land use economics. AEG’s past clients include:

- *Governments* such as the states of Michigan, North Carolina, and Wisconsin; the cities of Detroit, Cincinnati, Norfolk, and Fort Wayne; counties such as Oakland County, Michigan, and Collier County, Florida; and authorities such as the Detroit-Wayne County Port Authority.
- *Corporations* such as LS Power, GM, Ford, Delphi, Honda, Taubman Centers, PG&E Generating, SBC, Gambrinus, Labatt USA, and InBev USA.
- *Nonprofit organizations* such as Michigan’s University Research Corridor, Michigan State University, Wayne State University, the Van Andel Institute, the Michigan Manufacturers Association, the International Mass Retailers Association, the American Automobile Manufacturers Association, Automation Alley, and the Michigan Chamber of Commerce.

For more information about AEG visit: <http://www.AndersonEconomicGroup.com>.

2. Previous AEG reports on similar topics include:

Critical Review: Northeast Blackout Likely to Reduce US Earnings by \$6.4 Billion, East Lansing, MI: Anderson Economic Group, August 19, 2003; the estimated impact included in this report was later corroborated by a completely independent analysis produced several months later, and the estimate has been included in numerous DoE and US Government publications.

Lost Earnings Due to the West Coast Port Shutdown - Preliminary Estimate, Lansing, MI: Anderson Economic Working Paper, October 7, 2002; this analysis, which produced an estimate of economic impact many times smaller than that commonly cited in news media reports at the time, was later corroborated by academic research in the US, and was also used by the Australian government in assessing risks of disruptions of maritime ports.

The Economic Benefits of Michigan State University, Michigan State University, May 2007. This report uses a more conservative method for calculating economic impact than is commonly used for colleges, and directly considers the likely substitution effects of university payroll and purchases.

These are available on the Anderson Economic Group web site at: <http://www.andersoneconomicgroup.com>.

II. Overview of Regional Economy

Presque Isle County is located in northeast Michigan, situated on the shoreline of Lake Huron. Rogers City is its largest town, comprising about a fifth of its population. Below, we provide a detailed overview of the economies in each of these three areas, including an explanation into population, industry and income trends.

LABOR FORCE

Population Trends. Rogers City comprised about a fifth of Presque Isle County's population, totaling 3,227 people in 2007. However, unlike Rogers Township and Presque Isle County, Rogers City lost 2.86 percent of its population between 2000 and 2007, while the state of Michigan gained almost 4 percent in population. See Table 1 below.

TABLE 1. Population and Household Trends, 2007

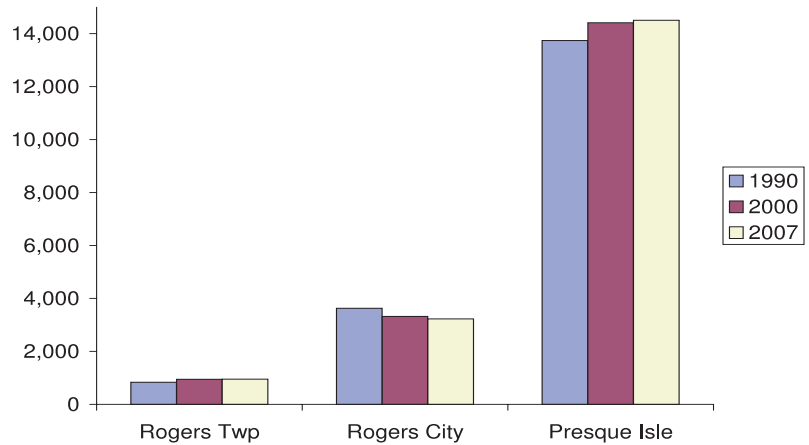
	Total Population	Number of Households	% Population Change, 2000-2007
Rogers Twp	950	408	0.11%
Rogers City	3,227	1,496	-2.86%
Presque Isle County	14,507	6,444	0.67%
State of MI	10,322,677	3,990,807	3.87%

Source: ESRI

Analysis: Anderson Economic Group

As shown in Figure 1 on page 4, Rogers Township and Presque Isle County have both grown in population size since 1990. Rogers Township has grown from 837 people in 1990 to 950 people in 2007, while Presque Isle County has grown from 13,743 people to 14,507 people since 1990. Rogers City, however, has shrunk in population size over time—in 1990, its population was 3,627 people, and by 2007 it had decreased to 3,227.

FIGURE 1. Population Trends, 2000-2007



Educational Attainment. All three geographic areas have a significantly larger percentage of residents over 25 years who have graduated high school. While only 31.3 percent of the Michigan population had graduated high school in 2000, 38.4 percent had graduated high school in Presque Isle, 37.5 percent had graduated high school in Rogers City, and 40.2 percent had graduated high school in Rogers Township. Furthermore, the percentage of people over 25 years with less than a ninth grade education decreased in all three geographic areas from 1990 to 2000. In Rogers Township, the proportion decreased from 15.2 percent in 1990 to 7 percent in 2000, while in Rogers City and Presque Isle County, the proportion decreased 2.3 percent and 7.7 percent respectively.

In Rogers Township, 6.4 percent of people over the age of 25 had earned a bachelor's degree in 1990. In Rogers City, this figure was 7.2 percent, while 5.5 percent of Presque Isle County's over-25 population had a bachelor's degree. By 2000, the proportion had grown to total 9.3 percent in Rogers Township, 8.3 percent in Rogers City, and 7.4 percent in Presque Isle County. However, compared to the State of Michigan, of whom 13.7 percent have achieved a bachelor's degree and 8.1 percent have a graduate or professional degree, the educational attainment in all three geographies is significantly lower. See Table 2 on page 5.

TABLE 2. Educational Attainment in Target Geographic Areas, 1990 and 2000

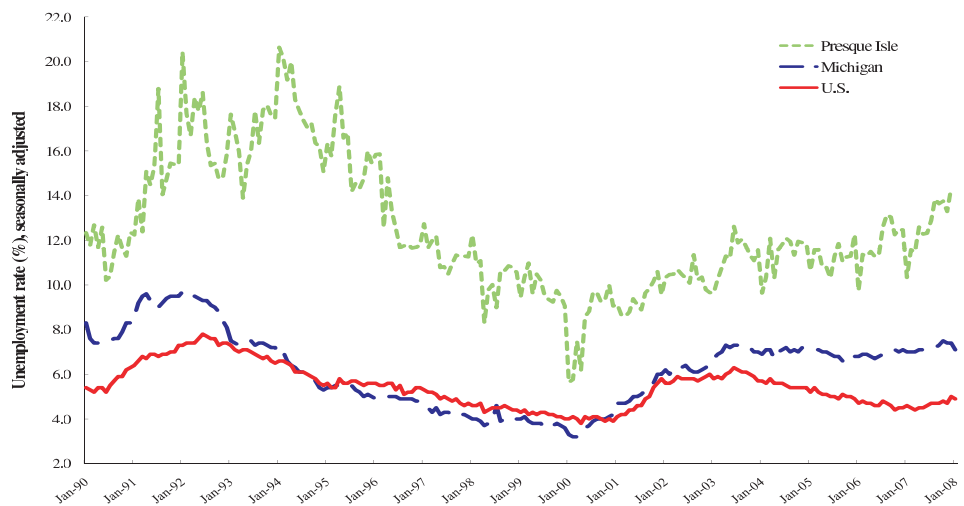
	Rogers Township		Rogers City		Presque Isle		State of MI	
	1990	2000	1990	2000	1990	2000	1990	2000
TOTAL Persons 25 and over	560	699	2,472	2,433	9,285	10,463	5,842,642	6,415,941
Less than 9th grade	15.2%	7.0%	12.7%	10.4%	16.9%	9.2%	7.8%	4.7%
9th to 12th grade, no diploma	11.8%	11.6%	13.6%	12.5%	17.4%	13.8%	15.5%	11.9%
High school graduate	45.0%	40.2%	42.8%	37.5%	38.3%	38.4%	32.3%	31.3%
Some college, no degree	12.0%	21.0%	14.2%	23.4%	13.5%	21.2%	20.4%	23.3%
Associate degree	5.7%	5.6%	5.4%	4.5%	5.1%	6.0%	6.7%	7.0%
Bachelor's degree	6.4%	9.3%	7.2%	8.3%	5.5%	7.4%	10.9%	13.7%
Graduate or professional degree	3.9%	5.3%	4.0%	3.4%	3.3%	4.1%	6.4%	8.1%

Source: U.S. Census Bureau

Analysis: Anderson Economic Group

Unemployment. The unemployment rate in Presque Isle has been significantly higher than that of the state of Michigan and of the nation. In 2007, the unemployment rate in Presque Isle County was 12.7 percent, versus 7.2 percent in Michigan and 4.6 percent in the nation. Furthermore, the unemployment rate in Presque Isle County changes dramatically from one month to the next compared to the rest of the state. This may be due to the prevalence of more seasonally dependant industries like mining, forestry and fishing in Presque Isle County. See Figure 2 below.

FIGURE 2. Unemployment Rate in Presque Isle County, Michigan, and Nation



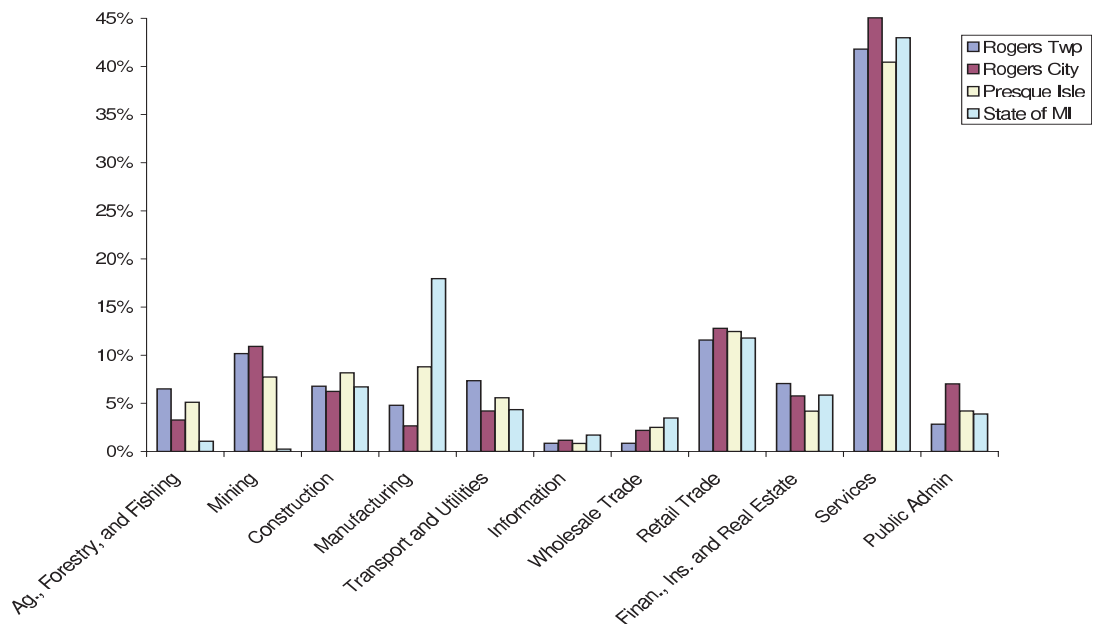
INDUSTRY MIX

The Rogers City area and Presque Isle County as a whole share many similarities with the state of Michigan in terms of industry mix. Services such as the management of companies and enterprises, food services, and health care, comprised 40 to 43 percent of employment (the largest amount of any industry) in all four of the geographic areas we considered. In 2007 healthcare and social services made up approximately 36 percent of the “services” employment total in Presque Isle County (36 percent in Rogers City, 30 percent in Rogers Township). Furthermore, retail trade had similar proportions of employment in Rogers City, Rogers Township, and Presque Isle County (12 to 13 percent) as the greater state of Michigan.

