BEFORE THE MINNESOTA OFFICE OF ADMINISTRATIVE HEARINGS
600 North Robert Street
St. Paul, Minnesota 55101

FOR THE MINNESOTA PUBLIC UTILITIES COMMISSION
121 Seventh Place East, Suite 350
St. Paul, Minnesota 55101-2147

In the Matter of the Petition of Northern States Power Company d/b/a Xcel Energy for Approval of Competitive Resource Acquisition Proposal and Certificate of Need	**MPUC Docket No. E-002/CN-12-1240** **OAH Docket No. 8-2500-0760**

REBUTTAL TESTIMONY
OF
DANIEL EWAN

Filed on Behalf of
Invenergy Thermal Development LLC

October 18, 2013

Rebuttal Testimony of Daniel Ewan

MPUC Docket No. E-002/CN-12-1240
OAH Docket No. 8-2500-0760

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I. INTRODUCTION

Q. PLEASE STATE YOUR NAME, EMPLOYER, BUSINESS ADDRESS, AND CURRENT POSITION.

A. My name is Daniel Ewan and I am Vice President, Development with Invenergy LLC (together with Invenergy Thermal Development LLC referred to as "Invenergy" or "Company"), One South Wacker Drive, Suite 1900, Chicago, IL 60606.

Q. DID YOU PREVIOUSLY FILE DIRECT TESTIMONY IN THIS PROCEEDING?

A. Yes. I filed Direct Testimony on September 27, 2013.

Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

A. My Rebuttal Testimony will respond to the Direct Testimony filed by witnesses for Xcel, the Department of Commerce ("Department") and Calpine. My testimony will address certain cost, reliability, environmental and socio-economic issues. Specifically, my testimony will discuss: (a) three key concepts applicable to all sound resource selection analysis; (b) why Invenergy's proposals provide the best resource solution for the resource need identified by the Minnesota Public Utilities Commission ("Commission") in this proceeding; (c) certain arguments set forth raised by other witnesses that require correction or clarification; and (d) a summary of Invenergy's recommendation in this proceeding.

Q. IS INVENERGY SPONSORING ANY OTHER REBUTTAL TESTIMONY?

A. Yes. Ron Norman from PA Consulting will also address the overall framework for the Commission's decision-making in this proceeding and will specifically address the testimony of Xcel and the Department concerning their Strategist modeling results and the testimony of Calpine concerning their financial analysis.

II. OVERVIEW

Q. YOU INDICATED YOU WOULD BE PROVIDING TESTIMONY ON THE ISSUES OF COST, RELIABILITY AND ENVIRONMENTAL AND SOCIO-ECONOMIC ISSUES. CAN YOU ELABORATE?

A. A sound resource analysis cannot stand on a detailed analysis of just one aspect of a proposed project or projects. Rather the selection process must include an analysis of three key pillars that will provide a balanced review of a project in its entirety and will result in a solid foundation on which a decision can be made -- cost, reliability and environmental and socio-economic issues.

Q. IN THIS PROCEEDING, IS THERE ALSO AN OVERALL CONTEXT IN WHICH THE COMMISSION SHOULD CONSIDER THESE "THREE PILLARS"?

A. Yes. An overriding factor in the analysis before the Commission is the question of need, which will necessarily consider these three pillars of sound analysis. The PUC recognized this at page 5 of its Notice and Order for Hearing in this matter where it stated that "the ultimate issue in this case is the identification of resource proposal or proposals that will provide the most reasonable and prudent strategy for Xcel to meet the needs of its

service area. That issue depends, in turn, on numerous sub-issues that can be best developed in formal evidentiary proceedings."

III. INVENERGY PROVIDES THE APPROPRIATE RESOURCES TO MEET THE NEED FOUND BY THE COMMISSION.

A. Cost

Q. HOW HAVE OTHER WITNESSES ADDRESSED THE QUESTION OF THE COST OF THE COMPETING RESOURCES IN THIS PROCEEDING?

A. The Department and Xcel have attempted to complete an economic analysis of the competing resources using the Strategist forecasting model and Calpine performed a Levelized Cost of Electricity ("LCOE") analysis. However, these analyses all have shortcomings, as discussed by Mr. Norman, and at least in their current form as presented in Direct Testimony, should not be relied upon exclusively to select a single resource or set of resources in this proceeding.

