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BEFORE THE
MINNESOTA OFFICE OF ADMINISTRATIVE HEARINGS
100 Washington Square, Suite 1700
Minneapolis, Minnesota 55401-2138

FOR THE
MINNESOTA PUBLIC UTILITIES COMMISSION
127 7th Place East, Suite 350
St. Paul, Minnesota 55101-2147

In the Matter of the Petition of Excelsior Energy Inc. and Its Wholly-Owned Subsidiary MEP-I, LLC For Approval of Terms and Conditions For The Sale of Power From Its Innovative Energy Project Using Clean Energy Technology Under Minn. Stat. § 216B.1694 and a Determination That the Clean Energy Technology Is Or Is Likely To Be a Least-Cost Alternative Under Minn. Stat. § 216B.1693

REBUTTAL TESTIMONY AND EXHIBITS OF

EXCELSIOR ENERGY INC. AND MEP-I LLC

ROGER W. GALE

OCTOBER 10, 2006
CORRECTED OCTOBER 31, 2006

EXCELSIOR ENERGY, INC.

BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

PREPARED REBUTTAL TESTIMONY OF

ROGER W. GALE

I. INTRODUCTION AND QUALIFICATIONS

Q Please state your name.

A My name is Roger W. Gale.

Q By whom are you employed and what is your position?

A I am the President and CEO of GF Energy, an electric power policy and consulting firm. We are experts on global power markets, technologies, public policy and energy policy matters.

Q For whom are you testifying?

A I am testifying on behalf of MEP-I LLC and Excelsior Energy Inc. (collectively "Excelsior"), the developers of the Mesaba Energy Project (the "Project").

Q Please summarize your qualifications and experience.

A I have served in the U.S. Department of Energy ("DOE") as Assistant to the Secretary of Energy, held a senior position in the Environmental Protection Agency, headed external affairs at the Federal Energy Regulatory Commission ("FERC"), and currently serve on the board of the U.S. Energy Association and three New York Stock Exchange companies. I have extensive experience in power market strategy and design, power purchase agreement structures, utility regulation, the formulation and implementation of Federal and state energy policy initiatives and financial markets. In

2005, our firm researched and produced a report—*The Role of Competitive Procurement and Debt Equivalency*—for the Electric Power Supply Association which deals with many of the issues raised by Northern States Power Company ("NSP") d/b/a Xcel Energy for consideration by the Minnesota Public Utilities Commission (the "Commission"). I have a PhD from the University of California, Berkeley. This is the first time I have served as an expert witness, and I am doing so because this is an important case, the outcome of which will have an important impact on Integrated Gasification Combined Cycle ("IGCC") and on the future of power purchase agreements for larger projects. My resume is attached as Exhibit RWG-1 to this testimony.

II. PURPOSE OF TESTIMONY

Q What is the purpose of your testimony in this proceeding?

A The purpose of my testimony is, on behalf of Excelsior, to respond to the Direct Testimony and Schedules of NSP, witnesses Karen T. Hyde, John J. Reed, and George E. Tyson III. I will also respond generally to the Direct Testimony and Schedules of Department of Commerce witness Dr. Eilon Amit. As my testimony reflects, the Commission is faced with an opportunity to meet national energy goals and benefit Minnesota by moving the Mesaba Energy Project and IGCC technology forward. Also, the development of the project by an independent power producer strongly benefits NSP and its ratepayers. The industry has long recognized that power purchase agreements ("PPAs") inherently mitigate risks to utilities and ratepayers by having power plant developers and owners accept some risks that utilities must otherwise assume if they were building a power plant. The Mesaba 1 Power Purchase Agreement (the "Mesaba 1 PPA") mitigates risks exactly as do other PPAs, but does so in the context of a baseload IGGC facility in a manner that is not detrimental to NSP. In doing so, the Mesaba 1 PPA

reflects the realities of the new developments we are seeing in the current PPAs for this and similar plants and, as expected, is therefore unique and outside the norm for peaking and gas-fired intermediate plants. As with virtually any PPA, the Mesaba 1 PPA quite appropriately balances risks and rewards in a way that provides NSP and its ratepayers the benefits of the Project without imposing upon them the risks and costs that NSP would incur if it were to build an IGCC facility. The bottom line is that NSP and its ratepayers would incur greater risks if NSP built a project of this size and type itself.

Q How is your testimony organized?

A First, I assess the broad policy implications that the Commission is faced with in this docket. This includes the role of non-utility generators in a robust power supply mix and the role IGCC will play in meeting our national energy policy objectives.