However, unlike the rest of the state, mining, agriculture, and forestry make up a significant portion of Rogers City’s, Rogers Township’s and Presque Isle County’s employment. While mining makes up only 0.24 percent of Michigan’s total employment, it comprises about 10 percent of Rogers Township’s employment, 11 percent of Rogers City’s employment, and 8 percent of Presque Isle County’s employment. Agricultural, forestry, and fishing also employs a much larger portion of the Rogers City area and Presque Isle County labor force than that of Michigan’s economy: in 2007, it comprised around 6 percent of employment in Rogers Township, 3 percent in Rogers City, and 5 percent in Presque Isle County, compared to 1 percent of employment in the State of Michigan.

While manufacturing is a major employer for Michigan as a whole (comprising around 18 percent of Michigan’s employment in 2007), it only provided around 9 percent of employment in Presque Isle County, 5 percent of employment in Rogers Township, and 2 percent of employment in Rogers City in 2007. See Figure 3 below.

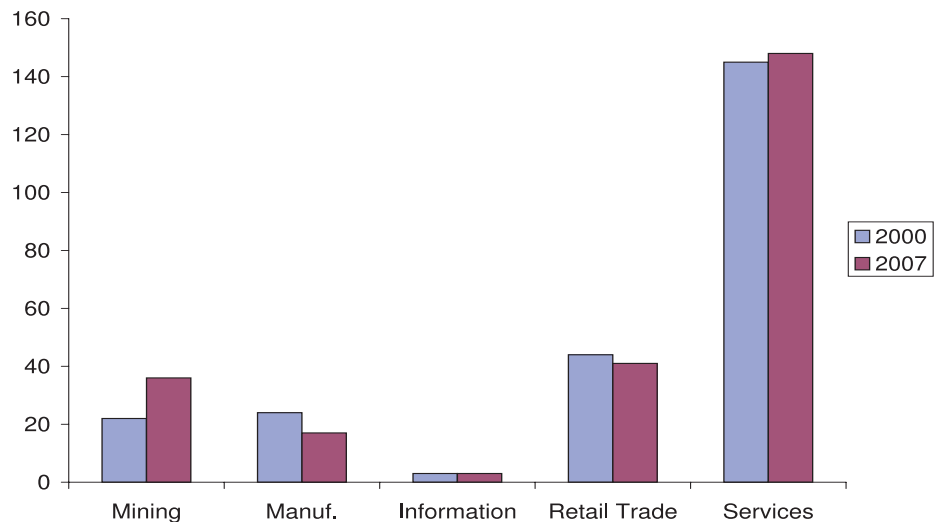
FIGURE 3. 2007 Industry Breakdown, Three Areas and State of MI



Key Industries. Five industries in the Rogers City area and Presque Isle County stand out either in terms of the amount of people they employ in these regions or in the change in employment they have seen since 2000. These industries are: mining, manufacturing, information, retail trade, and services. Below, we analyze the changes seen in each of these industries between 2000 and 2007 in Rogers Township, Rogers City, and Presque Isle County.

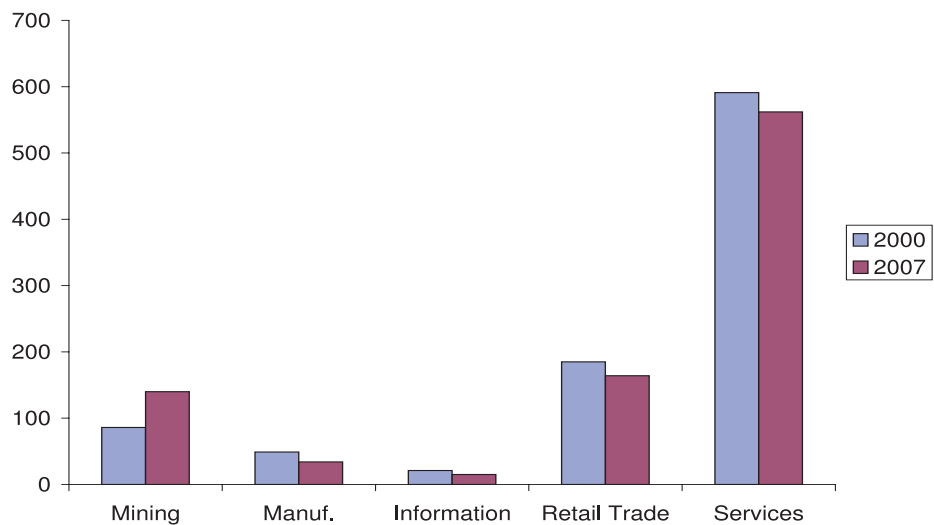
Rogers Township employed 354 people in 2007. Almost half of these workers were employed in the services industry (41.8 percent), which is a slightly larger proportion than that of Michigan. In Rogers Township, “services” is approximately 30 percent healthcare and social services, and 15 percent educational services. However, while the services industry throughout the state of Michigan has grown by 4.2 percent, it has only grown by 2.1 percent in Rogers Township. As the second largest employer in Rogers Township, retail trade employed about 11.6 percent of workers in the region. Mining, which comprises about 10.2 percent of industry in Rogers Township, grew by 63.6 percent, though that only translates to 14 more employees in mining since 2000. Manufacturing, which comprises 4.8 percent of employment in the region, has gone the way of the state’s manufacturing industry: it lost 29.2 percent of its employees since 2000. See Figure 4 below.

FIGURE 4. Key Industries in Rogers Township, 2000 and 2007



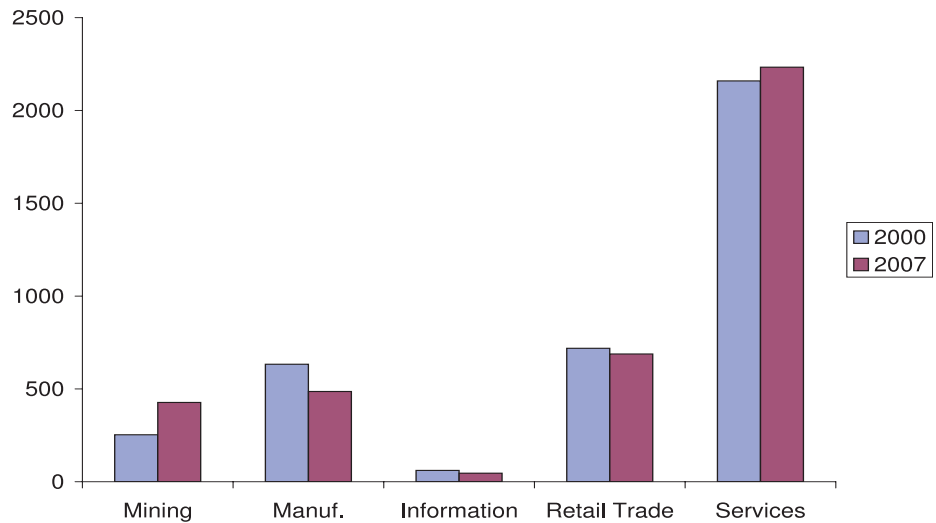
Rogers City has a much larger workforce than Rogers Township, with 1,282 people in 2007. Like Rogers Township and the state of Michigan, Rogers City’s largest employer in 2007 was the services industry (43.8 percent of employment). In Rogers City, “services” is approximately 30 percent healthcare and social services and 15 percent educational services. Since 2000, the services industry has shrunk by 4.9 percent, which translates to 29 fewer workers in the industry. Mining has grown at the fastest rate since 2000, increasing from 86 people in 2000 to 140 people in 2007. As the third largest industry in the region, its growth bodes well for Rogers City as a whole. However, the growth in the mining industry was offset by losses in every other industry, including manufacturing, information and retail trade. See Figure 5 below.

FIGURE 5. Five Key Industries in Rogers City, 2000 and 2007



Presque Isle County employed 5,522 people in 2007. Though only comprising about 0.12 percent of employment in the state, Presque Isle County tends to follow a similar pattern to employment in the state. Like the Rogers City area and the state of Michigan as a whole, Presque Isle County’s largest employer is the services industry, which has experienced 3.4 percent growth since 2000. Mining has seen the highest amount of growth in the area. In 2000, mining employed only 253 people. By 2007, that amount had grown to 427 people—a 68.8 percent increase in seven years. Manufacturing lost the largest amount of workers between 2000 and 2007, losing 147 people, or 23.2 percent of the industry’s workforce. See Figure 6 on page 9.

FIGURE 6. Five Key Industries in Presque Isle County, 2000 and 2007



INCOME

Rogers Township, Rogers City, and Presque Isle County all experienced growth in median family income between 1990 and 2000. Furthermore, the growth in median family income in Presque Isle County as a whole has been higher than that of the state of Michigan.

However, though Rogers Township had a higher median family income in 2000 than Presque Isle County, both Rogers Township and Rogers City experienced significantly less annual growth than Presque Isle County and the state of Michigan as a whole: Rogers Township only experienced 3.1 percent annual growth, and Rogers City only experienced 2.7 percent annual growth, while both Presque Isle County and the state of Michigan’s growth exceeded 3.8 percent. Furthermore, this increase in income is offset by an average of 2.9 percent annual inflation nationally between 1990 and 2000.³ See Table 3 below.

TABLE 3. Median Family Income, 1990 and 2000

	1990	2000	% CAGR, 1990-2000
Rogers Twp	\$31,583	\$42,734	3.1%
Rogers City	\$27,927	\$36,310	2.7%
Presque Isle County	\$25,199	\$37,426	4.0%
State of MI	\$36,652	\$53,457	3.8%

Source: U.S. Census Bureau

3. Federal Reserve Economic Data, Federal Reserve Bank of St. Louis, available at <http://research.stlouisfed.org/fred2/>.

III. Economic Impact on Rogers City Area

The proposed power plant development would profoundly impact the economy in and around Rogers City and Rogers Township. This section discusses the impact on employment, and the resulting impact on the area’s population, housing market, and school enrollment. It also briefly discusses the proposed plant’s impact on the great lakes shipping industry and the potential for additional induced economic activity beyond what is captured in our analysis of the direct and indirect economic impact.

NEW EMPLOYMENT DUE TO PROPOSED POWER PLANT

The proposed power plant development would increase employment in the area around Rogers City and Rogers Township both during the plant’s construction and once the plant is operational. Our analysis estimates the employment impact for Presque Isle County and the four-county region that includes Presque Isle, Cheboygan, Alpena, and Montmorency Counties.

