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George A. Erickcek

W.E. Upjohn Institute for Employment Research, erickcek@upjohn.org

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**Economic Impact of the Proposed
CME North American Merchant Energy, LLC
Gas-Powered Electric Power Plant
on Berrien County**

Final Report

**George A. Erickcek
November 1, 2000**

**W.E. Upjohn Institute for Employment Research
300 South Westnedge Avenue
Kalamazoo, MI 49007**

**Economic Impact of the Proposed
CME North American Merchant Energy, LLC
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on Berrien County**

November 1, 2000

This report provides an estimate of the economic impact on Berrien County of CME North American Merchant Energy, LLC's proposed gas-powered electric power plant in Benton Charter Township. The economic impact of the project involves two phases:

- A construction phase which would begin in June of 2001 and be completed in June of 2003.
- The operational phase which is scheduled to begin in June of 2003.

Table 1 provides a summary of the economic impact of the electric power generating facility. Total outlays to be made during the construction phase is expected to reach \$295 million with nearly 50 percent of these expenditures going toward on-site construction expenditures and the purchase of locally supplied materials and suppliers.

In 2002, when the construction of the gas-powered plant is in full swing, it will generate just over 480 jobs in Berrien County (including those at the construction site) and generate \$18.8 million in new wages and salaries in the county.

When in full operation, the highly automated plant will employ 24 workers with an average salary of approximately \$63,000 in 2003. In addition, the company will purchase approximately \$4 million annually from local service and material suppliers. During the first full year of operations, the plant and its 24 workers will support an additional 45 workers in the county through plant expenditures for locally supplied goods and services, as well as through the retail expenditures of its workers.

This report provides an estimate of the economic impact of the proposed CME power plant on Berrien County, only. It does not offer an assessment of any fiscal impacts the proposed plant could have on local governmental units and/or public utilities.

Table 1 presents the plant's direct employment, indirect employment, the resulting total county-wide employment impact, and its annual employment multiplier. Indirect employment includes:

- employment generated due to the plant's local purchases of goods and services.
- employment generated by the consumer spending of the plant's employees,
- employment generated by the additional rounds of business and consumer expenditures generated as the plant's suppliers and their workers make local expenditures.

All employment numbers presented in this report are given in terms of "year-round jobs." For example, if 10 employers work for 6 months, then this is equivalent to 5 year-round jobs.

Employment multipliers are often calculated to measure the employment impact of individual firms. Employment multipliers are estimated by dividing the total employment impact of the firm by its direct employment. The employment multiplier for the proposed CME plant is estimated to be 2.9 in 2004. In other words, for every worker employed at the proposed power plant in 2004, another 1.9 jobs will be generated within the county during the first full year of operation. This is particularly a strong employment multiplier that is not matched by most industries. The plant's employment multiplier is forecast to decline slightly over time as the local economy adjusts to its presence. Modest wage pressures caused by the increase in economic activity resulting from the plant's operation are expected to dampen the plant's initial impact.

In addition, the power plant will generate a very robust wage and salary multiplier as well. In 2004, wages and salaries at the plant are expected to be \$1,584,000. We estimate that for every dollar in wages and salaries to be paid at the plant, another \$1.20 in wages and salaries will be generated in the county.

The economic impact of both construction and operations of the CME's proposed gas-powered plant was estimated using the W.E. Upjohn Institute's Economic Impact Model which was built by Regional Economic Models, Incorporated (REMI) especially for the Upjohn Institute. The REMI model is unique because it incorporates three separate modeling techniques. First, it includes an input-output model which estimates the local supply linkages in the county for 53 separate industries. Second, it contains a relative cost model that estimates the economic impact of changing business costs in the region comparable to the nation as a whole. Finally, it is a forecasting model. The economic impact estimates presented in this report are generated by measuring the difference between two separate growth scenarios for the county. The first is the county's expected growth without the power plant, and the second is a projection of how the county would grow with the CME plant.

Table 1
Summary Table
Economic Impact of the Proposed CME Power Facility

Construction Phase:

	2001 (6 months)	2002	2003 (6 months)
Total employment impact	296	481	245
Direct employment - on site	224	373	210
Indirect employment	72	108	35
Total wage and salary (\$ mil)	\$10,750	\$18,810	\$11,210
County Personal Income (\$ mil)	7,871	14,170	9,220

Operations:

	2003 (6 months)	2004	2005	2006
Total employment impact	35	69	66	63
Direct employment - at the plant	12	24	24	24
Indirect employment	23	45	44	39
Employment multiplier		2.9	2.8	2.6
Total wage and salary (\$ mil)	\$1,720	\$3,540	\$3,590	\$3,588
Wage and salary multiplier		2.2	2.2	2.1
County personal income (\$ mil)	1,286	2,709	2,850	2,921

All employment is estimated in terms of year-round jobs.

Wage and salary estimate include proprietor's income.