Second, I discuss NSP's contention that the Mesaba 1 PPA will result in significant "imputed debt" being attributed to NSP's and parent company Xcel Energy Inc.'s ("XEI") balance sheet by the rating agencies for certain analytical purposes, resulting in significant reductions in credit quality. In contrast to NSP's testimony, I conclude that the extent of regulatory assurances regarding cost recovery of PPA payments will largely determine what level of imputed debt, if any, is likely to be assigned by the rating agencies. To the extent that NSP is provided full regulatory assurances regarding cost recovery, it has no grounds for opposing the Mesaba 1 PPA on the basis that the Commission's decision to approve the Project would in itself result in a downgrade or significant negative actions by the rating agencies with respect to NSP. As described in further detail in the testimony of Ms. Meal, XEI's and NSP's aggressive construction spending plans and the consequent drains on XEI's and NSP's funding sources are putting significant downward pressures on XEI's and NSP's credit quality. In

light of those pressures, XEI's and NSP's financial situation makes PPAs generally a necessary part of NSP's and XEI's resource portfolio: the Mesaba 1 PPA actually would reduce NSP's exposure compared to NSP undertaking a similar project as a self-build in which case much more risk would be assumed by NSP. Further, any impact, positive or negative, of the Mesaba 1 PPA on NSP's credit profile can, and should, be captured in NSP's future cost of capital proceedings/rate cases, where NSP's risk exposure and financial integrity is reviewed in total.

Third, I discuss the Mesaba 1 PPA as the first example of a new generation of PPAs for larger plants and why the risks of the Mesaba Energy Project will be successfully managed and allocated by the Mesaba 1 PPA. I also address some of the criticisms of the proposed Mesaba 1 PPA, based on its comparison to the typical PPAs used in the past.

Q What information did you review in preparing your testimony?

A I reviewed the Minnesota Session Laws 2003, 1st Special Session-Chapter 11; an omnibus energy bill which was enacted in the 2003 Minnesota special legislative session (the "2003 Energy Act"), of which the Innovative Energy Project ("IEP") and Clean Energy Technology ("CET") Statutes (Minn. Stat. § 216B.1694 and Minn. Stat. § 216B.1693 respectively) form an integral part; the Mesaba 1 PPA; Excelsior's December 27, 2005 Petition for Approval of a Power Purchase Agreement, Determination that Clean Energy Technology is Likely to be a Least Cost Resource and Establishment of the Clean Energy Technology Minimum (the "Petition"); and the filings and testimony offered by Excelsior in this proceeding beginning in December of last year. I reviewed available public records about the terms of rate recovery for Comanche and MERP. I also reviewed and confirmed the accuracy of the Summary of Key Terms

and Conditions contained in Section VI of the Petition, in which Excelsior described all material differences between the Mesaba 1 PPA and the Xcel Energy Dispatchable Gas Form PPA. I also reviewed the report of the Harvard Kennedy School of Government entitled "*Three Party Covenant for Commercializing IGCC*" in which the author presents a risk allocation methodology for IGCC facilities that is designed to create a fair risk allocation between ratepayers, project sponsors, and other project participants. I also reviewed the testimony of NSP witness Ms. Hyde in this proceeding, as well as her testimony in Colorado relating to the challenges of procuring coal based resources under PPAs (Rebuttal Testimony of Karen T. Hyde, October 18, 2004,In the Matter of the Application of Public Service Company of Colorado for Approval of its 2003 Least-Cost Resource Plan, Docket No. 04A-214E), and the filings of NSP regarding baseload acquisitions and all-source bidding (NSP's Original 2004 Resource Plan Filing, Nov. 1, 2004, Docket No. E-002/RP-04-1752). I have also reviewed the testimony in this docket of NSP witnesses Mr. Reed, Mr. Tyson, and Mr. Hervey as well as Department of Commerce witness Dr. Amit. I also reviewed the presentations of XEI to investors. I have met with two of the rating agencies (Standard & Poor's ("S&P") and FitchRatings) that rate XEI's and NSP's bonds to discuss their methodologies and current approaches to reviewing PPAs and to discuss in general terms the issues raised in this docket.

III. BROAD POLICY IMPLICATIONS

Q Based upon your various roles in national energy policy over the past decades, please describe the broad energy policy goals that are affected by the Commission's decision in this docket.

A The national goal adopted by the U.S. Congress of rapid market penetration of IGCC, reflected in the incentives for IGCC technology provided for in the Energy Policy

Act of 2005 is centrally affected by the Commission's decision. Minnesota is among the first states being presented with a decision to build a commercial scale IGCC project and is in the position to be a national leader in promoting this innovative technology. As Gregory Boyce, president and CEO of Peabody Energy, noted recently, for IGCC power plants to advance and make up a portion of the generating market, policymakers need to encourage the technology and capitalize on the country's vast coal resources. *See Policymakers Must Push IGCC Technology: Peabody CEO*, PLATTS ELECTRIC POWER DAILY, Oct. 3, 2006, attached as Exhibit RWG-2. The DOE has selected the Mesaba Energy Project to play a key role in removing the final barriers to adoption of this technology. These barriers include the significant up-front costs associated with the first fleet of multi-train plants and integrating mercury control into standard plant design.

