Surrebuttal Testimony and Schedules
Thomas C. Canter

State of Minnesota
Before the Office of Administrative Hearings
For the Minnesota Public Utilities Commission

In the Matter of a Petition by Excelsior Energy Inc. for Approval of a Power Purchase Agreement Under Minn. Stat. § 216B.1694, Determination of Least Cost Technology, and Establishment of a Clean Energy Technology Minimum Under Minn. Stat. § 216B.1693

OAH Docket No. 12-2500-17260-2
PUC Docket No. E6472/M-05-1993

Fuel Supply

October 31, 2006

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I. INTRODUCTION AND QUALIFICATIONS

Q. PLEASE STATE YOUR NAME.

A. My name is Thomas C. Canter.

Q. WHAT IS YOUR POSITION?

A. I am the Principal of T. Charles Associates, providing consulting services to transportation entities, ocean ports and terminals, and the National Coal Transportation Association.

Q. PLEASE SUMMARIZE YOUR QUALIFICATIONS AND EXPERIENCE.

A. I have a Bachelor of Electrical Engineering from Kettering University (formerly General Motors Institute) and a Juris Doctor from Michigan State University College of Law. I completed graduate level studies in nuclear engineering and nuclear operations at the Naval Nuclear Power School. As the naval officer in charge of propulsion plant operations for #1 Plant (two 132 MW thermal reactors per plant) on the USS Enterprise (CVAN-65), I was highly experienced in steam and electrical plant operations including refueling new reactor cores. For several years at General Motors, I was engaged in public utility commission rate hearings in multiple states representing General Motors by advising outside counsel. As the Vice President of Western Sales for Cyprus Coal and later as Vice President of Transportation for Cyprus-Amax Coal, I was responsible for coal sales, transportation agreements and administration for rail, barge, port and terminal services, and trucking; and contract negotiation and administration for up to 60 million tons of coal domestically and internationally each year. My consulting practice started with the Los Angeles Export Terminal, as a principal in negotiating and

developing the coal and petroleum coke export terminal. My areas of practice have included coal and petroleum coke transportation by barge, rail, and ocean vessel; energy supply and demand; and new market development for new mines. My resume is provided as Exhibit___(TCC-1), Schedule 1.

Q. HAVE YOU PREVIOUSLY PROVIDED TESTIMONY IN THIS PROCEEDING?

A. No. However, I am adopting and incorporating the Direct Testimony and Schedules filed in this docket on September 5, 2006 by Patrick J. Panzarino.

II. PURPOSE

Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY IN THIS PROCEEDING?

A. In addition to adopting the Direct Testimony of Mr. Panzarino, my Surrebuttal Testimony responds to the Rebuttal Testimony of Ralph Olson regarding Mesaba 1 LLC's proposed fuel supply plan.

Q. DO YOU FULLY ADOPT THE DIRECT TESTIMONY OF PATRICK J. PANZARINO, WHICH WAS FILED IN THIS DOCKET ON SEPTEMBER 5, 2006?

A. With the exception of one small change, I adopt Mr. Panzarino's testimony in its entirety. The only change I would like to make is to correct "Canadian Pacific Railroad" on lines 25-26 of page 4 to read "Canadian National Railroad." The corrected page, with the revision shown in redline, is provided as Exhibit___(TCC), Schedule 2.

Q. WHAT ISSUES DO YOU ADDRESS IN YOUR SURREBUTTAL TESTIMONY?

A. I respond to Mr. Olson's Rebuttal Testimony regarding delivery issues and fuel pricing. Specifically, I discuss my concerns about Mesaba 1 LLC's assumptions related to:

- fuel switching potential,
- rail transportation capacity, and
- price forecasts.

I also discuss my general observations on securing a reliable fuel supply and the desirability to bring capacity to the marketplace by entering long-term commercial relationships.

Q. DOES THE REBUTTAL TESTIMONY YOU REVIEWED CHANGE YOUR ASSESSMENT REGARDING MESABA 1 LLC'S PROPOSED FUEL SUPPLY PLAN?

A. No. Because Mesaba 1 LLC does not plan to enter into long-term agreements to manage volatility in fuel acquisition and delivery costs, its proposal will not provide a hedged, predictable cost. Mesaba 1 LLC plans to manage fuel cost volatility through fuel switching; however, there is considerable risk and speculation to assume that fuel switching will provide a meaningful hedge on fuel costs. In addition, the costs used by Mesaba 1 LLC in its fuel cost projections are significantly lower than current projections.