Q. ARE YOU AWARE THAT XCEL WITNESS MR. WISHART TESTIFIED THAT THE LEAST COST PORTFOLIO PRESENTED IN HIS STRATEGIST ANALYSIS INCLUDED A COMBINATION OF BLACK DOG 6 AND INVENERGY'S CANNON FALLS PROJECT?

A. Yes.

Q. ARE THERE ADDITIONAL FACTORS, NOT REFLECTED IN MR. WISHART'S ANALYSIS, THAT WOULD LOWER THE STRATEGIST DERIVED PVSC RELATED

TO CANNON FALLS, MAKING THE CANNON FALLS EXPANSION APPEAR EVEN MORE FAVORABLE?

A. Yes. Mr. Wishart's analysis assumes an In-service date for Cannon Falls of June 2016. In our original proposal, we had indicated that we should be capable of an In-service date as early as January 1, 2016. Our intention here was to demonstrate that we are capable of a rather aggressive development schedule, but not to assume that is the only in service date that we would be willing to agree to. Xcel asked via Information Request No. 29, how the capacity price might be affected for various In-service dates. In our response to IR No. 29, we indicated that we could agree to an In-service date of June 1, 2017 with no change in the price to our original proposal and we provided revised pricing for June 1, 2018 and June 1, 2019 In-service dates. Mr. Wishart's analysis was not re-run with these revised in service dates and despite asking the question, he did not present any sensitivity analysis with respect to In-service dates with respect to Invenergy's proposals. By adjusting the start date for the Cannon Falls expansion, the Cannon Falls expansion is more favorable than presented in the current analysis.

Mr. Wishart's analysis also made certain assumptions that distort the variable operation and maintenance expense associated with Invenergy's Cannon Falls Expansion proposal. Mr. Wishart has assumed a run time rate per start that is approximately half of that experienced by Invenergy over the last five years of operation at Cannon Falls. By assuming the run time per start at half of that typically seen, the analysis over estimates variable operating expense of the facility. By revising the run time per start to equal something reflective of actual performance, the PVSC of Cannon Falls would be lower.

Mr. Wishart's assumptions and methodology incorrectly reward high forced outage rates. Mr. Wishart's analysis reduces the project capacity by the forced outage rate that each party specified in their Strategist inputs. By reducing the capacity, they have reduced the anticipated capacity payments and subsequently the project costs. A project that has a specified a higher forced outage rate hence appears to have lower project costs. Invenergy did not know that this methodology would be used and specified a forced outage rate that was lower than all of the other bidders and a more accurate reflection of the actual performance of the Cannon Falls performance over the last five years. If all of the natural gas projects were evaluated on the basis of the same forced outage rate, the Invenergy proposal would be the clear choice.

Finally, regarding emissions, the potential to emit that Invenergy has used throughout this process has been based on the permit levels associated with the existing Cannon Falls air permit. However, actual emissions at Cannon Falls have been significantly lower than permitted. We anticipate that the Cannon Falls Expansion and the Hampton Energy Center projects would be permitted on a more restrictive basis than the existing Cannon Falls project and the potential to emit would be much lower. Thus, the emissions costs included in Mr. Wishart's analysis (and in Department witness Dr. Rakow's analysis) for these two projects likely overstates the actual costs associated with emissions.

Q. DO THESE SAME ISSUES APPLY TO INVENERGY'S HAMPTON ENERGY CENTER PROPOSAL?

A. Yes. These same issues have a similar effect on the Hampton Energy Center proposal and quite likely have an even more dramatic effect.

Q. CAN YOU SUMMARIZE INVENERGY'S POSITION ON WHICH RESOURCES PRESENT "LEAST COST" OPTIONS THAT SHOULD MOVE FORWARD IN THIS PROCEEDING?