National and local benefits of rapid market adoption of IGCC include emissions that are two-thirds less than the next best clean coal technology and near elimination of fine particulate matter emissions ($PM_{2.5}$), which the scientific community has in very recent years linked to considerable health effects and social costs that will form the basis for new regulations requiring more stringent controls of this pollutant. *See* Shaw, Jonathan, *Cleaning the Air: How Epidemiology, Engineering, and Experiment Fingered Fine Particulates as Airborne Killers*, HARV. MAG., May/June 2005, p. 28, attached as Exhibit RWG-3.

In addition, as described in the testimony of Daniel Schrag, Director of the Laboratory for Geochemical Oceanography at Harvard University, and the public comments of other renowned authorities in the environmental field, ensuring that IGCC plants are built—instead of conventional coal facilities—is critical to a national capability to cost-effectively implement any form of carbon dioxide regulation that is increasingly

likely to be enacted, based on the results of the *GF Energy 2006 Electricity Outlook* that surveys utility CEOs. *See Strategic Consensus*, GF ENERGY 2006 ELECTRICITY OUTLOOK at 11-12, attached as Exhibit RWG-4. Indeed, XEI CEO Richard Kelly acknowledges that the U.S. needs a nationwide policy regarding greenhouse gas regulations and has stated that XEI supports a "'mandatory national plan because state-by-state doesn't cut it . . . If you say you can't do it in your state, you're pushing the problem to another state.'" *See Xcel CEO Urges National Emissions Plan*, REUTERS, Sept. 19, 2006, attached as Exhibit RWG-5.

Q If the Mesaba 1 PPA were not approved and the Mesaba Energy Project is not built in Minnesota, are there implications beyond this single project?

A Yes. Independent power producers, which have provided critical innovation to the power sector since the early 1980s, assess their prospects for success in each market they consider. If a new entrant such as Excelsior—that has a legal right to a power contract, a source of power that is clearly tailored to the needs of Minnesota, and financial backing from the DOE—does not obtain a PPA in this docket, then independent power producers, particularly ones proposing baseload facilities, are likely to avoid Minnesota and concentrate their efforts and investments in other markets. In that case, for the NSP ratepayer, the result is more expensive investments and more expensive power, without competitive benchmarks against which to evaluate self-build alternatives.

In addition, if the Mesaba Energy Project does not go forward, NSP would have to build more plants than are identified in its already very ambitious, large and growing capital plan, or suffer the risk of capacity shortfalls. Because of NSP's reticence to build new generation now in Minnesota, the result will almost certainly be higher cost natural gas or legacy coal generation than if new units were started now under PPAs. The rating

agencies recognize risks with either option, a perspective that is described in detail in the testimony of Ms. Meal. The risk of a downgrade of NSP and its parent, XEI, in the self-build scenario is significant because substitute capacity is not clearly identified in NSP's current resource plan. Therefore, XEI would take on significant capital spending risks on top of an existing capital spending plan that is near its limits. These risks are much greater than any incremental risk exposure due to the Mesaba Energy Project. It is crystal clear to me that XEI's sensitivity to rating agency downgrades is better focused on the risks its bondholders face if XEI and NSP commit to too much capital spending on their own. XEI and NSP currently have a very full and overflowing plate of generation, and transmission and distribution projects. A detailed review of XEI's and NSP's current capital spending plans is provided in Ms. Meal's testimony. Suffice it to say that the risks that the Mesaba 1 PPA introduces are far less significant to the rating agencies than the scale of the risks that XEI and NSP are proposing.

The bottom line is that XEI has a massive capital investment program, the ongoing risks of which can be reduced, not enlarged, through PPAs. All of the comments by NSP and its experts focus on why the Mesaba 1 PPA's risk allocation is inappropriate. Yet NSP's testimony ignores the core fact that by nature PPAs shift risk to the shareholders of the independent generator, inherently reducing risk for both the utility and its ratepayers.

It is critical to recognize that while it is the risks that the need for new generation creates that are NSP's focus in this docket, it is current capital spending plans and the vulnerability of XEI's balance sheet that creates the risk environment about which NSP is concerned. Doing more self-build is not a solution, it is the primary cause of the emerging problem. Doing more self-build later when there is a more extreme supply-

crunch and XEI's capital exposure is even more stressed is likely to create even more of a problem.

In short, XEI's risk profile is of concern to the rating agencies but, more importantly, it should be of concern to the Commission. Mitigating some of that risk can be achieved through PPAs.

Q Does the success in obtaining approval of the Mesaba 1 PPA in this docket impact the availability of federal benefits?