III. ASSESSMENT

Q. DOES MR. OLSON'S EXPLANATION THAT THE MESABA UNIT 1'S ABILITY TO SWITCH FUEL WILL ENABLE THE PROJECT TO DELIVER A HEDGED FUEL SUPPLY CHANGE YOUR ASSESSMENT THAT MESABA 1 LLC'S FUEL PLAN WILL NOT PROVIDE A HEDGED FUEL PRICE AND LONG-TERM COSTS ADVANTAGES?

A. Mr. Olson reasons that Mesaba Unit 1's "availability of options" automatically results in hedging. However, fuel switching potential is not the same as hedging fuel supply costs when the goal is to provide a reliable, low cost fuel supply. By normal definitions of "hedging" – insuring against unfavorable changes in price on one side by entering into counterbalancing arrangements on the other side – Mesaba 1 LLC's fuel strategy does not guarantee a hedged, predictable supply. Indeed, simply having options available will not provide price certainty due to the uncertainty of coal supply and transportation services that are provided only on the margin or incrementally to Mesaba Unit 1. Likewise, as shown in Exhibit___(TCC), Schedule 3, petroleum coke has also experienced volatility.

Q. DO YOU HAVE GENERAL OBSERVATIONS AND CONCERNS REGARDING THE FUEL SUPPLY PLAN PROPOSED BY MESABA 1 LLC?

A. Yes. Long-term relationships with fuel suppliers reduce unnecessary cost risks in power plant operation. This is accomplished through a portfolio of fuel supply agreements of varying term. This long-term relationship provides the fuel supplier with the financial stability to allocate reserves, guarantee performance, and re-invest sustaining and expansion capital while more efficiently utilizing manpower and equipment. The long-term agreement provides the fuel user with the desired stability and consistency of fuel to efficiently operate the power plant with predictability. The preferred supply agreement will allocate fuel reserves, define the fuel quality parameters, state the total quantity, define the ratability of delivery, describe the physical dimensions of solid fuel, specify the method of transportation and loading requirements, and provide a predictable method of pricing. Utilities will contract with multiple suppliers to increase reliability of supply. It is not

unreasonable to seek fuel diversity with a long-term arrangement and then allocate a small percentage of capacity for the spot market.

A long-term supply agreement will allow Mesaba 1 LLC to finance their project and build the plant with a guarantee of a market for their product. Fuel suppliers are similarly situated, as it will require greenfield development to meet the probable increase in fuel demand. PRB demand is projected to increase over 200 MMTPY (Million Tons Per Year) over the next decade and Illinois Basin demand is projected to increase over 70 MMTPY over the same period. Transportation demand will grow proportionately in the PRB and significantly in the Illinois Basin. Current transportation capacity is constrained. A prudent fuel plan would require that Mesaba 1 LLC develop a long-term relationship with fuel suppliers even though it will be challenging for a plant not yet in operation. This strategy will develop a reliable fuel supply with predictable pricing that fuel switching alone will not provide.

Q. WHAT IS YOUR RESPONSE TO MR. OLSON'S OPINION THAT SURPLUS RAIL CAPACITY IS EXPECTED BY 2011 IN THE PRB; THEREFORE, THE RAILROADS WILL OFFER LOW MARGINAL TRANSPORTATION RATES (IMPLIEDLY, RATES THAT WILL NOT PROVIDE A FULL RETURN ON INVESTMENT) TO REDUCE THE EXCESS CAPACITY?

A. This statement contradicts public statements of Mr. Rose of the BNSF and Mr. Koraleski of the UP (see page 5, Panzarino Direct). The railroads learned a lesson from the late 1990s and early this century when they were criticized by Wall Street and endured suppressed stock prices. During this same period, the BNSF was forced to compete with rates based on variable costs to counter the UP's play for market share in the PRB. The UP now has an

acceptable market share and there is little evidence that the two carriers will compete vigorously for an unbalanced share or push for excess transportation capacity. The UP has a capital budget of about $2.7 billion for 2006 and possibly $3.2 billion for 2007. The BNSF has a $2.6 billion capital plan for 2006. The two western carriers together plan to spend approximately $300 million (including capital spent in 2006) for SPRB capacity expansion to match expected demand over the next several years. Although a significant investment, it is a rather small percentage of their combined capital budgets, and this investment will not result in long-term excess transportation capacity and is not intended to do so.