We find a significant positive employment impact in the region, summarized in Table 4 below.

TABLE 4. Summary of Employment Impact

	Construction Period (2009-2013)	Plant Operation (Beginning 2014)
Presque Isle County	75 to 1,701	177
Four-County Region ^a	146 to 2,415	233

Source: Anderson Economic Group Analysis

a. Includes Presque Isle, Cheboygan, Alpena, and Montmorency Counties.

While some of these new jobs will be filled by people moving from outside the region because they require skills specific to the industry (see “Impact on Population, Housing Market, and Schools” on page 12), the remainder will be filled by existing residents of the Rogers City area. Some jobs could be filled by currently-unemployed residents of the area. Others could be filled by residents who are not currently part of the labor force (and who therefore do not count as “unemployed” in government statistics), but who decide to join the labor force as jobs become available. Still others could be filled by residents leaving their current job to fill a newly-created job (and who then leave their job open to be filled by someone else).

Presque Isle County Employment During Construction. The employment impact during the construction period will vary considerably from year to year based on the manpower and non-wage spending during each phase of the construction. We estimate the employment will range from an average of 1,701 jobs in the county in 2011 during the peak of the plant’s construction down to 75 jobs during the last year of construction. In total, the construction of the plant will

create 3,952 single year duration jobs during the period of 2009-2013. While many of the construction workers included in this figure will likely come from outside the county, this is a considerable impact. See Appendix Table 1 on page B-1 for a detailed breakdown of our construction-period employment impact estimate.

Presque Isle County Employment During Plant Operation. Wolverine Power Cooperative estimates that it will employ approximately 100 full time workers during the plant's operation. All of these jobs are likely to be net-new jobs in the region for two reasons. First, there is no other competing power plant in the region that would be "crowded out" by the operation of this plant. Second, the Northeast lower peninsula of Michigan currently has a particularly weak labor market, allowing the labor force to absorb new jobs without displacing others.

The direct employment by the plant is only the beginning of the story. As the plant's new workers spend their earnings they will create other jobs in the local economy as well. Relying on regional economic input-output multipliers from the U.S. Bureau of Economic Analysis, we assume that each new job at the plant will create an additional 0.77 jobs in Presque Isle County. Thus, the total new employment in the county due to the plant's operation will be approximately 177 jobs. See Appendix Table 3 on page B-3.

Four-County Region Employment During Construction. The employment impact on the four-county region that includes Presque Isle, Cheboygan, Alpena, and Montmorency counties is larger than the impact on Presque Isle County alone. This is because the multiplier effect of employment at the construction site is larger as you look at a wider area. The employment impact ranges from 2,415 jobs in 2011 during the peak of construction down to 146 jobs during the last year of the construction. In total, the construction will create 6,080 jobs of single year duration during the period of 2009-2013. See Appendix Table 2 on page B-2 for a detailed breakdown of our construction-period employment impact estimate.

Four-County Region Employment During Plant Operation. The 100 full-time workers at the plant will create even more additional jobs in the four-county region than they will in Presque Isle County alone. This is because, as during the construction period, the multiplier effect of employment directly-created at the plant is larger for a wider geographic area than it is for a smaller area. We estimate that approximately 133 *additional* jobs will be created in the four-county region, for a total of 233 new jobs in the area due to the new power plant. See Appendix Table 3 on page B-3.

**IMPACT ON
POPULATION,
HOUSING MARKET,
AND SCHOOLS**

The positive employment impact described above would surely be a welcome aspect of the proposed power plant development, especially for current area residents who choose to work at the plant. Nevertheless, the unique skill set required for some of the power plant jobs, and the improved economic prospects for the region in general, will likely draw in additional population to the region. This section describes the plant's impact on the population, housing market, and school enrollment in the Rogers City area.

Population. As mentioned above, we estimate that 177 additional jobs will be created in Presque Isle County due to the operation of the Wolverine power plant. Some of the workers that would move to the area include engineers, skilled technicians, skilled tradesmen, technical managers, and financial and administrative staff. Based on information provided by Wolverine Power Cooperative and a review of the labor market in Presque Isle County, we estimate that 110 new workers would move to Presque Isle County; 73 become residents in Rogers City; 26 in Rogers Township, and 11 elsewhere in Presque Isle County. If each of these new workers brings a household of average size (2.2⁴) with him or her, the result will be 161 new residents in Rogers City, 57 in Rogers Township, and 24 elsewhere in the county.

Housing Market. In the first year of the plant's operation (2014) we estimate that 98 workers will move into Presque Isle County and purchase a home. (See Appendix Table 6 on page B-6.) Based on conversations with realtors in Presque Isle County, we estimate that most of these home buyers (75%) will purchase a home in Rogers City. Due to the plant's location, Rogers City is the closest community and most affordable for plant workers, a majority of whom will be technicians, operators, and tradesmen.

Some of the workers who purchase a home in Presque Isle County will purchase homes in Rogers Township and in the remaining areas of Presque Isle County, such as Posen and Onaway. Homes in Rogers Township and other areas of Presque Isle County are on average more expensive than homes in Rogers City. There is nice lake front property and homes in areas outside the Rogers City area that executives and managers of the power plant would likely chose to live in. In the first year of the plant's operation, we estimate that 20% of workers buying a home (or 32 workers) will purchase a home in Rogers Township, and that 5% (or 12 workers) will purchase a home in the remaining communities of Presque Isle County that are outside the Rogers City area.

Not all workers to the area that purchase a home will do so in the first year of the plant's operation. Some may rent for a period of time to determine exactly where the worker and his or her family wish to live or to save for a down pay-

4. The average Presque Isle County household had 2.2 residents in 2007 according to an estimate by ESRI, Inc.

ment on a house. We account for this by estimating that some home purchases will occur in the second or third year of the plant's operation. Based on conversations with realtors in Presque Isle County, we also expect more workers to purchase a home in Rogers Township or other communities outside of Rogers City as time goes on and the housing market grows tighter in Rogers in City. We account for this by estimating that 25% of home buyers in 2015 and 30% of home buyers in 2016 buy in Rogers Township (up from 20% in 2014), and 10% in 2015 and 2016 buy in communities outside the Rogers City area (up from 5% in 2016). See Appendix Table 6 on page B-6.

School System. Both during the plant's construction and once it has been completed, many children would be among the new residents added to the area. Based on an average household size of 2.2, we estimate that approximately 0.4 new children would be added to the Rogers City area for each new household. Based on conversations with Wolverine Power Cooperative and our own professional experience, we assume that 65% of the 177 new jobs in the region will result in new residents coming from outside the region, while the remaining 45% will go to existing residents. As shown in Appendix Table 6 on page B-6, we find this will translate into 99 new workers establishing households in Rogers City and Rogers Township during the plant's operation (with the remainder establishing households elsewhere in Presque Isle County). The result is 99 new households in these two communities, resulting in approximately 40 children added to the local school system, which includes both public and private schools. The firm contracted to construct the plant estimates that approximately 38 families will move to the area during the plant's construction; we estimate this could add approximately 15 children to area schools during this period.

Children whose parents choose the Rogers City area public schools will bring with them the foundation grant for schools from the State of Michigan. (The 2006 foundation grant for Rogers City area schools was \$6,875; according to the House Fiscal Agency, the minimum foundation allowance for FY2007-2008 is \$7,204 per pupil.) This will likely more than pay for the additional costs these new students impose on the system because the number of students added would likely not require additional administrative or support staff to be added to the school system.⁵ Furthermore, from the type of employment being added at the plant, it does not seem likely that any new challenges seen elsewhere in the country will be added to the school system, such as an influx of students still acquiring English as their second language.

5. The foundation allowance is awarded based on the number of pupils at each school, which is typically assessed twice per year at each school. It is possible that some new children will attend the school for part of a school year before they are accounted for in this system. It is also the case that any children whose families move out of the area (e.g. after the construction has been completed) will count toward the school's pupil count for some time after they leave the area.

Fire Protection and Insurance Costs. The residents of Rogers City and Rogers Township (along with several other area townships) are protected by a volunteer fire department located in Rogers City. As noted in Appendix Table 7 on page B-7, we estimate that the Rogers Fire millage could collect over \$300,000 in additional revenue if the project proceeds—a significant figure given that Rogers City’s entire public safety budget in FY 2006-07 was under \$480,000. (See Appendix Table 9 on page B-10.)

Taking certain fire protection measures could improve their “fire protection class” for insurance purposes, a rating that ranges from 1 (best) to 9 (least protection). In a recent evaluation, Rogers City recently had its protection class rating improved from 7 to 6. It is possible that some of the communities served by the Rogers Fire Authority could improve to a 5 or 4 in protection class even while the fire authority remains a volunteer force, though the rating depends on many factors, including certain factors such as the water and emergency dispatch systems under county or municipal control.

An improved fire protection class rating would reduce the amount that area residents pay on their home-owners insurance. For example, much of Rogers City and Rogers Township could have their fire protection class rating improved if the department maintained a full time staff.⁶

Home owners insurance professionals we spoke with said that an improved fire protection class rating would reduce resident’s fire insurance premiums significantly, something like a hundred dollars per year. This could increase the value of houses affected by improved fire protection, as over time lower fire insurance costs are capitalized into the value of the house, likely making a small, but real difference.⁷

IMPACT ON GREAT LAKES SHIPPING

The materials transported through the Great Lakes ports by a Wolverine power plant will have a positive impact on Great Lakes shipping. Among ports in the Rogers City area, Port of Calcite managed approximately 7.3 million tons and Stoneport managed about 6.8 million tons of materials in 2005, each representing about 4 percent of tonnage that went through the Great Lakes that year. Wolverine Power estimates that there will be approximately 1.7 million tons of fuel brought in through their port each year—a total that would represent over 12% of the combined annual tonnage at Calcite and Stoneport. Four other ports besides Calcite and Stoneport have between 6.5 and 10 million tons of traffic in

6. Based on an analysis of the area using data provided by our Geographic Information Systems facility, we determined that approximately 91% of Rogers City and Rogers Township households live within 4 miles of the Rogers City fire department.

7. For a more complete discussion of how lowering ownership costs can raise prices for assets like houses, see Appendix II of “Analysis of Tax Proposals on the 1992 Ballot” by Patrick L. Anderson, (1992, Mackinac Center for Public Policy).

the Great Lakes: Ashtabula, Ohio; Burns Waterway Harbor, Indiana; Conneaut, Ohio; and Gary, Indiana.

Both Calcite and Stoneport ports have lost traffic in the last four years at a faster rate than the Great Lakes as a whole. Though the additional traffic that would result from the Wolverine power plant will not be transformational to either the Great Lakes or to Calcite or Stoneport in particular, it would be a welcome addition to the existing shipping activity in the Rogers City area.