A The allocation of tax credits and implementation of the loan guarantee program both require the DOE to assess the feasibility of the Project as compared to that of competing projects in other states. Minnesota is well served through approval of the Mesaba 1 PPA because approval will allow NSP and its ratepayers to obtain as many benefits from DOE as possible. Having IGCC in Minnesota will also benefit other utilities in the region by expanding coal-fired baseload generation in an environmentally superior fashion and introducing lower cost generation into the wholesale electric markets. Most of the other IGCC projects now under development in the U.S. are moving forward in a positive and constructive way in states such as Ohio, Indiana, Illinois, and West Virginia. Indiana, for example, has created a very favorable state tax and incentive situation for the Duke IGCC project, which Duke argues will mean that the project can be built for the same cost as a traditional coal-fired plant. Illinois has enacted state incentives totaling more than $100 million. However, the project that is furthest along, Mesaba, is positioned to receive significant federal benefits if it remains on schedule.

Q Is there a way the Project can be a win for Minnesota ratepayers, NSP and XEI, and Excelsior?

A Yes, if the Commission approves the Mesaba 1 PPA and in so doing provides NSP with whatever assurances it can regarding cost recovery, the Project can move forward successfully. The Commission's approval of the contract will confirm up-front that the risk allocation provisions in the PPA are appropriate for this type of project. That approval, together with Commission assurances regarding cost recovery, will help to assure that the rating agencies and the broader financial community will look favorably on the Project, allowing it to move forward as a win-win-win for ratepayers, NSP, and Excelsior. In my view, the most important point is exactly this: the Commission is in the unique position to allow the Project to move forward for the benefit of NSP's customers and all of Minnesota, while continuing to provide NSP the opportunity to earn a fair return on its own investments.

NSP is not at significant risk if it signs the Mesaba 1 PPA and the Commission provides assurances regarding cost recovery. As described in further detail in the testimony of Mr. Thomas L. Osteraas, Excelsior, as the project sponsor, retains many of the risks that are currently borne by NSP on its current investments, and NSP avoids the risks that would be assumed by NSP and its ratepayers if it built a substitute project. The credit risk to NSP is inherently lower than if it built a similar scale plant in ratebase.

IV. CREDIT QUALITY IMPACTS

Q Have you reviewed Mr. Tyson's and Mr. Reed's testimony regarding the likely impacts of the Mesaba Energy Project on NSP's and XEI's credit quality and bond ratings?

A Yes. Both Mr. Tyson's and Mr. Reed's analyses are extreme and misleading. Mr. Tyson and Mr. Reed present a case regarding rating agencies' perceptions of risk that is unrealistically negative and unlikely to reflect the actions of the rating agencies. My

review and conclusions are consistent with those independently reached in the testimony of Ms. Meal on these issues.

Q Do rating agencies have preferences for portfolios with particular asset types, and if so, what are those preferences?

A The rating agencies will be neutral to specific technologies and believe that IGCC is an acceptable technology to be part of future generation portfolios. The two agencies with whom I have spoken have told me that if the Commission provides reasonable rate recovery to NSP, projects like the Mesaba Energy Project will be viewed as neutral from a technology risk perspective. Based on my recent and earlier meetings with the three agencies, the rating agencies—S&P, FitchRatings, and Moody's—are unanimous in their view that utilities should buy as well as build generation to allocate risks and protect the rating of the utility.

Q Does the Mesaba 1 PPA fit with rating agencies' resource portfolio preferences?

A Yes. As I stated earlier, the rating agencies are not concerned about the risks of IGCC technology if there is adequate cost recovery and if the PPA assures that project failure risk is largely held by the developer. After nearly 30 years of building small increments of generation, the U.S. is now turning back to large billion dollar plus scale projects. IGCC is, in fact, one of the least expensive and least risky of these new investments since siting is generally not a problem, costs are reasonably predictable, and there no large technology barriers. Compared to new nuclear and liquid natural gas ("LNG"), the rating agencies are much more comfortable with IGCC and consider it as risk acceptable.

Q Do rating agencies favor resource portfolios with a diversity of asset types and fuel mixes?

A While the rating agencies are not prepared to describe the "ideal resource portfolio," they are concerned about too much reliance on natural gas and believe that, as capital spending for new generation is growing, coal is a prudent part of a diverse portfolio and clean coal, such as IGCC, will be increasingly important as a means of assuring public acceptance of new coal-fired generation.

Q Does the Mesaba Energy Project increase the diversity of NSP's resource portfolio?

A Yes. The biggest risk in Minnesota is a growing reliance on natural gas which will be the result of putting off generating decisions too long and not taking decisive, strategic action to build IGCC. If NSP's resource portfolio projections are maintained, there will be much more future reliance on natural gas. That is not a prudent course of action. IGCC provides many diversity benefits, especially environmental advantages, that are becoming the major driver for generation decisions. IGCC is the only baseload option, other than nuclear, that would provide a more diversified, lower emitting resource portfolio.