Q. DO YOU BELIEVE COAL PRODUCERS WILL HAVE SUFFICIENT CAPACITY TO SUPPLY COAL ON SHORT-TERM OR SPOT CONTRACTS AT PRICES CLOSE TO THEIR VARIABLE COSTS?

A. No. Coal producers are balking on adding new capacity in the PRB without contracted demand. The larger coal producers are now publicly-traded companies (which is a different situation than just a few short years ago) and these producers are more sensitive to ROI numbers and will not invest capital without some expectation to place the new capacity under a contract of reasonable length at a price that yields a reasonable return. The production capacity reserved for the spot market has the expectation of yielding prices above the average long to medium term contract market, not to yield prices at variable mining costs. For example, Arch Coal has announced the reduction in coal production for the fourth quarter of 2006 and will reduce their plan for the PRB in 2007 by 10 million tons. Similarly, Peabody Energy is

reducing 2007 capital requirements by deferring startup of its planned School Creek mine until 2009 or beyond.[1]

Q. DO YOU BELIEVE THAT MESABA 1 LLC WILL BE ABLE TO GET FAVORABLE COAL PRICING GIVEN ITS "FUEL SWITCHING" PLAN?

A. No. Mesaba will not be a "favored" customer of either the rail carrier or the coal producer with a 100% fuel switching strategy. Coal producers place a premium on supplying a customer on a ratable delivery basis throughout the calendar year. Offering Mesaba "optionality" on delivery of increased or reduced tonnage for a limited period of time within the yearly mining plan will increase costs to the miner who will want such costs reflected in the coal price or the "option" price. Based on my experience, rail carriers also desire to avoid non-ratable delivery, as they have to plan for the placement of locomotives, railcar sets, and crews to efficiently deliver coal. The direct testimony of Mesaba 1 LLC shows no plan to purchase the 7 to 10 trainsets of 115 cars that will be required to supply the facility for Phases I and Phase II. These trainsets (with spares) have a capital value (at replacement cost) of about $59,000,000 to $84,000,000 plus the capital of locomotives at about $30,000,000. If transportation capacity remains constrained, there is little incentive for a carrier to commit this amount of capital to a customer that can and will switch transportation volume with little notice. Considering that about 85% of BNSF's coal is carried in private cars, this would be a strain on utilization of system cars. If the rail carrier is to supply the equipment, the transportation rates will be higher than the comparable rates for private equipment. At a minimum, I expect that the rail carrier will want a minimum

[1] *Coal & Energy Price Report*, October 19, 2006.

annual tonnage (take or pay) for the use of their equipment, which will hinder unfettered fuel switching.

Q. DO YOU AGREE WITH MR. OLSON'S RELIANCE ON LONG-TERM ENERGY INFORMATION ADMINISTRATION ("EIA") FORECASTS THAT RAIL RATES WILL PEAK IN 2010 AND BEGIN FALLING THEREAFTER?

A. No. EIA's long term forecasting, in this case for over twenty years, is fraught with inherent difficulties in accuracy for any given future year. This does not totally discredit the forecasting used by EIA, but EIA clearly states that the Annual Energy Outlook is based on several fundamental assumptions and these assumptions may change from year to year. EIA or any other prognosticator has to base many assumptions on historical performance, current conditions, or legislation, which are not necessarily a true future indicator. The legitimate need for continual updates of assumptions based on real world changes and unexpected economic events has led to significant changes in the Annual Energy Outlook from year to year. For example, the 1999 EIA forecast FOB Mine coal price for 2020 is 30% lower than the most recent 2006 FOB Mine forecast in constant dollars. See Graph 1 provided as Exhibit___(TCC-1), Schedule 4. The connection between alternate fuel pricing and coal demand and coal pricing was not fully appreciated in 1996, but is a known factor in 2006.