TABLE 5. Tonnage at Presque Isle County Area ports, 2001 and 2005

Port	2001	2005	% Change, 05-06
Calcite	8,317,360	7,287,795	-12%
Stoneport	8,117,640	6,785,289	-16%
<i>Total U.S. Traffic on the Great Lakes (in thousands of short tons)</i>	171,359	169,411	-1%

Source: U.S. Army Corps of Engineers Navigation Data Center

Analysis: Anderson Economic Group

INDUCED ECONOMIC DEVELOPMENT

The proposed power plant development may attract new firms to the area, creating economic activity beyond the direct impact of employment at the plant and the indirect employment created as workers spend their wages. While this report does not attempt to estimate the size or likelihood of such development, we acknowledge that there are at least two reasons to believe that such “induced” development may occur if the development is pursued.

First, according to Wolverine Power Cooperative, the plant will have surplus steam that could potentially be used by another firm. A firm could enter into an arrangement with Wolverine to locate their facility near enough to the plant to use this steam.⁸ Second, new generation capacity may attract some firms to the Rogers City area (for example, to a nearby industrial park) with the addition of a reliable, cost-effective source of power. While neither a suitable partner for a steam use arrangement nor energy-sensitive development is guaranteed, there is potential for economic development due solely to the plant’s presence.

8. Note that any additional development within the quarry (in which the proposed power plant development site lies) would require the approval of Carmeuse Group; we make no assumptions about their future plans for this land.

IV. Fiscal Impact on Rogers City and Rogers Township

This section details our findings on the net fiscal impact the proposed power plant will have on Rogers City and Rogers Township. First, we outline the impact on property values in Rogers City and Rogers Township, both at the proposed development site and in the communities' residential property. We then detail the fiscal impact analysis.

IMPACT ON PROPERTY VALUE

The main way in which the power plant development would affect revenue in Rogers City and Rogers Township is through its impact on property values, and therefore property taxes. This section describes our analysis of the plant's impact on property values.

Property Values at Development Site

We estimate that in the first year of operation, taxable property values in Rogers City and Rogers Township will increase by \$600 million due to the plant. Most of this taxable value will be created in Rogers Township, where the bulk of the power plant will be situated. However, due to various waterfront improvements planned in the construction, 3% of the total property value increase will occur in Rogers City. A portion of the property value created in the Rogers Township portion of the development will be subject to a property tax exemption for pollution control equipment (PA 451 of 1994). Wolverine Power Cooperative estimates that approximately \$60 million of the \$1.2 billion spent constructing the plant (approximately 5% of the total) will go toward equipment subject to the exemption.

As shown in Appendix Table 5 on page B-5, property value (real and personal property) in Rogers City and Rogers Township will increase each year between 2010 and 2014, peaking at \$1.216 billion in 2013. Once the plant is fully operational after construction has finished in 2014, we estimate that \$1.2 billion in property value will have been created, including real and personal property. This translates into \$600 million of non-residential taxable property that will have been added to Presque Isle County, or approximately \$570 million after a property tax exemption for pollution control equipment.

Residential Property Values

New workers moving into the Rogers City area will have impact on existing residential property values. As explained in "Impact on Population, Housing Market, and Schools" on page 12, we expect workers will purchase homes in Rogers City, Rogers Township, and other communities in Presque Isle County such as Posen and Onaway. Increased residential property values will occur as new demand is created for homes in Presque Isle County.

An increase in property values, and property taxes, once the plant is operational comes from two sources. First, the sale price of homes will increase, leading the SEV to reset at half the true cash value, which is likely to be 15-25% higher than current sale prices of existing homes in Presque Isle County. Second, taxable value is only allowed to grow annually at the inflation rate or 5%, whichever is less. This can create a gap between the taxable value (TV) and SEV if the market value of the home increases faster than the permitted growth of the taxable value of the home. In 2007, the taxable value was 20% less than the SEV of residential property in Rogers City. This gap was larger in Rogers Township and Presque Isle County where TV was almost 40% less than SEV.

Once the plant is operational, we estimate that the annual increase in residential taxable property value in Rogers City would be \$3.2 million, approximately 6% higher than its 2007 SEV. We estimate the impact on residential taxable property value in Rogers Township will be almost \$2.5 million and the impact in the remaining communities of Presque Isle County to be just under \$1 million. See Appendix Table 6 on page B-6 for our analysis. We did not calculate the impact on residential SEV during construction of the plant. Due to the temporary employment in the region of the construction workers we expect the impact on existing residential property to be small.

FISCAL IMPACT ON ROGERS CITY AND ROGERS TOWNSHIP

This section describes the impact of the proposed plant on the fiscal balance of Rogers City and Rogers Township. First, we estimate the impact on city and township revenue. Next, we estimate the impact on city and township spending. Finally, we estimate the net fiscal impact, which is the change in revenue less the change in expenditures.

Impact on Revenue

The proposed plant development will generate new taxable property in Rogers City and Rogers Township. Table 6 on page 18 summarizes these results.

The power plant will generate new tax revenue for Rogers City, Rogers Township, Presque Isle County, the State of Michigan, and certain regional entities such as the intermediate school district. The state and regional governments levy a number of property taxes that fund services, public safety, and schools. Appendix Table 4 on page B-4 displays the type of tax and tax rates by government entity. In the second year of construction, 2010, we estimate that all local regional and state governments will receive \$2.63 million in new tax revenue.⁹ In 2013, the last year of construction, we estimate additional tax revenue to all

9. Property values are assessed in December of the prior year, so any value created on the construction site during 2009, the first year of construction, will not affect the site's property tax bill until 2010.

governments will increase to \$12.60 million. As summarized in Table 6 on page 18, once the plant is fully operational we estimate new tax revenue to regional and state entities will be \$12.55 million annually.

TABLE 6. Property Taxes Paid During Plant Operation, 2015

Level of Government	Property Taxes During Plant Operation
Presque Isle County Only ^a	\$2,069,608
Rogers Township Only	\$277,254
Rogers City Only	\$184,799
City and Township Shared Resources ^b	\$5,981,797
Regional and State Entities ^c	\$4,035,017
Total State, Regional, and Local Government Tax Revenue	\$12,548,475

Source: AEG Analysis

- a. Includes county-wide dedicated millages for senior services and the district library. Over \$1.6 million of this total is for the county operating millage.
- b. Includes the Rogers Union School System, and fire and ambulance service. Over \$5.46 million of this total is from the 19.1703 mill Rogers Union Schools tax.
- c. Includes resources such as the intermediate school district and the Huron Undercover Narcotics Team.

This new tax revenue does not include the administrative fee of 1% of the taxpayer’s total bill collected by some local governments, including Rogers Township.

Impact on Expenditures

In the fiscal year ending in 2007, government spending per capita was approximately \$807 in Rogers City and \$130 in Rogers Township. The 2005 per capita spending from Presque Isle County’s general fund was \$275. The amount of population added to these communities due to the employment impact of the plant is small relative to the existing population. The county, city and township governments may be able to serve these new residents largely using existing staff and equipment. For example, one municipal expense borne by many Michigan cities is snow removal—an expense that would not increase if a new resident were to move into an existing, empty house or build in an established neighborhood. Based on this reasoning, we conservatively assume for our fiscal impact model that each new resident would require expenditures of approximately 50% of existing per-capita spending: \$137 for each new Presque Isle County resident, \$403 for each new Rogers City resident, and \$65 for each new Rogers Township resident. See Appendix Tables 8 through 10, starting on page B-9.

Our analysis also accounts for potential changes in statutory state revenue sharing from the State of Michigan. As detailed in Appendix Table 11 on page B-12, changes in constitutional revenue sharing is based on population changes captured in the decennial census. The impact of the project on constitutional revenue sharing to these communities would be positive since the population will rise. Nevertheless, since any additional population coming to the Rogers City area would not be captured until the 2020 census, we do not estimate constitutional revenue sharing in our analysis. However, changes in property values and tax collection would likely reduce the statutory revenue sharing collected by under \$20,000 in Rogers City and under \$300 in Rogers Township.

Net Fiscal Impact

For both Rogers Township and Rogers City, the net fiscal impact of the proposed plant would be positive and sustained throughout the construction period, and in each year of the plant’s subsequent operation. As shown in Appendix Table 11 on page B-12, once the plant is operational after 2014 the impact would be over \$1.6 million in Presque Isle County, almost \$89,000 per year in Rogers City, and over \$287,000 per year in Rogers Township. See Table 7 below.

TABLE 7. Net Fiscal Impact During Plant Operation (Starting 2015)^a

	Presque Isle County	Rogers City	Rogers Township
Increase in Property Tax Revenue	\$1,655,443	\$184,799	\$277,254
Increase in Expenditure and Change in State Revenue Sharing	- \$40,493	- \$95,905	- \$4,591
Net Fiscal Impact	\$1,614,940	\$88,894	\$272,663

Source: AEG analysis

a. Note that the Rogers City area ambulance and fire services are funded by dedicated millages, which would collect \$230,339 for the ambulance service and \$287,932 for fire service. (See Appendix Table 7 on page B-7.) This revenue is not included in the tax revenue total because it funds shared resources not solely controlled by the Rogers City or Rogers Township governments. The estimate for increase in expenditures includes all categories of spending, which includes the city and township governments’ contributions toward fire and ambulance service from their operating budgets. Since this net fiscal impact estimate accounts for some of the costs but does not include some of the revenues for fire and ambulance, it is very conservative estimate.

Appendix A: Methodology

We estimated the tax revenue generated by the proposed development using the following methodology:

CONSTRUCTION INFORMATION

Our construction input database consists of estimates by Wolverine Power Cooperative, in consultation with engineering contractors with whom they are discussing the project. The total construction spending and employment are divided between the years of construction based on rough estimates by Wolverine Power Cooperative's engineers, but are realistic based on our previous experience analyzing the employment impact of large construction projects.

EMPLOYMENT IMPACT OF CONSTRUCTION

Using this data, we followed the following methodology:

1. For each year, we estimated the number of people employed in construction in Presque Isle County and in the four-county region based on our professional judgement about the structure of the regional economy.
2. We estimated the number of additional jobs created indirectly as the people employed in construction spend their earnings. We used a standard multiplier for the construction industry provided by the federal Bureau of Economic Analysis's RIMS II data series. These multipliers are customized for the two regions analyzed here.
3. We estimated the total amount of expenditures in Presque Isle County and the four county region on non-payroll items during the construction period. We estimated the proportion of the total spending on each category spent in the region using our professional judgement about the structure of the regional economy. Much of the spending is on equipment and specialized contractors sourced nationally and globally, resulting in very little of it being spending in the region. See notes in Appendix Tables 4 and 5 for detailed estimates.
4. We estimated the employment impact of these non-payroll expenditures. In this case the multiplier is used to convert demand in dollars into jobs; it is not to be confused with the expenditure multipliers found in many economic impact analyses, which quantify the economic activity caused indirectly by expenditures, and are usually on the order of 1.5-2.0. The expenditure-employment multiplier used in this analysis is 9.5868 for Presque Isle County and 13.4076 for the four-county region, meaning that each million dollars spent on construction materials in Presque Isle County in a year creates 9.5868 total jobs. Note that this analysis addresses direct and indirectly-caused employment, but does not include any additional "induced" employment that could result from an improved business climate or improved economic sentiment in the area.
5. We sum the amount of jobs created in each year from the three sources calculated above: jobs directly created for the construction of the plant, jobs indirectly created in the rest of the economy because of money spent by those working on the construction, and jobs indirectly created as money spent on construction materials circulates through the economy.