Q Based on your experience in the industry, what kinds of technologies/projects are well-suited to the project finance model, as compared to the utility build model?

A The utility-build model will focus on more conservative, past-generation technologies with very low risks. The project finance model is much better suited to the introduction of IGCC and other new technologies where the development risk is largely on the developer's back, as is the case with the Mesaba Energy Project. The ratepayer is less exposed under the project finance model for project failure and more advantaged when the project works.

Q Does the Commission have any influence over how much financial risk (in the form of imputed debt) is likely to be assigned by the rating agencies to the Mesaba 1 PPA?

A Yes. If the Commission creates a cost recovery arrangement for NSP that assures cost recovery and explicitly communicates its commitment to the Mesaba Energy Project, the rating agency debt imputation will be modest. This conclusion is consistent with Ms. Meal's analysis. More important, if the Commission deals with imputed debt along with other NSP debt in a regular cost of capital proceeding, the allocation of debt and risk will be managed in a superior way that results in a comprehensive overview. One of the major lessons of the past, when many states got into big trouble over excessive utility capital spending, was that there was not sufficiently frequent review of the cost of capital. With the addition of large self-build and PPA portfolios, it is very important that the Commission not get caught in a project-by-project incremental review process.

Rating agency confidence in Minnesota and in the quality of the generation decisions being made will be enhanced if the Commission takes responsibility for cost of capital determinations and effectively blends and homogenizes the total debt situation so that a single project does not trigger bond rating changes and other extreme reactions. A "no surprise" strategy like this is very important for the Project as well as for NSP.

V. PPA AND RISK TRANSFER GENERALLY AND UNDER THE MESABA 1 PPA

Q Have you reviewed the terms of the Mesaba 1 PPA and the testimony of Ms. Hyde and Mr. Reed related to risk shifting accomplished through the PPA?

A Yes, I have reviewed these documents. Ms. Hyde's primary conclusion is that "the Mesaba 1 PPA transfers an unacceptable level of risk to Xcel Energy and [its] customers, and lacks the necessary operational controls to protect [its] customers from the possibility of substantial cost increases." Mr. Reed continuously characterizes the Mesaba 1 PPA as an instrument that is outside of industry norms that "shifts very

significant risks that are typically borne by the seller of power to Xcel Energy and its customers."

Q Do you have concerns with Ms. Hyde and Mr. Reed's conclusions?

A Yes. Adding coal baseload resources to a utility portfolio is a difficult process as NSP itself acknowledges. In its 2004 Resource Plan, NSP makes clear that "The unique issues facing developers of large-scale base load resources will require bids with unique structures that are highly unlikely to be selected from developers of intermediate projects. . . . As a result, we believe we must employ a different approach to acquire base load resources." NSP Original 2004 Resource Plan Filing, November 1, 2004 at 5-16. The Mesaba 1 PPA offers NSP an opportunity to acquire a needed coal-fired baseload resource outside of this difficult process while transferring many risks from NSP and its ratepayers to the Project's sponsors. NSP agrees with this premise stating that, "third parties are potential developers of [base load] projects. Id. at 5-17."

Ms. Hyde is correct that under the Mesaba 1 PPA, NSP bears some risk that costs might increase, but only for the short period between PPA approval and financial close. After this narrow window of time, the Mesaba 1 PPA transfers all capital construction, financing cost, operations and maintenance ("O&M") cost, schedule delay, and availability and plant performance risks[1] to Excelsior for a period of 29 years (4 years of construction and 25 years over the life of the PPA).

Q Is it unreasonable for NSP to bear the risk of price increases to the point of financial close?

A No. In fact, Merrimack Energy Group, Inc.'s recent *Report of the Independent Evaluator Regarding PacifiCorp's 2012 Request for Proposals for Base Load Resources*

[1] The Mesaba 1 PPA does not cause Excelsior to bear the risk of a heat rate guarantee.

concludes that, "given the long lead-times for coal projects, requiring bidders to 'lock-in' their capacity price at the time of bid submission and take the cost risk until execution of the EPC contract or later is both an expensive option for the bidder and represents a competitive disadvantage when comparing a third-party bid to a cost of service based self-build option." The independent evaluator, "suggested that bidders would be allowed to bid capital cost components which include some indexing options. Some of these component prices for the major risk factor costs would be subject to contractual adjustment clauses which could take a variety of forms. For the development stage, and possibly also for the construction stage, of the contract, certain components might track variable indices such as inflation, a steel index, or a fixed rate of escalation either until the bidder executes its EPC contract, attains financing, or achieves its commercial operation date." *See* "Pricing Adjustment Mechanisms for Coal-Based Resources, *Report of the Independent Evaluator Regarding PacifiCorp's 2012 Request for Proposals for Base Load Resources,* attached as Exhibit RWG-6.