Source: CME and Upjohn Institute

Construction Phase

Starting in June of 2001, the construction of the proposed plant will take two years to complete. CME expects total construction outlays to reach \$295 million during the 24-month period. Except for the purchase of the power generating equipment and machinery, which must be made outside of the county, the company fully plans to spend \$145 million in the county during the construction phase. Of that amount, \$75 million will be spent at the construction site while the remaining \$70 million will be spent purchasing construction materials and supplies from local suppliers.

Two separate estimates of the direct employment levels at the site are included in this report. As shown in Table 2, CME estimates that employment levels should hold steady at 350 workers during the two-year period. This estimate is conservative. The W.E. Upjohn Institute's estimates of

on-site employment levels, which are based on the expected outlays to be made in the construction phase, are somewhat higher. In the analysis below, we adopt the Institute's direct, on-site employment estimates (see Technical Notes).

Table 2
Economic Impact of the Construction of the CME Power Plant

Employment (year-round jobs)	2001 (6 months)	2002	2003 (6 months)
CME estimates	175	350	175
Upjohn Institute estimates	224	373	210
Total employment impact:*	296	481	245
Indirect employment	72	108	35
Retail	25	39	17
Services	31	48	17
Other	16	21	1
Wage and Salary and Income (In millions of current dollars)			
Wage and salary (generated in the Berrien County)	\$10,750	\$18,810	\$11,210
Personal income (of Berrien County residents)	\$7,871	\$14,170	\$9,220

* Based on the Upjohn Institute's direct on-site employment estimates

Table 2 also presents the income impact of the construction phase. Total wages and salaries is a summation of all wages, salaries, and proprietors' income generated in the county due to the construction of the proposed power plant. It includes the wages and salaries of on-site construction workers as well. In all, the construction phase of this project will generate, directly and indirectly, an estimated \$40.8 million in total wages and salaries in the county during the 24-month period. County personal income will increase by \$31.3 million during the course of the construction phase.

At first glance, it seems erroneous that the total wage and salary earnings are greater than the county personal income. The answer lies in the fact that wage and salary earnings are calculated by the place of work, while personal income is estimated by the place of residence. Many of the workers at these businesses and their local suppliers do not reside in Berrien County and take their income outside the county. In addition the increase in wage and salary income lowers the amount of government public assistance dollars flowing into the county.

Operational Impact

When in full operation in June 2003, the CME Power Plant will employ 24 full-time workers earning an average of 63,000 per year. Unlike new firms in many other industries such as consumer and business services, retail trade, and one or two manufacturing sectors, the operation of the CME Power Plant will not bear any displacement costs. The creation of these 24 positions does not come at the expense of existing businesses as is likely the case when a new retail or service firm opens. This insures that the impact of the proposed plant per worker hired is quite large.

In 2004, during its first full year of operations, plant operations will generate an estimated 45 new jobs in the county, making its total employment increase to nearly 70 workers. In other words, for every worker employed at the power plant, another 1.9 will be employed in the county. As shown in Table 3, of the 45 new jobs in the county, 10 will be in retail trade, and an additional 14 will be in services.

Total wages and salaries in the county will expand by \$3,540,000 in 2004 due solely to the operation of the power plant. The plant's payroll will account for approximately 45 percent of this amount. For every dollar in wages and salaries paid at the plant, another \$1.20 will be paid out in the county. Since some of the plant's employees and the 45 new job holders outside the plant will choose to live outside the county, the plant's impact on the county's personal income will be less.

Table 3
Economic Impact of the Operational CME Power Facility

Employment (year-round jobs)	2003 (6 months)	2004	2005	2006
Total employment impact:	35	69	66	63
Direct employment - at the plant	12	24	24	24
Indirect employment	23	45	42	39
Retail	5	10	10	9
Services	7	14	13	12
Other	11	21	19	18
Wage and Salary and Income (In millions of current dollars)				
Wage and Salary (generated in the Berrien County)	\$1,720	\$3,540	\$3,590	\$3,588
Personal income (of Berrien County residents)	\$1,286	\$2,709	\$2,850	\$2,921

Technical Notes

In an alternative scenario that used CME's on-site construction employment estimates, the total employment impacts and indirect employment impacts were very similar, as shown below. Surprisingly, the total county-wide employment impact in 2002 calculated by using CME's on-site employment estimate of 350 workers is higher than the Institute's total employment estimate. A third alternative scenario, using CME's employment estimates with wages adjusted to meet the expected payroll estimated in the Upjohn Institute's estimate was not conducted because there is no evidence to suggest that the project's construction workers will be paid higher wages than industry average.

Construction Impact Using CME's Employment Estimates Compared to Upjohn Institute's Estimates

Employment (year-round jobs)	2001 (6 months)	2002	2003 (6 months)
Total Employment Impact	250	490	219
<i>Upjohn Institute estimates</i>	<i>295</i>	<i>481</i>	<i>245</i>
Direct Employment	175	350	175
<i>Upjohn Institute estimates</i>	<i>224</i>	<i>373</i>	<i>210</i>
Indirect Employment	75	140	44
<i>Upjohn Institute estimates</i>	<i>72</i>	<i>108</i>	<i>35</i>