A. Yes. First, the Commission should not rely exclusively on the Strategist or "LCOE" analyses submitted to date in order to select a single resource or single set of resources. However, based on the record to date, and considering overall cost to Xcel ratepayers, Invenergy believes that three proposals should move forward – Xcel's Black Dog Plant, Invenergy's Cannon Falls Expansion and Invenergy's Hampton Energy Center. These three projects feature nearly identical technology that is ideally suited to meet the need being addressed by this Docket. Black Dog and Cannon Falls both have the economic advantage of shared facilities of an existing site.

The Hampton Energy Center is ideally sited adjacent to both the substation and the natural gas line and thus will not be burdened by high interconnection costs. The Hampton Energy Center should be re-evaluated based on staged in service dates, utilizing the information Invenergy has already provided to Xcel in response to its Information Request. We recommend an evaluation with the first unit on line on June 1, 2017 and the second unit on line on June 1, 2019. We believe that an evaluation of this project will show an economically superior combination.

Invenergy believes that a combination of two of these three projects will most ideally fill the needs identified in this Docket and Invenergy is open to further exploration of In-service dates to identify the lowest cost alternative that meets Xcel's needs.

B. Reliability

Q. IS IT INVENERGY'S POSITION THAT COMBUSTION TURBINES BEST ADDRESS RELIABILITY NEEDS FOR THE XCEL SYSTEM AT THIS TIME?

A. Yes. Combustion turbines are ideally suited to respond to rapidly changing grid conditions through their fast start, rapid ramp and reliable starting capabilities. Xcel has added and is continuing to add more and more renewables to their system. The effect of these intermittent resources is that there will be greater needs for peakers to respond to this need.

Q. IT WAS CLAIMED BY MR. TODD THORNTON, ON BEHALF OF CALPINE, THAT NATURAL GAS COMBINED CYCLE PLANTS ARE "IDEALLY SUITED TO COMPLEMENT THE STATE'S STRONG INTEREST IN PROMOTING INTERMITTENT WIND AND OTHER RENEWABLE RESOURCES." (THORNTON DIRECT, P. 2). DO YOU AGREE WITH MR. THORNTON'S STATEMENT?

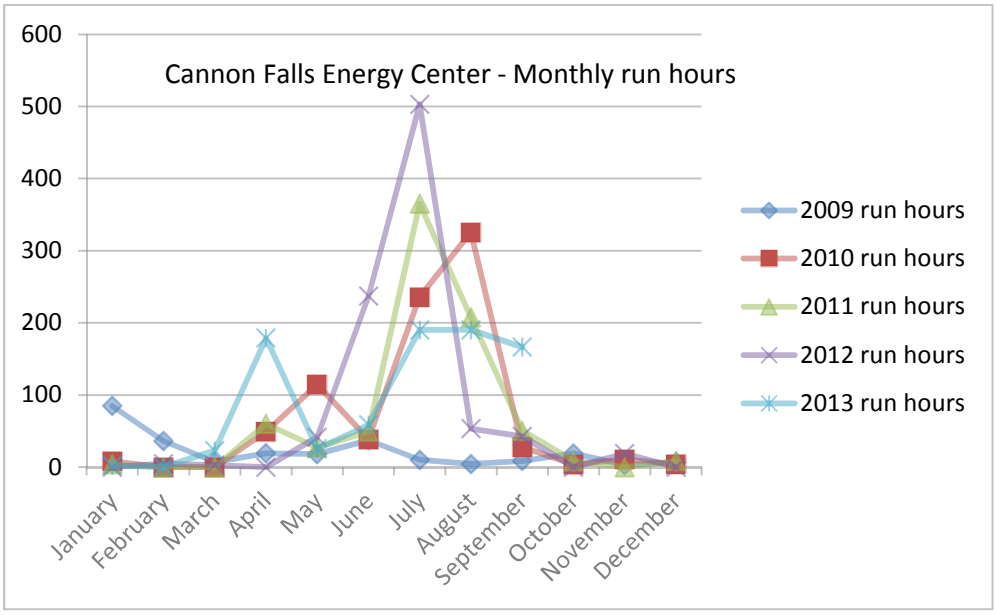
A. No. Gas peaking plants are much better suited to complement intermittent wind and other renewable resources than combined cycle plants. A combined cycle plant is primarily suited to respond to rapidly changing grid conditions if the facility is already online. As I discussed in my testimony, the low capacity factor of Calpine's existing Mankato facility indicates that it is not frequently online. Furthermore, industry performance indicates that the availability of combined cycle facilities is generally lower than simple cycle facilities.