This is precisely what Excelsior has done with its proposed Mesaba 1 PPA. Particularly with the introduction of a new technology such as IGCC, it is apparent that utilities are very reluctant to bear the risks for building initial units. The Mesaba 1 PPA eliminates many risks that ratepayers would see under a self-build option—transferring them to the Project's sponsors—while proposing a formulaic structure for a long-lead time, high-capital generation project in order to offer ratepayers the most well-conceived risk allocation and therefore the lowest cost of power on a risk-adjusted basis.

Q Based on your review, what conclusions do you draw regarding the Mesaba 1 PPA?

A The Mesaba 1 PPA provides for a thoughtful, well-conceived risk allocation methodology. Like all PPAs, the Mesaba 1 PPA's terms protect ratepayers from

significant development, construction and operating risks. It also offers ratepayers much better protections than those offered by NSP under its MERP program, and significantly less risk is shifted to ratepayers under the Mesaba 1 PPA than the risks assumed by ratepayers in the Comanche rate arrangements. As I stated before, the Mesaba 1 PPA addresses the challenges identified by Ms. Hyde in procuring coal-based capacity with terms that specifically resolve those challenges while carefully managing ratepayer exposure.

Q Does the Mesaba 1 PPA transfer risks to the project sponsor that are typically borne by the utility in a self-build project?

A Yes. Probably the most controversial experience in the last big self-build project era in the 1970s and 1980s was the requirement for customers to pay the capital costs for projects that were abandoned, cancelled, or did not work as expected. The ratebase self-build approach still includes that customer risk. On the other hand, a project like the Mesaba Energy Project keeps most of that risk on the Excelsior shareholder, not on the utility or ratepayers. It is a better model for new projects since it creates an incentive for the developer to succeed and does not expose the customer to major risks.

Q How does the structure of the Mesaba 1 PPA and the risks assigned to different parties compare to those under a self-build model for constructing new coal baseload power in Minnesota?

A Based on risk exposure and risk transfer concepts generally, on balance, the Mesaba Energy Project exposes NSP and its ratepayers to less risk than the utility self-build option. In the self build option, NSP and its ratepayers will be exposed to risks of completion delays, cost overruns, significant fuel price volatility if the substitute plant is natural-gas-fired, and other risks. As described in Ms. Meal's testimony, the risks of not

proceeding with the Mesaba 1 PPA and building a substitute facility are real concerns for the rating agencies and these risks cannot be ignored by the Commission. Further, from the perspective of the state of Minnesota generally, there are additional risks and costs should the substitute option result in construction of a plant out of state, exposing Minnesota's electricity customers to regulatory risks from another state or country.

Q Are there circumstances under which you would recommend a self-build IGCC project?

A Not at this time, although the advantages of IGCC are likely to result in some utility self-build projects in the future. Yet for reasons unclear to me, in spite of the inherent risk tradeoffs, NSP appears to be committed to a build-itself only approach, reminiscent of past utility practices from the 1960s to the 1980s. For ratepayers, this creates an enormous potential exposure that PPAs successfully reduce by passing significant risk to the project's sponsor that will not, under any circumstances, be passed on to ratepayers. It is very clear to me that NSP's ratepayers will be exposed to high risks, and very likely high costs, if NSP builds all of its own power plants. As detailed in the testimony of Ms. Meal, and confirmed to me in recent meetings, the rating agencies recognize this high level of risk exposure as well and expect utilities like NSP to sign PPAs for a significant share of their new generation needs. For a utility with strained financials like XEI, it is even more important to shift as much risk as possible to PPAs.

Because this Commission is one of the most respected regulatory commissions in the U.S., with a strong track-record of making excellent long-term decisions that have obviated the need for prudence reviews and unexpected later changes in ratebase rules, I strongly believe the Commission's approval of that the Mesaba 1 PPA will be accepted

by the rating agencies and the financial community as a good strategic commitment and will be viewed positively by the rating agencies.

Q Based on your review and experience, what conclusions do you draw regarding the benefits to ratepayers of the supply proposal contained in the Mesaba 1 PPA?

A As the Minnesota Legislature recognized in 2003 in enacting the IEP and CET Statutes, the Project as proposed will provide important benefits to Minnesota that far outweigh its costs and risks. The proposed PPA takes into account the very difficult challenges to meeting baseload supply needs in Minnesota in an environmentally superior way. These challenges include:

- The near-term obsolescence of conventional coal technologies, given their inflexibility to meet ever-tightening emission limits and limits on carbon dioxide that are likely in the first decades of operations of the facility.
- The difficulty of timely siting, licensing, and constructing coal baseload facilities given local opposition, rapid, real-time changes in environmental requirements, the myriad of state and federal agencies that must approve the facility, the presence of many Class-1 areas in the region, and the high demand for construction commodities and engineering and construction resources.
- The importance to Minnesota of meeting its demand from in-state sources over which it has policy control and from which it will enjoy very significant economic benefits.
- The limited role natural gas must play in meeting the demand for power, particularly in a market that is heavily dependent on natural gas for residential heating and industrial applications—given the already devastating effect high natural gas prices have had on energy-intensive sectors of the economy, and the

challenges of securing delivery onshore to LNG facilities, regasification and transportation to Minnesota of the very large increased volumes of natural gas that will be required if gas-fired generation is allowed to grow as projected, and minimizing the new geo-political dependencies on unstable countries that will supply increases in U.S. demand for natural gas.