**EMPLOYMENT
IMPACT OF
OPERATION**

Wolverine Power Cooperative estimates they would employ 100 full-time workers at the plant during its operation once construction is finished. We estimated the number of additional jobs created indirectly in Presque Isle County and in the four-county region as the people employed by the plant spend their earnings. We used a standard multiplier for the utilities industry in Presque Isle County and the four county region provided by the federal Bureau of Economic Analysis's RIMS II data series; this employment multiplier is 1.7722 for Presque Isle County and 2.3271 for the four county region. This means that for each job created in the utilities industry in Presque Isle County, an additional 0.7722 (or 1.7722 minus one) jobs are created in the rest of the County's economy.

**IMPACT ON
RESIDENTIAL
PROPERTY VALUES**

We estimated the increase in existing residential property values due to the proposed plant using the following methodology:

1. We reviewed the anticipated staffing plans for the power plant and estimated the number of workers that would come from outside of Presque Isle County and would purchase a home in the county. We assumed that 65% of new jobs created in Presque Isle County would result in a new worker in the county purchasing a home.
2. We estimated the number of additional housing transactions in the county due to sellers purchasing another home in Presque Isle County. We assumed that 50% of home sales would result in the seller purchasing a new home in Presque Isle County. This parameter is based on conversations with realtors in Presque Isle County who indicated that many home sellers would not remain in the county or would not be living in the county when selling the home.
3. We estimated the number of residents who would live in each of the three locations: Rogers City, Rogers Township, and the remaining areas of Presque Isle County. We allocated home transactions to these three communities based on conversations with realtors. The realtors we spoke with indicated that many of the new workers purchasing a home would do so in Rogers City. Those selling their homes in Rogers City would likely move to Rogers Township or other communities in Presque Isle County if they were purchasing a new home in the county. Table A-1 below shows how we allocated the first and second home purchases in Presque Isle County in 2014 to 2016.

TABLE A-1. Allocation of Home Sales by Location, 2014-2016

Location	1st Transaction (2014, 2015, 2016)	2nd Transaction (2014, 2015, 2016)
Rogers City	75%, 65%, 60%	65%, 60%, 60%
Rogers Township	20%, 25%, 30%	25%, 25%, 25%
Remaining Areas, Presque Isle Co.	5%, 10%, 10%	10%, 15%, 15%

Source: AEG Analysis

4. Based on conversations with local realtors and city officials, we assumed that very few (three) homes would be constructed in Rogers City. Therefore all

home purchases would be of existing homes. We assumed that 85% of homes purchased would be existing homes in Rogers Township and remaining areas of Presque Isle County in 2014, and 75% in 2015 and 2016. This accounts for small amounts of new homes being constructed in the county.

5. We estimated the average price of homes sold in each geographic area using our ESRI data system and MLS data from realtors. We relied on the data provided by realtors for 2007 to develop our average sale price of homes in Rogers City in 2014. We took the 2007 average selling price and grew it 1% per year between 2007 and 2016. For Rogers Township and the remaining county we did not have access to MLS data from realtors as we did from Rogers City. We began with average price estimates from ESRI (based on Census information) as a base. Since we found the ESRI estimate of average price for Rogers City to be higher than the MLS data suggested, we adjusted the ESRI estimate for Rogers Township down by 10% to make it as consistent as possible with our Rogers City estimate in terms of data sources. We then grew it by 1% per year between 2007 and 2016.
6. We estimated the increase in residential taxable value due to the sale of existing homes and the construction of new homes. Taxable value increases with the sale of existing homes due to higher sale prices and the “pop-up” in taxable value once the house is sold. We used the difference between the state equalized value (1/2 of true cash value) and the taxable value for residential property in each community to adjust the increase in taxable value once the taxable value is reset when the home is sold. In Rogers City, taxable value of residential property was 20% less than SEV in 2007.¹⁰ In Rogers Township and Presque Isle County taxable value was 40% less than SEV. We assumed that the sale price of existing homes would increase 15% due to the increased demand. This parameter is slightly more conservative than the 25% premium stated as likely by the realtors we interviewed. The construction of new homes resulted in TV equal to SEV, which is one-half of the true cash value.
7. New taxable value added to each geographic location is the sum of the increase in taxable value of existing homes and new homes constructed.
8. Thanks to the realtors who provided their perspective on likely future housing market changes in Presque Isle County. While we weren’t able to talk to every realtor in the area, we spoke with a representative sample of knowledgeable realtors.

TAX REVENUE IMPACT

We estimated the increase in property tax revenues due to the proposed plant using the following methodology:

1. We estimated the approximate market value of the development site by assuming it is equal to the cumulative construction spending on the site.

10. From 2007 Michigan State Tax Commission documents. Taxable Value of Rogers City residential property (from STC “Green Book”) is \$7,838,417. Assessed Value of Rogers City residential property (from STC “Blue Book”) is \$9,577,800.

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2. We estimated the amount of construction-related personal property on the site by assuming that there was property on site equal to 20% of the current year construction spending.
 3. We estimated the taxable value of the site by noting that each year's property tax liability is based on an assessment performed at the end of the prior calendar year. Thus, for example, construction spending in 2011 will begin to affect the property's taxable value in 2012.
 4. We assumed that the property on the development site would be subject to the Industrial Facilities tax abatement, which reduced the property tax liability for all taxes but the state education tax by 50% for a period of 12 years. We also assumed that Wolverine Power Cooperative will receive a property tax abatement under PA 451 of 1994, which allows a 100% exemption for pollution control equipment. Since the circular fluidized bed technology used in the proposed plant requires little pollution control equipment compared to other power plant technologies, relatively little of the property value created is subject to property tax exemption: approximately \$60 million of the \$1.2 billion estimated total construction budget.¹¹ While Wolverine Power Cooperative will pursue any tax credits available to them, we are not aware of any additional tax abatement opportunities beyond those listed here.
 5. We estimated the proportion of the property value created on the site in Rogers City and Rogers Township. Based on analysis of the construction plans and in consultation with Wolverine Power Cooperative, we estimated that approximately 3% of the property value created by this project would be created in Rogers City, with the remainder created in Rogers Township. Our analysis assumes that this ratio describes each year of construction, and does not take into account that, for example, the Rogers City portion of the project may be constructed earlier or later in the project rather than spread evenly in proportion to spending on the Rogers Township portion of the project.

We estimated the taxes paid by applying each millage levied in Rogers City and Rogers Township to the property value created in each municipality.

11. Due to the likely location of the equipment, a PA 451 exemption would affect property taxes paid to Rogers Township and Presque Isle County, but not to Rogers City.

Appendix Table 1: Employment Impact of Proposed Coal Power Plant Construction, Presque Isle County

		2009	2010	2011	2012	2013	Total
Employment in Plant Construction	Direct employment construction (a)	200	800	1,300	600	50	2,950
	Direct-effect employment multiplier (b)	* 0.2747	* 0.2747	* 0.2747	* 0.2747	* 0.2747	* 0.2747
	Indirect employment in Michigan due to construction	55	220	357	165	14	810
	Total Employment Impact of Construction Labor	<u>255</u>	<u>1,020</u>	<u>1,657</u>	<u>765</u>	<u>64</u>	<u>3,760</u>
Employment Due to Non-Payroll Construction Expenditures	<i>Construction Spending in Region (millions)</i> (c)						Total Spending in Region
	Material	\$ 2.20	\$ 2.20	\$ 2.00	\$ 2.00	\$ 0.40	\$ 8.80
	Major Equipment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Subcontracts	\$ 2.00	\$ 2.00	\$ 2.00	\$ 2.00	\$ 0.60	\$ 8.60
	Other Non-wage	\$ 0.60	\$ 0.60	\$ 0.60	\$ 0.60	\$ 0.20	\$ 2.60
	Total non-payroll expenditures in region	<u>\$ 4.80</u>	<u>\$ 4.80</u>	<u>\$ 4.60</u>	<u>\$ 4.60</u>	<u>\$ 1.20</u>	<u>\$ 20.00</u>
	<i>Employment Impact of Purchases</i>						
Expenditure-employment multiplier (d)	* 9.5868	* 9.5868	* 9.5868	* 9.5868	* 9.5868	* 9.5868	
Total Employment Impact of Construction Purchases	<u>46</u>	<u>46</u>	<u>44</u>	<u>44</u>	<u>12</u>	<u>192</u>	
SUMMARY							
<i>Employment</i>							
Employment Impact of Construction		255	1,020	1,657	765	64	3,760
Employment Impact of Materials Purchases		46	46	44	44	12	192
TOTAL AREA EMPLOYMENT IMPACT		<u>301</u>	<u>1,066</u>	<u>1,701</u>	<u>809</u>	<u>75</u>	<u>3,952</u>

Source for base data and expenditure assumptions: Wolverine Power Cooperative.
 Analysis: Anderson Economic Group LLC

Notes:

- (a) Estimated by AEG using monthly employment estimates provided by Wolverine Power Cooperative.
- (b) The indirect employment effect is calculated using a multiplier from the federal Bureau of Economic Analysis' RIMS II data series, which shows 1.2747 total jobs created in Presque Isle County for each job created in the construction industry; the multiplier to calculate the indirect employment effect separately is one minus that number or 0.2747.
- (c) Wolverine Power Cooperative provided AEG with the total construction spending for each task and the proportion of total construction spending that will go toward wages. AEG estimated the proportion of spending on each task they expect to be sourced locally based on professional judgment. We assumed that each task will have the same proportion of spending go toward wages. We also assumed that spending in each year will be proportional to the number of employees on site.
- (d) The indirect employment effect of expenditures is calculated using a multiplier provided by the federal Bureau of Economic Analysis' RIMS II data series, which shows that for every \$1 million of expenditures by final purchasers in the Presque Isle County construction industry, 9.5868 jobs are created in the area's economy.

<u>Task</u>	<u>Spending In Region</u>
Material	5%
Major Equipment	5%
Subcontracts	5%
Other Non-wage	0%

Appendix Table 2: Employment Impact of Proposed Coal Power Plant Construction, Four-County Region

		2009	2010	2011	2012	2013	Total
Employment in Plant Construction	Direct employment construction (a)	200	800	1,300	600	50	2,950
	Direct-effect employment multiplier (b)	* 0.6392	* 0.6392	* 0.6392	* 0.6392	* 0.6392	* 0.6392
	Indirect employment in Michigan due to construction	128	511	831	384	32	1,886
	Total Employment Impact of Construction Labor	328	1,311	2,131	984	82	4,836
Employment Due to Non-Payroll Construction Expenditures	<i>Construction Spending in Region (millions)</i> (c)		Total Spending in Region				
	Material	\$ 17.60	\$ 17.60	\$ 16.00	\$ 16.00	\$ 3.20	\$ 70.40
	Major Equipment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Subcontracts	\$ 4.00	\$ 4.00	\$ 4.00	\$ 4.00	\$ 1.20	\$ 17.20
	Other Non-wage	\$ 1.20	\$ 1.20	\$ 1.20	\$ 1.20	\$ 0.40	\$ 5.20
	Total non-payroll expenditures in region	\$ 22.80	\$ 22.80	\$ 21.20	\$ 21.20	\$ 4.80	\$ 92.80
SUMMARY	<i>Employment Impact of Purchases</i> (d)						
	Expenditure-employment multiplier	* 13.4076	* 13.4076	* 13.4076	* 13.4076	* 13.4076	* 13.4076
	Total Employment Impact of Construction Purchases	306	306	284	284	64	1,244
SUMMARY	<i>Employment</i>						
	Employment Impact of Construction	328	1,311	2,131	984	82	4,836
	Employment Impact of Materials Purchases	306	306	284	284	64	1,244
	TOTAL AREA EMPLOYMENT IMPACT	634	1,617	2,415	1,268	146	6,080

Memo: The Four County Region includes Presque Isle, Cheboygan, Alpena, and Montmorency Counties.

