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CLIENT MEMO

To: Tom Karas
Director,
Michigan Energy Alternatives Project

Date: May 7, 2008

Fr: Tom Sanzillo
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Re: AEG Memo 04/03/08

You have asked for a review of the memorandum *Preliminary Findings – Employment Impact and Property Tax Revenue,* prepared by the Anderson Economic Group (AEG) for the Wolverine Power Cooperative (dated April 3, 2008). The preliminary memo projects certain employment and fiscal impacts for Rogers City and surrounding counties from the proposed 600 MW coal fired plant planned for Rogers City.

Basic Points

The AEG memo needs considerable work before it can be a credible, final product.

- The construction costs provided by Wolverine, and repeated by AEG, are out of line with the costs of other similar proposed coal fired power plants around the nation. The Wolverine cooperative has understated the cost of the plant by between 25% and 75%. A study of this kind needs to have current, reliable data if it is to be credible.

- The unit of analysis of this report – the job and fiscal impact of the Rogers City plant -- is woefully inadequate as a tool for assisting state residents and decision makers with their understanding of this project. A broader economic analysis suggests the benefits of this plant are inferior to those of wind energy. Simply stated new wind capacity is cheaper than coal and it produces a greater local economic impact of jobs and money circulating in the Michigan economy. This broader view also suggests that the proposed Rogers City plant actually undermines Michigan's economic development aspirations to grow its wind industry.

- The federal agency that has subsidized rural electric power generation for the last forty years --- the Rural Utility Service --- has pulled its support for coal plants because of serious market risk. AEG and Wolverine's positive, upbeat economic picture of the Rogers City plant denies these risks. Proposed coal plants must contend with rising construction costs for plant construction, uncertain regulation over the future of carbon emissions and rising coal prices. Now, rural electric cooperatives have had a large interest rate subsidy from the federal government cut off. It is highly questionable given these tough economic realities whether the jobs and fiscal benefits projected by AEG will take place.

- A review of AEG's separate studies of proposed coal-fired generation for Midland and Rogers City reveals a number of methodological and substantive inconsistencies that should be reconciled before either study is credible.

Background

Using data provided by the Wolverine Cooperative, AEG concludes that their will be 6,080 jobs produced in the four county region between 2009-2013 due to the construction of the new plant which is estimated to cost $1.2 billion. Wolverine has informed AEG that it expects the new plant to employ 100 workers once the plant is up and running in 2013.

AEG estimates the construction of the new plant will contribute a total of $13.1 million by 2015 to the state, region and local governments. In the report, future tax revenues are shared across various taxing jurisdictions to support state, county government, school districts, police, fire, and ambulance services. The power plant expects to benefit from an industrial facilities tax exemption. The preliminary estimate of $13.1 million assumes the benefit of the tax exemption.

General Observations

1. Any plans to move forward with a new coal fired power plant face significant economic hurdles. The United States Department of Agriculture, Rural Utilities Service has provided billions of dollars in loans to rural electric cooperatives and other rural economic development projects for more than four decades. It has instituted an effective moratorium on new coal plants. RUS chief, James M. Andrews has said: "Since there is no clear consensus on what emission standards will be enacted and associated costs, attempting to make decisions on loans absent a factual base is speculative, at best."[1]

   Independent of the high potential for default that the term speculative implies, RUS has a mandate to provide rural communities with *affordable* electricity. In the current economic environment, RUS has decided that coal plants are not reliable mechanisms that provide affordable electricity. Therefore, RUS and the federal Office of Management and Budget will not risk taxpayer dollars to finance them.

   On February 19, 2008, the Administrator for the RUS Program, informed the General Manager of the Southern Montana Electric Cooperative, Inc. that it could not move forward with the Highwood Generation Station Project2. The rejection letter to the cooperative discussed the general issues facing RUS, and informed the cooperative that no further base load generation loans would be forthcoming at least through 2009. The letter states:

   > I have been closely and carefully monitoring the developments with the proposed Highwood Generation Station. The inherent risks associated with compounded delays make the situation more problematic as well as increasing the cost of the plant which will be passed on in the form of higher member rates raise concerns about financial feasibility.
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   > Additionally, as you know, the Agency is precluded from financing base load generation plants in Fiscal Year 2008 and I suspect that will be the situation in Fiscal year 2009. Costs will continue to increase throughout this period.

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1 Mufson, Steven, *Government Suspends Lending for Coal Plants: Risks Cited to Economy, Environment,* Washington Post, March 13, 2008.

2 Andrew, James, M., Administrator, Utilities Programs, United States Department of Agriculture, Rural Development to Tim Gregori, General Manager, Souterh Montana Electricity Generation and Transmission Cooperative, Inc., February 19, 2008.

> With all the facts considered: No base load generation loans probably through 2009; continued cost increases further exacerbated by the added time to reach loan approval; the feasibility of the project with extra time and additional cost; and the uncertainty of the litigation now filed compels me to inform you the Agency will not be able to finance the proposed Highwood Station Plant.
>
> Add to the above facts concern exists that approximately 40 percent of Southern Montana's capacity in the proposed plant is not under contract through the entire term of the proposed financing from the Agency.