- The challenges of implementing innovative technologies, such as IGCC, in a manner that appropriately shields ratepayers from the remaining integration and start-up challenges associated with the technology.

Q How does the Mesaba 1 PPA compare with more traditional PPAs?

A I believe it is important for the Commission to recognize that this PPA may be the first of a new generation of PPAs presented for the Commission's consideration. I note in Mr. Reed's testimony his repeated assertion that the Mesaba 1 PPA is "outside the industry norms." In a very narrow sense he is right, as it is probably the first of a new generation of PPAs that are for larger, longer-lead time baseload power plants. These PPAs will be different: they will have to deal with the risk of project failure, cost uncertainties, and other risks that as the industries have matured have become less important for a gas or wind turbine. Large baseload coal projects by their nature are simply different than "traditional" PPA projects. These projects are larger in scope and scale, will be much more expensive to build, take longer to construct and have longer startup times. And, in many cases, they will be for new technologies like IGCC. It is easy to see how this "sounds" riskier, but the fundamental technical and engineering risks are no different from a utility building the same plant—XEI will have to face these same risks—and devise a principled means to allocate these risks between ratepayers and shareholders—as it develops its planned IGCC project in Colorado. The PPA structure

allows for explicit transfer of risks away from the utility and its ratepayers to third parties. Based on the IEP and CET Statutes, and as a matter of public policy, Minnesota has determined a public interest need exists for IGCC baseload coal resources. The PPA structure results in the least possible risk exposure for the utility and its ratepayers over the life of the PPA, as illustrated below.

	Utility Ownership		Mesaba PPA Structure		
	Utility	**Ratepayer**	**IPP and Other 3rd Parties**	**Utility**	**Ratepayer**
Development	**X**	**X**	**X**		
Permitting	**X**	**X**	**X**		
Capital Costs (Pre Closing)		**X**			**X**
Construction Costs & Schedule	**X**	**X**	**X**		
Interest Rates (Pre Closing)		**X**			**X**
Financing Costs	**X**	**X**	**X**		
Operating Performance	**X**	**X**	**X**		
Operating Costs	**X**	**X**	**X**		
Fuel Costs		**X**			**X**

Mr. Reed has noted in his testimony for various other proceedings that PPAs are a very effective mechanism for reducing utility risk. In his testimony before the Michigan Public Utilities Commission, he correctly concluded that a carefully structured PPA can effectively shift, "to the maximum extent possible . . . operating risk, financial risk . . . industry risk . . . [and] potentially significant future capital expenditures," among others. *See* Direct Testimony of John J. Reed, August 18, 2006, at 11-12, *In the Matter of the*

Application of Consumers Energy Company for Approval of a Power Purchase Agreement and for Other Relief in Connection with the Sale of the Palisades Nuclear Power Plant and Other Assets, Case U-14992, attached as Exhibit RWG-7. What he does not get right is that large investments like IGCC are even more important to do through PPAs. Just because the Mesaba 1 PPA is different from so-called "industry norms" based on very different project types, it is not necessarily inappropriate or not in the public interest.

Q What are the some of the key risks that ratepayers bear under the Harvard Covenant approach and the MERP and Comanche arrangements that the Mesaba 1 PPA specifically protects ratepayers from by assigning the risk to the Project?

A There are four broad risk categories that are borne by the Project that would be borne by ratepayers under the other approaches. First, as confirmed in the testimony of Mr. Osteraas, all development risk is borne by the Project, meaning that if the Project is not built, the ratepayers do not have to pay the significant up-front development costs that must be written off. Second, the risk of a construction cost over-run is borne by the Project, because once the final EPC cost is fixed prior to start of construction, the tariff under the Mesaba 1 PPA is fixed and the risk of subsequent changes in market conditions are borne by the Project. Third, the key operating risk, that the plant does not produce electricity, is mitigated for the ratepayers because payments are only made under the Mesaba 1 PPA for the capacity actually available. Fourth, the cost of capital, including return on equity and interest rates, key cost components of any infrastructure proposal, will be fixed at start of construction, rather than floating over the life of the plant as would be the case in a rate-based plant.

Q Are these risk shifts achieved by means of the Mesaba 1 PPA beneficial to ratepayers?