Source for base data and expenditure assumptions: Wolverine Power Cooperative.
 Analysis: Anderson Economic Group LLC

Notes:

- (a) Estimated by AEG using monthly employment estimates provided by Wolverine Power Cooperative.
- (b) The indirect employment effect is calculated using a multiplier from the federal Bureau of Economic Analysis' RIMS II data series, which shows 1.6392 total jobs created in the four county region for each job created in the construction industry; the multiplier to calculate the indirect employment effect separately is one minus that number or 0.6392.
- (c) Wolverine Power Cooperative provided AEG with the total construction spending for each task and the proportion of total construction spending that will go toward wages. AEG estimated the proportion of spending on each task they expect to be sourced locally based on professional judgment. We assumed that each task will have the same proportion of spending go toward wages. We also assumed that spending in each year will be proportional to the number of employees on site.
- (d) The indirect employment effect of expenditures is calculated using a multiplier provided by the federal Bureau of Economic Analysis' RIMS II data series, which shows that for every \$1 million of expenditures by final purchasers in the four county region's construction industry, 13.4076 jobs are created in the area's economy.

Task	Spending In Region
Material	40%
Major Equipment	0%
Subcontracts	10%
Other Non-wage	10%

Appendix Table 3: Employment Impact During Plant Operation, Presque Isle County and Four-County Region

Employment Impact in Presque Isle County

(a) Directly-Created Jobs

Total Directly-Created FTE Jobs	100.0
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(b) Indirectly-Created Jobs due to Plant Employment

Additional Jobs Indirectly Created	Direct-Effect Employment Multiplier: 0.7722	77.2
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TOTAL JOB CREATION	<u>177.2</u>
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Employment Impact in Presque Isle, Montmorency, Alpena, and Cheboygan Counties

(a) Directly-Created Jobs

Total Directly-Created FTE Jobs	100.0
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(b) Indirectly-Created Jobs due to Plant Employment

Additional Jobs Indirectly Created	Direct-Effect Employment Multiplier: 1.3271	132.7
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TOTAL JOB CREATION	<u>232.7</u>
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Source: Direct employment estimated by Wolverine Power Cooperative. Analysis by Anderson Economic Group LLC.

Note on Multipliers: we use the Direct Effect Employment and Earnings multipliers for the Utilities industry in Presque Isle County to characterize the impact of continuing operations, 2005 RIMS II Series from the U.S. Bureau of Economic Analysis.

Appendix Table 4 - Rogers City and Rogers Township Property Tax Rates

2007 Rogers City Property Tax Rates (mills)

	<u>Summer</u>	<u>Winter</u>
County	5.7400	
City Operations	17.1208	
Rogers City Band	0.2000	
State Education	6.0000	
Rogers City Union Schools	9.0000	9.0000
Rogers Schools Building and Site		1.7073
Senior Services		0.4945
District Library		0.9416
HUNT and School Resource Class		0.2436
Rogers Area Ambulance		0.8000
Rogers Fire		1.0000
COP Intermediate		0.2597
COP Intermediate		1.4876
Seasonal Totals	38.0608	15.9343
Rogers City Total	53.9951	

2007 Rogers Township Property Tax Rates (mills)

	<u>Summer</u>	<u>Winter</u>
County	5.7400	
State Education Tax	6.0000	
Township	1.0000	
Rogers City Union Schools	9.0000	9.0000
Rogers City Union Schools		1.7073
Senior Services		0.4945
District Library		0.9416
HUNT and School Resource Class		0.2436
Rogers Area Ambulance		0.8000
Rogers Fire		1.0000
COP Intermediate		0.2597
COP Intermediate		1.4876
Seasonal Totals	21.74	15.9343
Rogers Township Total	37.6743	

Memo: Property tax rates are expressed in mills. A one "mill" property tax means \$1 in tax liability per \$1,000 of taxable value.

Source: Rogers City and Presque Isle County Equalization Department

Appendix Table 5 - Change in Taxable Value of Property at Proposed Site (Millions of Dollars)

		2009	2010	2011	2012	2013	Project Total	
Construction Spending	Total Spending	(a) \$ 211	\$ 317	\$ 393	\$ 246	\$ 34	\$ 1,200	
	Cumulative Spending	\$ 211	\$ 528	\$ 921	\$ 1,166	\$ 1,200	\$ 1,200	
		2009	2010	2011	2012	2013	2014	Annual (after 2014)
Cash Value Increase	Power Plant Real and Personal	(b) \$ -	\$ 211	\$ 528	\$ 921	\$ 1,166	\$ 1,166	\$ 1,200
	Construction Personal Property	(c) \$ -	\$ 42	\$ 63	\$ 79	\$ 49	\$ 7	\$ -
	Total Increase in Property Cash Value	\$ -	\$ 253	\$ 591	\$ 999	\$ 1,216	\$ 1,173	\$ 1,200
Assessed Value Increase	State Equalized Value	(d) \$ -	\$ 127	\$ 296	\$ 500	\$ 608	\$ 587	\$ 600
	<i>Portion in Rogers Township</i>	(e) \$ -	\$ 123	\$ 287	\$ 485	\$ 590	\$ 569	\$ 582
	<i>Portion in Rogers City</i>	(e) \$ -	\$ 4	\$ 9	\$ 15	\$ 18	\$ 18	\$ 18

Notes:

- Wolverine Power Cooperative estimates that approximately \$60 million of their total construction spending will go toward pollution control equipment on the Rogers Township portion of the development site. We assume this property will be eligible for a 100% property tax exemption under PA 451 of 1994. The non-exempt taxable property value will therefore be \$570 million total, with \$552 million in Rogers Township and \$18 million in Rogers City. See Appendix Table 7.

- (a) Approximate values, estimated by Wolverine Power Cooperative LLC.
- (b) Assumes property true cash value increase is exactly the amount of construction spending. It is reasonable to assume the value is not below the cumulative amount spent on construction because businesses typically do not build buildings that are projected to be worth less than their construction cost, and power plant construction is a mature industry.
- (c) Assumes construction-related personal property on site is equal to 20% of current year construction spending.
- (d) State Equalized Value (SEV) for property tax purposes is 1/2 of the property's true cash value. The taxable value is the SEV, subject to certain limits not invoked in this case.
- (e) Based on AEG analysis of construction plans, this analysis assumes the proportion of taxable value created in Rogers City is approximately 3%, with the remainder in Rogers Township.

Appendix Table 6. Change in Taxable Value of Residential Property in Presque Isle County

		2014	2015	2016	Average TV Impact
Transactions	New Workers in Presque Isle County (a)	108	13	7	
	New Workers in Presque Isle County Who Buy a Home (b)	98	12	6	
	Turnover: Sellers Who Purchase New Homes in Presque Isle Co. (c)	49	6	3	
	Total Transactions in Presque Isle County	147	17	9	
Rogers City	<i>Number of Home Transactions in Rogers City</i> (d)	105	11	5	
	New Homes Constructed	1	1	1	
	Existing Homes Purchased	104	10	4	
	<i>Increase in TV due to Sale of Residential Property</i>				
	Average Home Sale Price (e)	\$ 113,611	\$ 114,747	\$ 115,894	
	New TV from Construction of New Homes	\$ 113,611	\$ 114,747	\$ 115,894	
	Increase in TV to New Assessment after Purchase of Existing Home	\$ 1,182,993	\$ 11,475	\$ 11,589	
	Increase in TV due to Increase in Sale Price	\$ 1,774,490	\$ 175,862	\$ 70,118	
	New Residential TV Added to Rogers City	\$ 3,071,094	\$ 302,083	\$ 197,602	
	Total Residential TV Added to Rogers City	\$ 3,071,094	\$ 3,373,177	\$ 3,570,779	\$ 3,338,350
Rogers Township	<i>Number of Home Transactions in Rogers Township</i> (f)	32	4	2	
	New Homes Constructed	5	1	1	
	Existing Homes Purchased	27	3	2	
	<i>Increase in TV due to Sale of Residential Property</i>				
	Average Home Sale Price (g)	\$ 155,428	\$ 156,982	\$ 158,552	
	New TV from Construction of New Homes	\$ 740,984	\$ 169,320	\$ 96,907	
	Increase in TV to New Assessment after Purchase of Existing Home	\$ 839,782	\$ 101,592	\$ 58,144	
	Increase in TV due to Increase in Sale Price	\$ 629,837	\$ 76,194	\$ 43,608	
	New Residential TV Added to Rogers Township	\$ 2,210,603	\$ 347,106	\$ 198,660	
	Total Residential TV Added to Rogers Township	\$ 2,210,603	\$ 2,557,709	\$ 2,756,370	\$ 2,508,227
Remaining Presque Isle County	<i>Number of Home Transactions in Remaining Presque Isle County</i> (h)	12	2	1	
	New Homes Constructed	2	1	0	
	Existing Homes Purchased	10	2	1	
	<i>Increase in TV due to Sale of Residential Property</i>				
	Average Home Sale Price (i)	\$ 151,294	\$ 152,807	\$ 154,335	
	New TV from Construction of New Homes	\$ 277,415	\$ 76,915	\$ 38,842	
	Increase in TV to New Assessment after Purchase of Existing Home	\$ 314,403	\$ 46,149	\$ 23,305	
	Increase in TV due to Increase in Sale Price	\$ 235,803	\$ 34,612	\$ 17,479	
	New Residential TV Added to Remaining Presque Isle County	\$ 827,621	\$ 157,675	\$ 79,626	
	Total Residential TV Added to Remaining Presque Isle County	\$ 827,621	\$ 985,296	\$ 1,064,922	\$ 959,279

Notes:

- (a) See Appendix Table 3 for operation employment impact in Presque Isle County. Assumes 71% of new jobs results in a new worker to Presque Isle County. 10% of these new workers rent with 50% renting in Rogers City and 50% renting in Presque Isle County. In 2014, we assume 73 new workers become residents of Rogers City, 26 workers become residents in Rogers Township, and 11 workers become residents in remaining areas of Presque Isle County.
- (b) In 2014, new workers at the plant who purchase a home in Presque Isle County is 65% of total employment impact. We assume 85% of workers will purchase a home in 2014, 10% will purchase a home in 2015, and 5% in 2016.
- (c) Turnover accounts for sellers of homes in Presque Isle County who then go on to purchase another home in Presque Isle County. Based on interviews with realtors in Presque Isle County, we assume 50% of sellers buy another home in Presque Isle County.
- (d) We allocated residents to Rogers City based on likely purchases by employees. In 2014, we allocate 75% of new worker transactions and 65% of turnovers to Rogers City. In 2015, we assign 65% of new worker transactions and 60% of turnover to Rogers City, and in 2016 we assign 60% of both types of transactions to Rogers City.
- (e) Average price of homes in these transactions is based on the average sale price of single family homes in 2007 based on MLS listings for Rogers City, increased at 1% per year between 2007 and 2016. Increased taxable value is based on current differential of 15% between SEV and TV in Rogers City. Sale price includes a premium of 15%. See report Methodology for explanation of calculation.
- (f) We allocated residents to Rogers Township based on likely purchases by employees at the power plant. In 2014, we allocate 20% of new worker transactions to Rogers Township, in 2015 we assign 25% and in 2016 we assign 30%. In all three years we assign 25% of turnover transactions to Rogers Township.
- (g) Average home price is based on 2007 ESRI data. We increased average price 1% between 2007 and 2016. Increased TV is based on current differential of 40% in the SEV to TV ratio for Rogers Township. Sale price includes a premium of 15%. See Methodology for explanation of calculation.
- (h) Based on interviews with realtors in Presque Isle County, we allocated residents to remaining areas of Presque Isle County based on likely purchases by employees at the power plant. In 2014, we allocate 5% of new worker transactions and 10% of turnover transactions to areas outside of Rogers City and Rogers Township. In 2015 and 2016 we assign 10% of new worker transactions and 15% of turnover transactions.
- (i) Average home price is based on 2007 ESRI data. We increased average price 1% between 2007 and 2016. Increased TV is based on current differential of 40% in the SEV to TV ratio for Rogers Township. Sale price includes a premium of 15%. See Methodology for explanation of calculation.

Appendix Table 7. Increase In Taxes Paid due to Proposed Power Plant Development

Definitions - Geographic Groups		Group No.	Geographic Groupings							
I			Rogers Township							
II			Rogers City							
III			Rogers City and Rogers Township Together, non-homestead property only							
IV			Rogers City and Rogers Township Together, Total							
V			Presque Isle County, Total							
Property Value Increase (Taxable Value)	Group (see above)	2009	2010	2011	2012	2013	2014	Annual		
		Begin Construction				Construction Complete	Plant Operational	Plant Operational		
<u>Rogers Township</u>										
Power Plant Construction		\$ -	\$ 122,918,400	\$ 286,809,600	\$ 484,689,600	\$ 589,527,200	\$ 568,963,200	\$ 582,000,000		
Residential		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,508,227		
PA 451 Exemption (Pollution Control Equipment)		\$ -	\$ (6,336,000)	\$ (14,784,000)	\$ (24,984,000)	\$ (30,388,000)	\$ (29,328,000)	\$ (30,000,000)		
<i>Subtotal: Rogers Township</i>	I	\$ -	\$ 116,582,400	\$ 272,025,600	\$ 459,705,600	\$ 559,139,200	\$ 539,635,200	\$ 554,508,227		
<u>Rogers City</u>										
Power Plant Construction		\$ -	\$ 3,801,600	\$ 8,870,400	\$ 14,990,400	\$ 18,232,800	\$ 17,596,800	\$ 18,000,000		
Residential		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,338,350		
<i>Subtotal: Rogers City</i>	II	\$ -	\$ 3,801,600	\$ 8,870,400	\$ 14,990,400	\$ 18,232,800	\$ 17,596,800	\$ 21,338,350		
<u>Presque Isle County</u>										
Power Plant Construction		\$ -	\$ 126,720,000	\$ 295,680,000	\$ 499,680,000	\$ 607,760,000	\$ 586,560,000	\$ 600,000,000		
Residential		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6,805,857		
PA 451 Exemption (Pollution Control Equipment)		\$ -	\$ (6,336,000)	\$ (14,784,000)	\$ (24,984,000)	\$ (30,388,000)	\$ (29,328,000)	\$ (30,000,000)		
<i>Subtotal: Presque Isle County</i>		\$ -	\$ 120,384,000	\$ 280,896,000	\$ 474,696,000	\$ 577,372,000	\$ 557,232,000	\$ 576,805,857		
Total TV Increase (Power Plant Site Only)	III	\$ -	\$ 120,384,000	\$ 280,896,000	\$ 474,696,000	\$ 577,372,000	\$ 557,232,000	\$ 570,000,000		
Total TV Increase (Rogers Cty and Rogers Twp)	IV	\$ -	\$ 120,384,000	\$ 280,896,000	\$ 474,696,000	\$ 577,372,000	\$ 557,232,000	\$ 575,846,578		
Total TV Increase (Presque Isle County Total)	V	\$ -	\$ 120,384,000	\$ 280,896,000	\$ 474,696,000	\$ 577,372,000	\$ 557,232,000	\$ 576,805,857		

Property Taxes	Rate (mills):	Applies to Group:	PA 198 Abatement (see note)	2009	2010	2011	2012	2013	2014	Annual
<u>Presque Isle County Taxes</u>										
County Operating	5.7400	V	50%	\$ -	\$ 345,502	\$ 806,172	\$ 1,362,378	\$ 1,657,058	\$ 1,599,256	\$ 1,655,433
Senior Services	0.4945	"	50%	\$ -	\$ 29,765	\$ 69,452	\$ 117,369	\$ 142,755	\$ 137,776	\$ 142,615
District Library	0.9416	"	50%	\$ -	\$ 56,677	\$ 132,246	\$ 223,487	\$ 271,827	\$ 262,345	\$ 271,560
<u>City and Township Shared</u>										
Rogers Area Ambulance	0.8000	IV	50%	\$ -	\$ 48,154	\$ 112,358	\$ 189,878	\$ 230,949	\$ 222,893	\$ 230,339
Rogers Union Schools	(a) 19.1703	III	50%	\$ -	\$ 1,153,899	\$ 2,692,430	\$ 4,550,032	\$ 5,534,197	\$ 5,341,152	\$ 5,463,536
Rogers Fire	1.0000	IV	50%	\$ -	\$ 60,192	\$ 140,448	\$ 237,348	\$ 288,686	\$ 278,616	\$ 287,923
<u>Regional and State Taxes</u>										
C.O.P. Isle Intermediate School District	(b) 1.7473	V	50%	\$ -	\$ 105,173	\$ 245,405	\$ 414,718	\$ 504,421	\$ 486,826	\$ 503,926
State Education Tax	6.0000	"	0%	\$ -	\$ 722,304	\$ 1,685,376	\$ 2,848,176	\$ 3,464,232	\$ 3,343,392	\$ 3,460,835
H.U.N.T., School Resources, Class	(c) 0.2436	"	50%	\$ -	\$ 14,663	\$ 34,213	\$ 57,818	\$ 70,324	\$ 67,871	\$ 70,255
<u>Rogers Township Taxes</u>										
Township operating	1.0000	I	50%	\$ -	\$ 58,291	\$ 136,013	\$ 229,853	\$ 279,570	\$ 269,818	\$ 277,254
<u>Rogers City Taxes</u>										
City Operations	17.1208	II	50%	\$ -	\$ 32,543	\$ 75,934	\$ 128,324	\$ 156,080	\$ 150,636	\$ 182,665
Rogers City Band	0.2000	"	50%	\$ -	\$ 380	\$ 887	\$ 1,499	\$ 1,823	\$ 1,760	\$ 2,134

(Continued on Next Page)

Appendix Table 7. Increase in Taxes Paid due to Proposed Power Plant Development (Continued)

		2009	2010	2011	2012	2013	2014	Annual
		Begin Construction				Construction Complete	Plant Operational	Plant Operational
Total Tax Liability	Presque Isle County Only	\$ -	\$ 431,944	\$ 1,007,869	\$ 1,703,233	\$ 2,071,640	\$ 1,999,376	\$ 2,069,608
	Rogers Township Only	\$ -	\$ 58,291	\$ 136,013	\$ 229,853	\$ 279,570	\$ 269,818	\$ 277,254
	Rogers City Only	\$ -	\$ 32,923	\$ 76,821	\$ 129,823	\$ 157,903	\$ 152,395	\$ 184,799
	City and Township Shared Resources (d)	\$ -	\$ 1,262,244	\$ 2,945,237	\$ 4,977,259	\$ 6,053,832	\$ 5,842,661	\$ 5,981,797
	Regional and State Entities	\$ -	\$ 842,140	\$ 1,964,994	\$ 3,320,712	\$ 4,038,977	\$ 3,898,089	\$ 4,035,017
	Total State, Regional, and Local Government Tax Revenue	\$ -	\$ 2,627,543	\$ 6,130,934	\$ 10,360,880	\$ 12,601,922	\$ 12,162,339	\$ 12,548,475

Source: 2007 base tax rates from Rogers City's City Hall and Presque Isle County Equalization Department. Analysis by AEG.

Notes:

- Wolverine Power Cooperative plans to apply for tax exemption pursuant to Act 451 of 1994, part 59, which provides 100% property tax exemption to air pollution control facilities. Wolverine Power Cooperative estimates that approximately \$60 million of their construction budget will go toward pollution control equipment (approximately 5% of the total, or 5.15% of the Rogers Township portion of the total). This equipment will lie entirely on the Rogers Township portion of the development site, so the abatement will affect Rogers Township and Presque Isle County property taxes, but not Rogers City property taxes.
 - Wolverine Power Cooperative plans to apply for an industrial facilities exemption certificate pursuant to Act 198 of 1974. The abatement will be in place during the construction period and for a period of 12 years after completion of construction and would be for 50% of the property taxes paid on real property to all taxing districts except the state education tax.
 - Total property taxes paid does not include the administrative fee paid to the city for processing property tax payments, which is 1% of the property tax bill total. Note that during plant operation after 2014, over \$132,000 in administrative fees would be paid to Rogers Township and Rogers City.
 - Taxable value totals include both real and personal property.
 - Based on 2007 millage rates, which may change over time.
- (a) This millage applies to non-homestead property only, meaning it excludes increases in residential property value.
- (b) Cheboygan, Otsego, Presque Isle Intermediate School District. Includes general operating and special education millages.
- (c) Includes resources to fund police presence in schools, a training class for law enforcement, and the communities' contribution to the Huron Undercover Narcotics Team. According to the State Police website, "HUNT is a multijurisdictional drug task force that investigates all levels of drug dealers. The jurisdictions serviced by HUNT are: Alcona, Alpena, Montmorency, and Presque Isle Counties. Participating agencies include Alcona Sheriff Department, Alpena City Police Department, Alpena Sheriff Department, Montmorency County Sheriff Department, Presque Isle Sheriff Department, Rogers City Police Department, and the
- (d) Refers to the school system, fire, and ambulance service, which are shared and jointly funded by Rogers City and Rogers Township. Each municipality's contribution to this total is proportional to its share of the increase in property taxes associated with the proposed power plant development. This preliminary analysis includes the property tax increase in these communities on the development site only. A later version of this analysis will consider the additional increase in residential property value due to the proposed development, which may slightly change the proportion of the total amount of revenue going toward shared resources that comes from each community. Approximately 97% of the taxable value increase on the development site would be in Rogers Township, while 3% would be in Rogers City. This means, for example, that once the construction is complete in 2013, these shared resources will receive \$6.15 million in additional revenue, \$5.97 million from taxes shown on Rogers Township tax bills, and \$0.18 million shown on Rogers City tax bills.