Another example is EIA's forecast assertion that there will be continuing increased productivity in coal mining. Mining productivity increases have averaged an amazing 6.7 percent per year since 1979. However, EIA has found it necessary to reduce the average annual productivity for coal mining from 0.8% in the 2005 Annual Energy Outlook to 0.4% in the 2006 Annual

Energy Outlook. This is a recognition that mining conditions are becoming more difficult and mining productivity appears to be decreasing within the last few years. This acknowledgement of increasing mining costs will indicate a lower limit to spot coal prices for forecasting and in the real world.

Because of rail capacity constraints in the entire PRB, rail rates for shorter-term contracts (market-based tariffs in rail carrier parlance) have, in many cases, almost doubled on a cost per ton-mile basis. There would have to be a drastic loss of market power by the carriers to see rates start declining in 2010 to reach 2004 levels by 2030 as predicted by EIA and adopted by Mr. Olson. The western carriers continue to show market discipline of following their public statements to not build significant excess capacity.

Q. WHAT IS YOUR RESPONSE TO MR. OLSON'S ASSERTION THAT EASTERN ILLINOIS COAL WILL BE AVAILABLE TO MESABA UNIT 1 AS A POTENTIAL OPTION?

A. Currently, it does not appear that a ready supply of Illinois Basin coal will be available for Mesaba Unit 1. The large, historical suppliers in the Illinois Basin assert that they will not build capacity without a long-term customer. Coal producers are developing minemouth generating plants, the possibility of coal-to-liquid facilities at the mine, and are happily looking at robust demand in the Midwest and even Central Appalachia for high sulfur coal. As more scrubbers come on line throughout the Midwest and Central Appalachia, the demand will increase for Illinois Basin coal. There is more predicted demand (about 70 million tons) over the next few years than there has been announced new production capacity (about 36 million tons). Consequently, given this expected coal demand and the limited initial supply, as well as the

infrastructure-coordination issues that were described in Xcel Energy's Direct Testimony on Fuel Supply, I believe it is unlikely that Illinois Basin coal will be an economical alternative fuel for Mesaba Unit 1.

IV. CONCLUSION

Q. PLEASE SUMMARIZE YOUR SURREBUTTAL TESTIMONY.

A. To meet the statutory requirements to provide a hedged, predictable price for a power purchase agreement, Mesaba 1 LLC would need to enter into long-term supply agreements for a significant portion of the fuel supply for Mesaba Unit 1. Fuel diversity is prudent if provided under a long-term relationship. The fuel switching plan proffered by Mesaba 1 LLC relies on speculation that a fuel supply will always be available to Mesaba 1 LLC at the nadir of pricing for the relevant period of need. It further assumes there will be no penalty imposed from fuel and transportation suppliers that require minimum volumes and ratability of delivery but have suffered through a cycle of fuel switching as imposed by Mesaba 1 LLC.

Q. DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?

A. Yes, it does.

Thomas C. Canter
T. Charles Associates Consulting

Mr. Thomas Canter is a consultant in the fields of transportation logistics and project management and resource development. He has extensive domestic and international management experience in sales and marketing, engineering, project development, administrative law, manufacturing, and transportation and logistics. His specific background and experience include:

TRANSPORTATION AND LOGISTICS:

- Executive Director of National Coal Transportation Association on a consulting basis reporting to the Board of Directors. He is responsible for the program, policy input, and the daily operations and general conferences and committee meetings of the membership and represents NCTA before public and governmental entities.
- A former executive in sales, logistics, and contract administration for a major coal producer.
- The primary consultant for operating contracts, organizational structure, and operating procedures during the development of the Los Angeles Export Terminal.
- Assignments in naval logistics including serving as the senior naval officer for logistics for Commander-in-Chief, Naval Forces Europe.

ENGINEERING:

- Directed the facilities engineering function for the world's largest automotive spring and bumper and chrome plating plant with some 40 acres under roof.
- Officer in charge of the two nuclear reactors and associated steam plant during operation and refueling of the reactors on the USS Enterprise.
- Designed and developed the resistance welding lines to produce doors and end gates for Chevrolet trucks in the early 1970's.

LAW:

- Represented General Motors on all issues of electricity, natural gas, water, and sewerage before the FERC, several state public utility commissions, and city councils and legislative bodies.