Disclosure of this application denial and the larger issue of an effective moratorium on new lending have prompted press attention. The Washington Post article summarizes the critical issues:

> Though the last loan for a generating plant was made in 2006, rural cooperatives have applied for $1.2 billion in loans to cover allow or part of four more coal-fired plants, including controversial ones in eastern Kentucky and southern Illinois. Two other cooperatives recently shelved their projects and withdrew their RUS loan applications. And last month the RUS informed the Southern Montana Generation and Transmission Cooperative that the agency was rejecting its application for a coal plant loan, citing new agency policy, rising construction costs and the lack of customers for much of the proposed plant's output….
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> The RUS administrator, James M. Andrew, said in the letter that it "is not funding loans for new base load generators until the Agency and the Office of Management and Budget can develop a subsidy rate to reflect the risks associated with the construction of new base load generation plants.
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> …A budget expert who asked not to be identified to protect his relationship with clients noted that the RUS was also glossing over the difficulty of passing costs along. Power generation co-ops are separate from distribution co-ops, which in the past have forced some generators into bankruptcy, rather than pass along higher costs.[3]

3 Mufson, Op Cit. See also: Karl Puckett, *Rural Utilities explains funding pullout* and *Coal-fired power plant projects feel heat from rising costs, environmental concerns,* Great Falls Tribune, March 4 and 13, 2008 respectively.

The RUS loan program provides loans with subsidized interest rates. Depending on the RUS program used to support a plant, interest rates range from 1.875% to 5%.[4] The RUS statement on the moratorium cited the agency's inability to set an interest rate that accurately prices the carbon risk. If a private bank were to lend to this project at market rates it might lend for 7% to 9%, but this estimate is uncertain.[5] A higher interest rate adds to the cost of the project and ultimately to the price of electricity that is passed on to consumers.

2. The cost of construction of coal-fired plants has skyrocketed. Project cancellations across the country are commonplace. The AEG memo, for example, assumes the Rogers City plant will cost $2,000 kW to construct. A report prepared in February 2008 by Synapse Energy Economics, Inc., which draws from a series of current coal plants, assumes the cost of new coal fired generation between $2,500 and $3,500 kW.[6] This would place the Rogers City plant at a construction cost of between $1.5 and $2.1 billion and rising.

3. A recent interview in the Michigan Environment Report with Stanley Pruss, Governor Granholm's new energy chief places the AEG memo in a context that suggests the unit of analysis selected by Wolverine Cooperative --- the jobs and fiscal impact from the Rogers City plant – is a very narrow, and not particularly useful focus for a study of this kind. A broader focus that takes into account the costs of new electricity and the economic development aspirations of the State of Michigan would have provided a more useful set of choices for Michigan's decision-makers.

> "From what I know and what I understand and after spending a lot of time in this area, when one looks at the cost of new (electricity) generation, one has to compare the cost of new generation to new generation. If you compare new wind, for instance, to existing coal, wind would be decidedly more expensive. However, if you compare new wind energy to new coal energy, you come out in an entirely different place. I would suggest to you that wind may cost less than building a new coal plant. And that is before the cost of any carbon controls…."[7]

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4 See: usda.gov/rus/interestrates for interest rates and other relevant lending information, May 7, 2008.
5 In February, three leading commercial banks issues a new set of enhanced due diligence protocols coal-fired power plants. The implementation details are not in the public domain at this writing. These carbon principles exempt rural cooperatives and public power authorities. However, the three banks pledge in the principles to develop enhanced guidelines for coal plants sponsored by rural cooperatives and public power within six months. See: Citigroup, JP Morgan and Morgan Stanley, *The Carbon Principles: Fossil Fuel Generation Financing Enhanced Environmental Diligence Process,* February 4, 2008.
6 Synapse Energy Economics, Inc., *Don't Get Burned: The Risks of Investing In Coal-Fired Generating Facilities,* February 2008, p.40. In addition, the report draws its conclusion from recent reporting by Standard and Poors.
7 Interview with Stanley "Skip" Pruss, *Q and A with governor's new energy chief,* Michigan Environment Report,

AEG's Employment Impact Conclusions

1. Mr. Pruss' comparison of the cost of wind and the cost of coal as it relates to electricity costs suggests another weakness in the AEG memo. If $1.2 billion were invested in wind projects versus this coal plant what would be the comparative economic development benefits.

   A study by the Renewable Energy Policy Project shows that for each $1 billion in investment in wind power 3,000 jobs are produced making the component parts that go into the power plants.[8] These are full-time jobs, not temporary construction ones. The report highlights those states with the greatest potential for wind investment. Given Michigan's history of manufacturing leadership, the state ranked fourth among all states for the greatest potential. It is clear that a full, comparative economic impact study between new wind and new coal would show the superiority of wind energies economic development contribution to Michigan's manufacturing and construction industry. Wind energy, of course, also protects power generators and consumers from long-term increases in the price of coal.[9]

2. AEG assumes that the $1.2 billion investment in the Rogers plant will result in a net of 6,080 jobs to the four county area over the 2009-2013 construction periods. AEG prepared a study of a 750 MW coal-fired plant in Midland, Michigan in September 15, 2007. The estimated cost of construction for that plant was $1.5 billion. The total employment from plant construction in that region is projected at 6,002 jobs.[10]

   As AEG prepares its final memo it might want to clarify how it is possible to invest $300 million dollars less in Rogers City ($1.2 billion) for a coal plant and create virtually the same number of jobs as the coal plant project in

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Volume 25, Number 4, Fall 2007.