Appendix Table 8. Change in Per-Capita Spending in Presque Isle County

	<u>FY 2005</u>	<u>Per-Capita</u>
Total General Fund Expenditure	\$ 3,934,059	\$ 274.53
% applied to new residents		50%
Total Spending per new resident		<u>\$ 137.27</u>
No. New Residents		<u>242</u>
Total New Expenditures (2005 dollars)		\$ 33,218.50

Source: Michigan Department of Treasury 2005 Fiscal Forecasting Scores document for Presque Isle County.

Notes:

- See Appendix Table 6, note (a) for assumptions on the plant's impact on county population, where we estimate that 110 new workers will move to Presque Isle County. If each worker brings a household of 2.2 (the average for Presque Isle County in 2007, according to ESRI, Inc.), the total added population will be 242.
- Presque Isle County's 2005 population is 14330, according to the Michigan Department of Treasury's 2005 Fiscal Forecasting Scores document (the source of the expenditure figure).
- The amount of per-capita spending applied to new residents is smaller than the average spending because new residents can be served largely using existing government equipment and personnel.

Appendix Table 9. Change in Per-Capita Spending in Rogers City

	<u>FY July '06 - June 07</u>	<u>Per-Capita</u>
Expenses		
General Government	428,214.00	\$ 132.70
Public Safety	478,006.39	\$ 148.13
Public Works	422,343.18	\$ 130.88
Community and Economic Development	49,592.45	\$ 15.37
Cultural and Recreation	163,101.83	\$ 50.54
Other	542,669.44	\$ 168.17
Capital Outlay	522,179.07	\$ 161.82
Total Expense	2,606,106.36	\$ 807.59
% applied to new residents		50%
Total Spending per new resident		<u>\$ 403.80</u>
No. New Residents		<u>161</u>
Total New Expenditures (2007 Dollars)		\$ 64,849.81

Source: Rogers City "Financial Statements With Supplemental Information, Fiscal Year Ended June 30, 2007"

Notes:

- See Appendix Table 6, note (a) for assumptions on the plant's impact on city population, where we estimate that 73 new workers will move to Rogers City. If each worker brings a household of 2.2 (the average for Presque Isle County in 2007, according to ESRI, Inc.), the total added population will be 161.
- Rogers City's 2007 population is 3227, according to ESRI, Inc.
- The amount of per-capita spending applied to new residents is smaller than the average spending because new residents can be served largely using existing government equipment and personnel.

Appendix Table 10. Change in Per-Capita Spending in Rogers Township

	<u>FY Apr '06 - Mar 07</u>	<u>Per-Capita</u>
Expenses		
Due to County (Loan repayment to County)	7,218.71	\$ 7.60
TOWNSHIP BOARD (Township Board)	9,865.50	\$ 10.38
SUPERVISOR	4,837.99	\$ 5.09
ELECTIONS	2,455.82	\$ 2.59
ASSESSOR	13,062.20	\$ 13.75
CLERK	5,949.26	\$ 6.26
BOARD OF REVIEW	1,703.98	\$ 1.79
TREASURER	11,728.31	\$ 12.35
TOWNSHIP HALL	6,971.08	\$ 7.34
FIRE	5,766.00	\$ 6.07
Road Maintenance	50,000.00	\$ 52.63
Snow Removal	2,000.00	\$ 2.11
Street Lights	1,126.67	\$ 1.19
Ambulance Service	740.00	\$ 0.78
Total GENERAL FUND EXPENSE	123,425.52	\$ 129.92
Payroll Expenses	169.86	\$ 0.18
Total Expense	123,595.38	\$ 130.10

Source: Rogers Township Financial Statements

% applied to new residents	50%
Total Spending per new resident	\$ 65.05
No. New Residents	<u>57</u>
Total New Expenditures (2007 Dollars)	\$ 3,720.87

Notes:

- See Appendix Table 6, note (a) for assumptions on the plant's impact on city population, where we estimate that 26 new workers will move to Rogers Township. If each worker brings a household of 2.2 (the average for Presque Isle County in 2007, according to ESRI, Inc.), the total added population will be 57.
- The amount of per-capita spending applied to new residents is smaller than the average spending because new residents can be served largely using existing government equipment and personnel.

Appendix Table 11. Net Fiscal Impact on Rogers Township and Rogers City

		2009	2010	2011	2012	2013	2014	Annual
		Begin				Construction	Plant	Plant
		Construction				Complete	Operational	Operational
<i>Presque Isle County</i>								
Increase in Property Tax Revenue	(a)	\$ -	\$ 345,502	\$ 806,172	\$ 1,362,378	\$ 1,657,058	\$ 1,599,256	\$ 1,655,433
Increase in Spending	(b)	\$ -	\$ -	\$ -	\$ -	\$ (38,921)	\$ (39,699)	\$ (40,493)
Net Fiscal Impact on Presque Isle County	(c)	\$ -	\$ 345,502	\$ 806,172	\$ 1,362,378	\$ 1,618,137	\$ 1,559,557	\$ 1,614,940
<i>Rogers City</i>								
Increase in Property Tax Revenue	(d)	\$ -	\$ 32,923	\$ 76,821	\$ 129,823	\$ 157,903	\$ 152,395	\$ 184,799
Increase in Spending	(e)	\$ -	\$ -	\$ -	\$ -	\$ (73,031)	\$ (74,492)	\$ (75,982)
Change in State Revenue Sharing (approximate)	(f)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (19,923)
Net Fiscal Impact on Rogers City	(g)	\$ -	\$ 32,923	\$ 76,821	\$ 129,823	\$ 84,872	\$ 77,903	\$ 88,894
<i>Rogers Township</i>								
Increase in Property Tax Revenue	(h)	\$ -	\$ 58,291	\$ 136,013	\$ 229,853	\$ 279,570	\$ 269,818	\$ 277,254
Increase in Spending	(i)	\$ -	\$ -	\$ -	\$ -	\$ (4,190)	\$ (4,274)	\$ (4,360)
Change in State Revenue Sharing (approximate)	(j)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (232)
Net Fiscal Impact on Rogers Township	(k)	\$ -	\$ 58,291	\$ 136,013	\$ 229,853	\$ 275,379	\$ 265,543	\$ 272,663

Notes:

- (a) See Appendix Table 7 for detailed calculation.
- (b) See Appendix Table 8 for detailed calculation of 2005 value for increased spending. Spending in subsequent years adjusted to track likely increases in property values. In this analysis, we assume that property values increase by 2% per year from 2013-2020. Over the long term, trend spending must approximate trend property value growth, plus any additions to the tax base due to construction and changes in taxes or state policy. We also assume that per-capita spending rises at 2% per year throughout the analysis. We have not considered any change in revenue or spending due to these other factors, except the property value added by the construction of the new development.
- (c) This calculation does not include the cost or revenue from permitting or any other activities outside the Presque Isle County general fund. Permitting fees are assumed to largely offset the cost of the permitting activity.
- (d) See Appendix Table 7 for detailed calculation.
- (e) See Appendix Table 9 for detailed calculation of 2007 value for increased spending. Spending in subsequent years adjusted to track likely increases in property values. In this analysis, we assume that property values increase by 2% per year from 2013-2020. Over the long term, trend spending must approximate trend property value growth, plus any additions to the tax base due to construction and changes in taxes or state policy. We also assume that per-capita spending rises at 2% per year throughout the analysis. We have not considered any change in revenue or spending due to these other factors, except the property value added by the construction of the new development.
- (f) Assumes constitutional portion of state revenue sharing (based only on census population) does not change until after 2020 census, at which time state revenue sharing will likely increase due to the population added to Rogers City due to the proposed plant. (See Appendix Table 6 for our estimate of population increase.) According to the Citizens Research Council of Michigan's "Michigan's Unrestricted Revenue Sharing Program," statutory revenue sharing is calculated using a complex formula based on three factors: (1) per-capita taxable value, (2) population, and (3) property tax "yield equalization." We begin with the Michigan Department of Treasury's estimate of FY2009 statutory revenue sharing for Rogers City, \$150,168, and apply 3% inflation each year to 2105, for a total of \$179,308. As an approximation, we assume that each of the three factors used to arrive at this figure accounts for 1/3 of the total statutory payment. To estimate the change from factor (1), we assume that the taxable property value in Rogers City will increase by 1/3 due to this power plant, which will reduce the statutory payment by 1/3 X 1/3, or \$19,923. This analysis assumes that factor (2) will not change because Rogers City's population will not change enough to affect its categorization in this portion of the formula. This analysis does not attempt to quantify changes in factor (3). Note that statutory revenue sharing is subject to change by the legislature during the budgeting process.
- (g) This calculation does not include the cost or revenue from permitting. Permitting fees are assumed to largely offset the cost of the permitting activity.
- (h) See Appendix Table 7 for detailed calculation.
- (i) See Appendix Table 10 for detailed calculation of 2007 value for increased spending. Spending in subsequent years adjusted to track likely increases in property values. In this analysis, we assume that property values increase by 2% per year from 2013-2020. Over the long term, trend spending must approximate trend property value growth, plus any additions to the tax base due to construction and changes in taxes or state policy. We also assume that per-capita spending rises at 2% per year throughout the analysis. We have not considered any change in revenue or spending due to these other factors, except the property value added by the construction of the new development.
- (j) Assumes constitutional portion of state revenue sharing (based only on census population) does not change until after 2020 census, at which time state revenue sharing will likely increase due to the population added to Rogers Township due to the proposed plant. (See Appendix Table 6 for our estimate of population increase.) Statutory revenue sharing is calculated using a complex formula based on three factors: (1) per-capita taxable value, (2) population, and (3) property tax "yield equalization." We begin with the Michigan Department of Treasury's estimate of FY2009 statutory revenue sharing for Rogers Township, \$582, and apply 3% inflation each year to 2105, for a total of \$694. As an approximation, we assume that each of the three factors used to arrive at this figure accounts for 1/3 of the total statutory payment. To estimate the change from factor (1), we assume that the taxable property value in Rogers Township will increase enough due to this power plant to completely eliminate the portion of this payment due to factor (1) which will reduce the statutory payment by 1/3 or \$232. This analysis assumes that factor (2) will not change because Rogers Township's population will not change enough to affect its categorization in this portion of the formula. This analysis does not attempt to quantify changes in factor (3).
- (k) This calculation does not include the cost or revenue from permitting. Permitting fees are assumed to largely offset the cost of the permitting activity.

Appendix C: Copyright Notice

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