EDUCATION:
J.D., 1977, Indiana University/ Michigan State University
Admitted to practice law in Michigan in 1977
Bachelor of Electrical Engineering, 1965, Kettering University
Post Graduate Level studies at the Naval Nuclear Power School

MILITARY:
Captain, USNR, (ret.), with 31 years service in active and reserve billets. Completed seven tours of duty as commanding officer of various reserve units and served as senior naval reserve officer assigned to Korea and Deputy Chief of Staff for Logistics in Europe. Vietnam veteran, served on submarines, aircraft carriers, surface ships, and major staffs.

Following is a revised page 4 of the Direct Testimony of Patrick J. Panzarino.

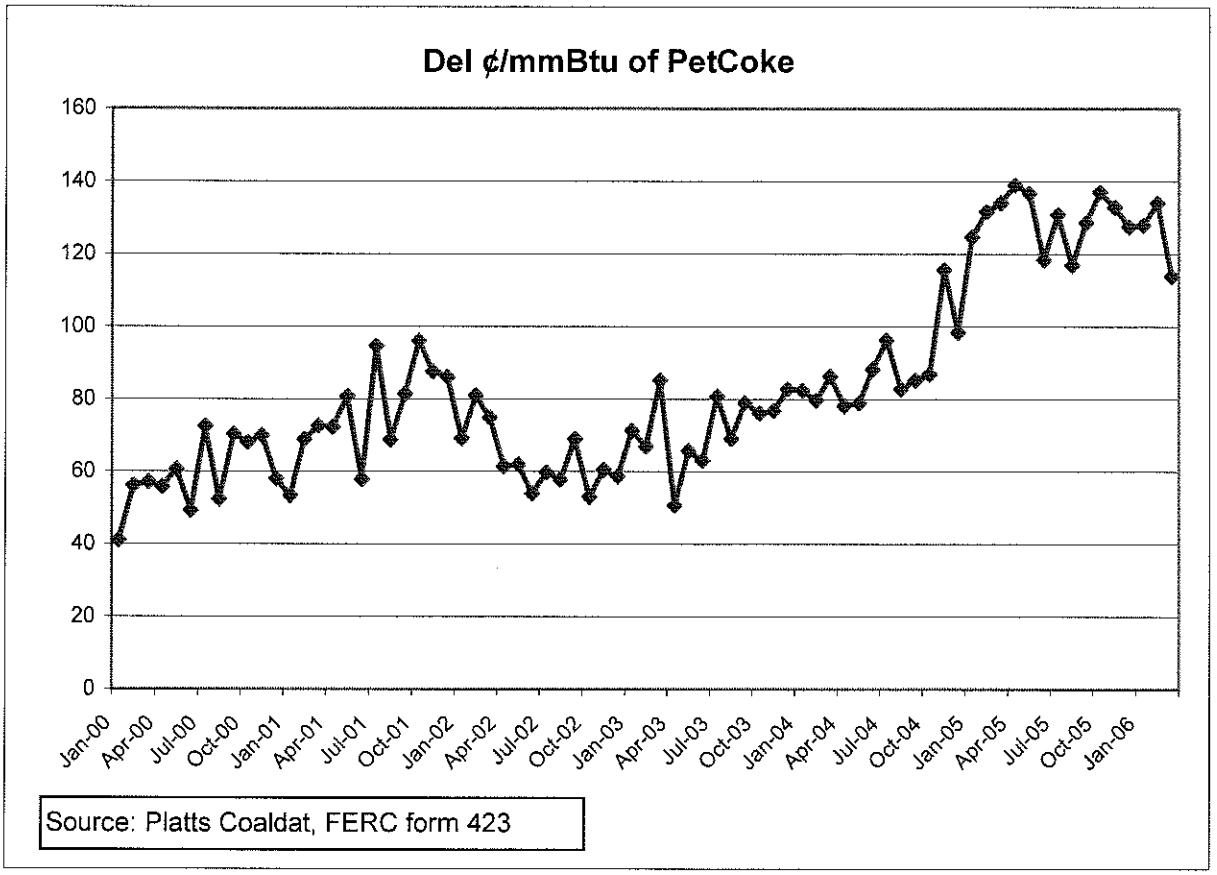
term deliveries. Delivery providers generally require commitments from shippers to ensure recovery of the significant infrastructure investments required to provide transportation services. Mesaba 1 LLC's plan to use short-term contracts to supply eastern fuels appears infeasible and results in exposure of Xcel Energy and our customers as purchasers to fuel cost volatility.