Q. MR. THORNTON ALSO TESTIFIED THAT "COMBINED CYCLE UNITS PROVIDE THE SAME CAPACITY BENEFITS AS PEAKING UNITS." (THORNTON DIRECT, P. 12). DO YOU AGREE WITH MR. THORNTON'S STATEMENT?

A. A combined cycle unit may provide the same capacity benefit as a peaking unit, but will do so at a higher capital cost.

Q. ONE CRITICISM OFFERED BY CALPINE AND XCEL OF INVENERGY'S CANNON FALLS PROPOSAL IS THAT INVENERGY'S INTERRUPTIBLE GAS SERVICE IS UNACCEPTABLE, AS IT PUTS RATEPAYERS AT RISK THAT THE UNIT MAY NOT BE AVAILABLE WHEN NEEDED. HOW DO YOU RESPOND?

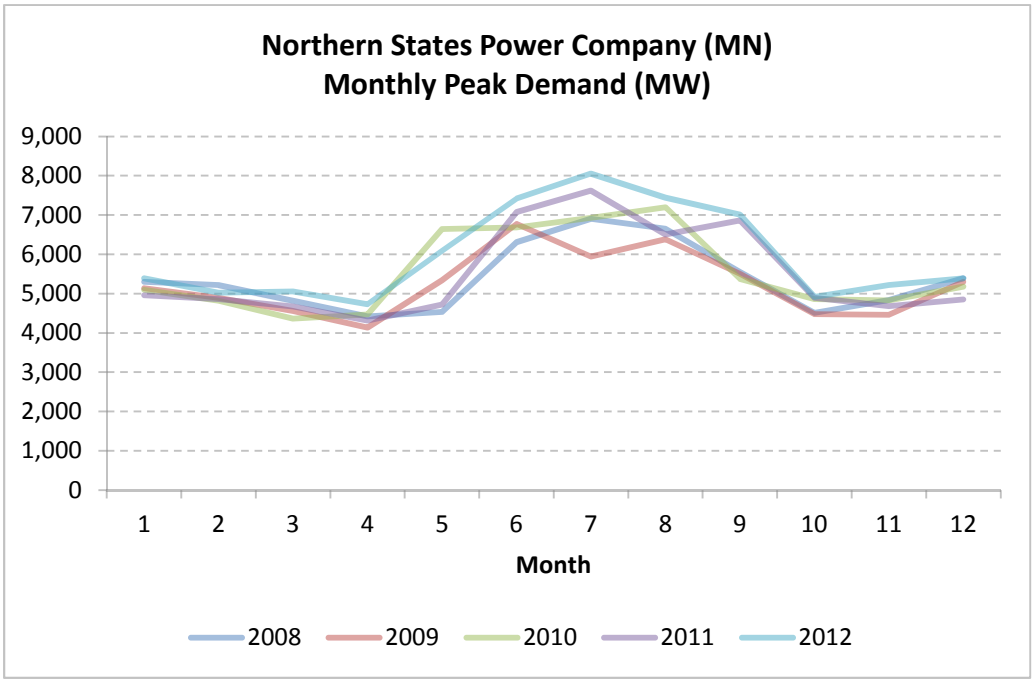
A. It actually makes a lot of sense to operate a peaking facility such as Cannon Falls on interruptible gas service. The electrical system in Xcel's service territory is a summer peaking system which is opposite of the gas distribution system which tends to be a winter peaking system. The majority of the operating hours for a peaking facility are during the summer when gas is readily available. The peaking facility rarely operates during the winter months. In fact, during the last four winters (Dec–Feb), the facility has run a total of 40 hours combined. The following graph is a representation of the actual number of run hours at the existing Cannon Falls facility over the last 4 years of operation. As you can see, the majority of runtime is in the summer months.



In the unlikely event that gas is not available; both the Cannon Falls expansion and the Hampton Energy Center will be capable of operating on a back-up fuel oil system. If a firm gas option is chosen, there would be a significant, unnecessary demand charge that would ultimately be passed on to ratepayers. This is an avoidable expense. We view the operation of the facility on interruptible gas as a benefit to ratepayers with minimal risk that the unit may not be available when needed.