8 Sterzinger, George and Svrcek, Matt, *Wind Turbine Development: Location of Manufacturing Activity,* Technical Report, September, 2004.

9 Krauss, Clifford, *An Export in Solid Supply: Demand for U.S. coal Rises (as Does the Price),* New York Times, March 19, 2008.

10 AEG, *The Economic and Fiscal Impact of a New Coal Power Plant in Midland, Michigan,* September 13, 2007, p.2. The preliminary projections in both reports reflect a combination of self-reported data from plant sponsors, professional judgments by AEG staff (who are the same people for both studies) and the use of certain U.S. Bureau of Economic Analysis construction employment forecasting models.

Midland ($1.5 billion)?[11] Something is plainly wrong if the economic models used are projecting the same level of employment when the investment level is $300 million less.

3. Wolverine Cooperative and its engineers provided to AEG various statistical assumptions regarding labor costs and employment projections related to the project. These assumptions are not included in the body of the report. It is difficult to make any further statements due to this limitation in the transparency of the document. It would be helpful in the final report if these assumptions were clear. For example, the Rogers City and Midland plant studies both project a full time operation employment staff of 100 employees. How can a plant generating revenue from 600 MW of electricity afford a payroll the same size as a plant generating revenue with 750 MW?

4. The memo provides the level of spending on non-payroll construction items. The memo states that for the five years 2009-2013 non-payroll spending will amount to $20 million. This is $20 million, out a total construction outlay of $1.2 billion. This suggests the vast majority of the projects materials and equipment outlays will be from out of state companies.

AEG's FISCAL ASSUMPTIONS

1. The memo projects a $13.1 million net fiscal benefit for the four counties. The model used by AEG assumes that the capital investment of $1.2 billion would be the ultimate market value of the real estate. Various rules regarding the taxable value of real estate would apply, and then relevant jurisdictions would tax the plants operation. Imbedded in these calculations are a series of economic assumptions related to plant operation that are at best premature. The Rural Utilities Services has decided to initiate a moratorium on any further lending to rural electric cooperatives for coal-fired plants. The reasons are rising construction costs, uncertainty over carbon regulations and rising coal prices. The assumptions regarding the operation of the Rogers City coal plant are at best speculative. To conclude the operation of the plant will be capable of supplying tax revenue of $13

11 According to the AEG memo: "Our construction data 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."

million is also speculative.

An economic model is only as good as the data it is provided. A plant that produces electricity at twice the cost of other plants in the area will have trouble attracting customers unless those customers have no other choices. If it cannot meet its revenue targets, it cannot pay its bills, notwithstanding the economic model AEG relies upon.

2. RUS has also stated that in certain parts of the country demand projections are overstated. The prior TR Rose Associates memo dated December 12, 2007 raised issues with Michigan's demand forecast. The demand numbers for the state, and the Rogers City area, are in stark contrast to the actual performance of the state and local economy. As noted in that memo MPSC has stated it will conduct an update of these numbers. Based upon the information available there is no publicly available, credible information that would warrant a 600 MW coal-fired plant.

3. The Midland study estimates that the project sponsor will receive a $2.3 million annual tax exemption under PA 451 (Air Pollution Control Equipment).[12] The AEG Midland report also estimates that the project will receive a $3.4 million under a PA 198 (Industrial Facilities Tax Exemption). The Rogers City report states that Wolverine Power Cooperative will apply for an exemption under PA 198 although there is no estimated value for the exemption provided in the report.[13] In addition, the Rogers City report is silent regarding a 451 tax exemption for the Wolverine plant. If the tax exemption estimates identified in the Midland study are a reasonable benchmark, then the $13 million projected in the AEG Rogers City memo could be off by as much as $5 million.

4. Similarly, the Midland study identifies a number of costs incurred by the city government that are directly attributable to the operation of the plant. The Midland study shows that the city would incur $2 million in additional costs for water and solid waste services. The report assumes that the plant would reimburse the City for the outlays. The Rogers City study does not identify any similar direct costs incurred by the local government from plant

12 AEG, Midland Report, Op Cit, *Exhibit V: Impact of Proposed Power Plant on City of Midland Revenues.*
13 AEG Rogers City Report, Op Cit, *Appendix 3, Increase in Taxes Paid due to Proposed Power Plant Development (Continued)*

operations. Does this mean there are no anticipated expenses? Or, does this mean any additional expenses are unknown? Will any direct costs to the city related to plant operations be paid for by Wolverine or absorbed by the City?