Q. CAN YOU PROVIDE MORE DETAIL REGARDING THE LIMITATIONS OF MESABA 1 LLC'S PLAN WITH RESPECT TO DELIVERIES OF POWDER RIVER BASIN COAL?

A Yes. The key limitations stem from the lack of competitive options for delivery of western coal and the shortage of capacity in the existing delivery systems.

Q. PLEASE DISCUSS THE COMPETITIVE SITUATION FOR DELIVERY OF WESTERN COAL.

A. There are only two Class One Western railroads for the delivery of Powder River Basin coal – Burlington Northern Santa Fe ("BNSF") and Union Pacific ("UP") – making options and competitive pricing limited. Given the availability of only two suppliers and high demand for Powder River Basin coal, the factors contributing to a competitive market (many available sellers and buyers and adequate capacity to provide the product) are generally not present in the western rail market. In addition, UP is currently operating under an embargo that affects its ability to take on new business. It is not certain when this embargo will be lifted or whether the UP would bid competitively to serve Mesaba Unit 1. It may be possible to use the Canadian ~~Pacific~~ National Railroad ("CP") to access the UP; however, that delivery provider is also capacity-constrained and this approach would add another layer of costs.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160
140
120
100
80
60
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20
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Jan-00
Apr-00
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Oct-00
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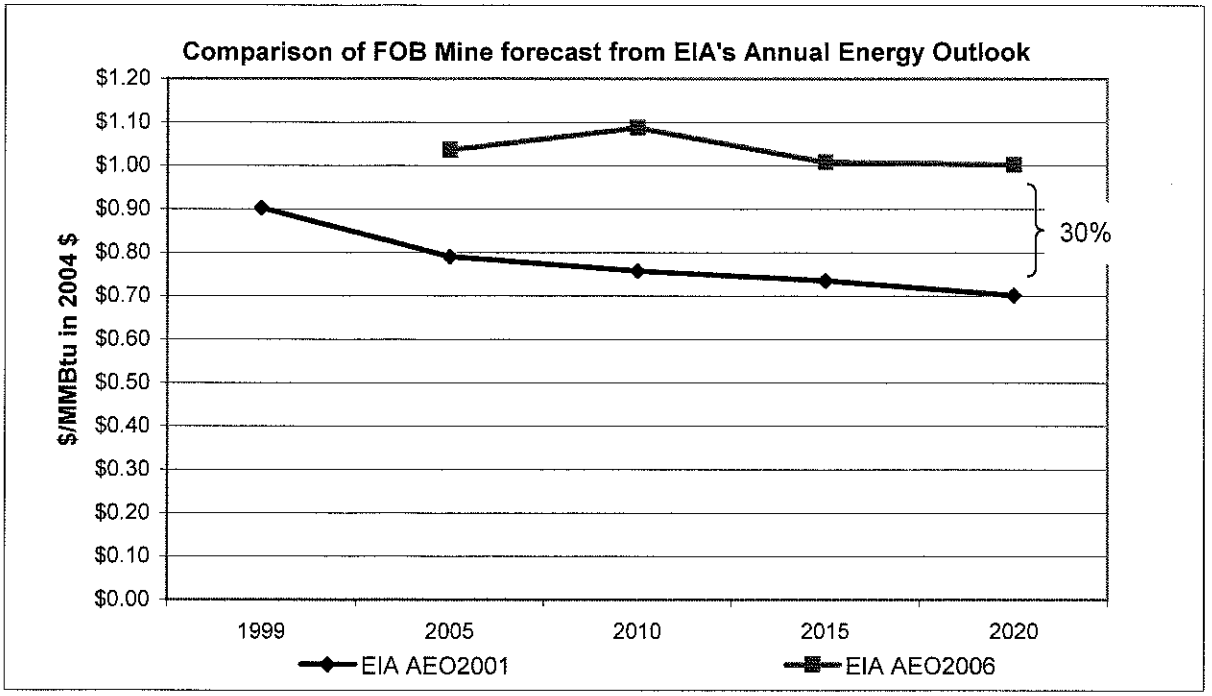
Comparison of FOB Mine forecast from EIA's Annual Energy Outlook
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$1.10
$1.00
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$0.80
$0.70
$0.60
$0.50
$0.40
$0.30
$0.20
$0.10
$0.00
1999
2005
2010
2015
2020
30%
EIA AEO2001
EIA AEO2006