Q. DOES RECENT HISTORY SHOW THIS "SUMMER PEAKING" NATURE OF XCEL'S SYSTEM?

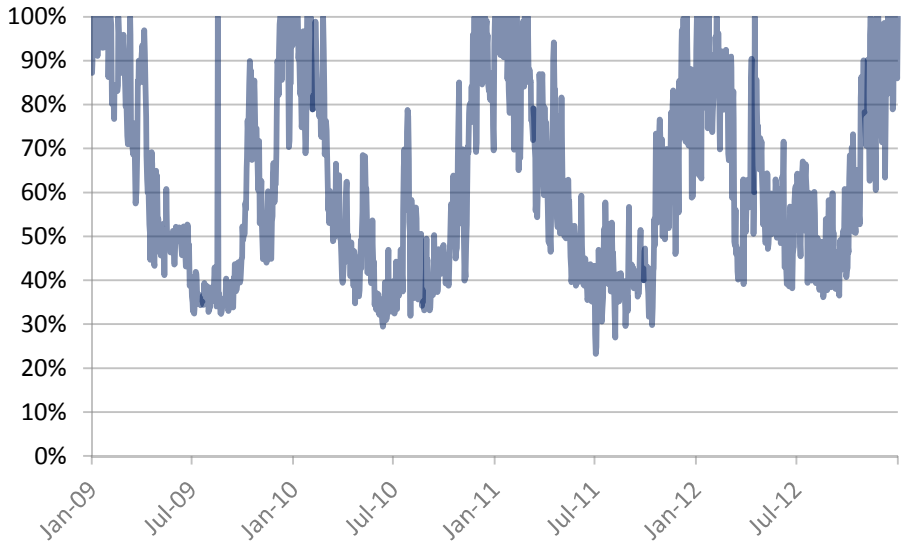
A. Yes. Below is a graph showing Xcel's monthly peak demand by month, for the years 2008 – 20012 which demonstrates this summer peak.



Q. IS IT ALSO REASONABLE TO ASSUME THAT GAS SUPPLY ON THE NORTHERN NATURAL GAS SYSTEM WILL NOT BE A CONCERN IN THE SUMMER MONTHS?

A. Yes. Below is a graph showing Northern Natural Gas' Farmington Compressor Utilization Percentage for the period 2009-Present. As the graph demonstrates, Northern Natural Gas' system is significantly less stressed in the summer months, as compared to the winter months.

Northern Natural Gas
Farmington Compressor Utilization (%)
2009-Present



Q. CAN YOU SUMMARIZE YOUR POSITION REGARDING HOW RELIABILITY NEEDS WILL BE BEST ADDRESSED IN THIS RESOURCE ACQUISITION PROCEEDING?

A. Reliability needs must be met by the deployment of reliable resources that are specifically designed to meet the rapidly changing grid conditions that are expected with the increased integration of renewable resources. Invenergy has proposed to utilize General Electric 7FA combustion turbines that have a proven track record of high reliability and are capable of starting quickly and ramping rapidly. Invenergy's technology selection and plant design will best meet the reliability needs of the Xcel system.

C. Environmental and Socio-economic Issues

Q. CALPINE HAS SUGGESTED THAT "GIVEN THE STATE'S EMPHASIS ON DEVELOPING CLEAN RENEWABLE ENERGY, ANY AND ALL NEW FOSSIL

FUEL-FIRED RESOURCES SHOULD BE BASED ON THE CLEANEST TECHNOLOGY THAT IS COMMERCIALLY AVAILABLE, WHICH IS COMBINED-CYCLE GENERATION." (THORNTON DIRECT, P. 12). DO YOU AGREE WITH CALPINE'S POSITION?

A. Not exactly. The technology selected and required emission controls must be determined in accordance with the federal and state air permitting rules that have been established under the Clean Air Act. The rules for review of a new or revised emission source include an analysis of the Best Available Control Technology (BACT). A BACT analysis is a top down analysis of available control technologies that includes a review of all potential control options including an analysis of cost effectiveness. This analysis will determine the appropriate control technology.