A Yes. Even Mr. Reed agrees that PPAs can "provide significant value to [a utility] and its customers." In Docket No. E001/PA-05-1272 before the Commission, for approval of the sale of Interstate Power and Light Company's interests in the Duane Arnold Energy Center, Mr. Reed stated that significant value came from, among others, "key PPA terms includ[ing] [f]ixed capacity and energy pricing." Additionally, the PPA in question in that docket included terms, "where customers pay only for power that is delivered. This provides . . . customers with a high-degree of certainty and very low exposure to operating risk." *See* Direct Testimony of John J. Reed at 30, attached as Exhibit RWG-8. Similar terms in the Mesaba 1 PPA likewise offer the significant value of shifting risks away from NSP and its ratepayers.

Q What other beneficial risk shifts are achieved by using the PPA structure in this instance?

A Another notable risk shift achieved by using the PPA structure is that more operating risks that ratepayers are exposed to under the self-build model are moved to the Project owner. Under the Mesaba 1 PPA, ratepayers do not bear exposure to operating risks because the cost to maintain and repair the facility is borne by the Project owners. Mr. Reed highlights this same benefit of using the PPA structure in both cases I have previously cited, making the point that, "reduced exposure to operating risk" is a "significant benefit" because "ratepayers will pay only for the power they receive at the prices fixed in the PPA. If the plant does not run for some reason, ratepayers will be responsible for the cost of replacement power only and not replacement power plus the

cost to maintain and repair the facility, as is . . . the case [under the utility-owned model]." *See* Exhibit RWG-7, *supra*, at 31-32

Q Are there other reasons for utilizing the PPA model to pursue IGCC technology?

A Yes. We are having a hard time in the U.S. commercializing new technologies like IGCC. As a result, it is much better public policy for these initial units to be built under a PPA structure that transfers some risks from the utility and its ratepayers to third parties. Utilities are very conservative and will remain reluctant to be first movers, a role that more entrepreneurial players are situated to take on.

Q Why are changes to the Xcel Energy Dispatchable Gas PPA required in the context of an IGCC plant?

A IGCC has many positive attributes when compared to a combined cycle gas-fired resource, and these attributes that can be captured only through changes to the Xcel Energy Dispatchable Gas PPA. In addition, IGCC is a baseload technology, rather than an intermediate, dispatchable technology, and has many operating characteristics that are different from gas facilities so as to require practical changes to the contract terms. In the future many power plants built in the U.S. will be larger, baseload size and today's PPAs that are designed for smaller gas turbines will necessarily change.

Q Has Excelsior described all material changes to the Xcel Energy Dispatchable Gas PPA in earlier testimony, with an analysis of the reasons for each of those changes?

A Yes, on December 27, 2005, Excelsior submitted a lengthy filing describing all substantive differences between the Xcel Energy Dispatchable Gas PPA and its proposed PPA. In addition, the rebuttal testimony of Mr. Osteraas provides a detailed basis for all terms in the PPA that are criticized by NSP. This testimony provides the Commission with a strong record on these issues.

VI. CONCLUSIONS

Q What are the overall conclusions you reach in this testimony?

A My overall conclusions are:

1. The project can be a win-win-win for the ratepayer, NSP and XEI, and Excelsior if the Commission adopts an adequate rate recovery mechanism. The Mesaba Energy Project creates limited and manageable risks that a rate recovery mechanism will successfully mitigate, especially since most of the development and construction risks are squarely on the shoulders of Excelsior.
2. NSP's claims relating to imputed debt are overstated and unnecessarily extreme. The debt that the rating agencies could impute is a subsidiary factor relative to the overall credit worthiness of NSP and XEI. Cost of capital proceedings in rate future cases will allow NSP to account for any impact, positive or negative, of the Mesaba 1 PPA on NSP's credit profile.
3. PPAs inherently lessen risk to the utility and its ratepayers. Imputed debt assigned to PPAs does not reflect the rating agencies discomfort with PPAs; it is intended to assure that financial risks borne by the utility, if any, are reflected on the utility's balance sheet. NSP's intention to self-build exposes the ratepayer to more risk and negative rating agency actions than a portfolio that includes PPAs. NSP's extremely heavy capital spending plan is certainly to be of more concern to the rating agencies than the Mesaba Energy Project, and the Project helps to reduce NSP's capital spending requirements.
4. New projects like IGCC are best built under a PPA model to protect customers from having to pay for the cost of a project that does not go forward and to absorb cost overruns during construction and performance problems during operations. If

the Mesaba Energy Project does not succeed, any cost overruns and most of the costs from performance problems are borne by Excelsior.

5. The Mesaba 1 PPA reflects the scale and nature of the new PPAs that will be needed for larger projects using new technologies but is not inherently more risky than the self-build alternative. The Commission needs to distinguish between "different" and "more risky."

Q Does this conclude your prepared rebuttal testimony?

A Yes.