Q. CALPINE ALSO ARGUES THAT A NEW COMBINED CYCLE FACILITY WILL BALANCE XCEL'S RENEWABLE ENERGY RESOURCES WITH LESS ENVIRONMENTAL IMPACT THAN A COMBUSTION TURBINE. DO YOU AGREE?

A. Not necessarily. The need that has been identified in this Docket is primarily that of a peaking need. The combined cycle facility proposed by Calpine has a longer start-up duration than the combustion turbines proposed by Invenergy and Xcel. During that startup period, the combustion controls on Calpine's facility are not yet effective and emissions are higher than "steady state" emissions from such a facility. Coupled with the relatively low number of operating hours that the facility would be expected to run throughout the year, it is not possible for Calpine to state with any degree of certainty that its new

combined cycle facility will have less of an environmental impact than a combustion turbine.

Q. CAN YOU SUMMARIZE YOUR VIEW ON THE POSITIVE ENVIRONMENTAL AND SOCIO-ECONOMIC ATTRIBUTES OF INVENERGY'S PROPOSALS?

A. Invenergy's proposals provide a clean burning affordable source of peaking power to meet the very infrequent high demand power needs on Xcel's system. The projects will provide over 100 construction jobs in the state of Minnesota and ongoing operations will create additional revenue for the local community, county and school district with no increased burden for public services.

IV. ADDITIONAL REPLY TO DIRECT TESTIMONY OF OTHER PARTIES

A. Department of Commerce

Q. HAVE YOU REVIEWED THE TESTIMONY OF DEPARTMENT WITNESS SACHIN SHAH RELATED TO XCEL'S SPRING 2013 FORECAST PREDICTING A LOWER ENERGY NEED THAN THE FALL 2011 FORECAST, AS A WELL AS A LOWER PEAK LOAD THAN THE FALL 2011 FORECAST, NET OF CONSERVATION?

A. Yes. As Mr. Shah has indicated, the 2011 Forecast led to the Commissions finding that a need exists for an additional 150 MW in 2017, increasing up to 500 MW by 2019. Mr. Shah notes that Xcel's Spring 2013 Forecast when compared to the Fall 2011 Forecast predicts that customers will use less overall energy over the next twenty years while making higher demands on Xcel's peak. As I have stated earlier in my testimony,

Invenergy is of the opinion that simple cycle turbines are ideally suited to respond to increasing peak demand, not combined cycle.

B. Xcel

Q. HAVE YOU REVIEWED THE TESTIMONY OF XCEL WITNESS JAMES ALDERS?

A. Yes and I will respond to his testimony regarding proposed return on equity ("ROE") adjustments for Xcel's "self-build" option and his recommendation on the appropriate next step for the Commission to take in this proceeding.

Q. TURNING FIRST TO MR. ALDERS' PROPOSED ROE ADJUSTMENT MECHANISM, WOULD THIS MECHANISM HOLD XCEL RATEPAYERS HARMLESS IN THE EVENT OF COST OVERRUNS?

A. No. Xcel's proposal suggests that Xcel would be allowed a reduced ROE in the event of a cost overrun. The mechanism proposed still allows Xcel recovery of its capital investment regardless of the degree of cost overrun. The "mechanism" proposed by Xcel would at best only slightly soften the blow to ratepayers in the event of overruns by offering a modest adjustment to Xcel's allowed return on equity related to its proposed facilities. This mechanism leaves ratepayers with essentially unlimited exposure to the risk of cost overruns.

Q. NOW TURNING TO MR. ALDERS RECOMMENDED NEXT STEP, HE RECOMMENDS THAT THE COMMISSION DIRECT XCEL TO NEGOTIATE FINAL

PPAS WITH BOTH INVENERGY (FOR THE CANNON FALLS EXPANSION) AND WITH CALPINE. HOW DO YOU RESPOND?

A. A full review of the record shows that Invenergy's proposals provide a superior fit to the need that must be filled. In contrast, Calpine proposes combined cycle resources to a system that currently has significant unused combined cycle resources already in place. However, to the extent that the Commission has any uncertainty that Invenergy offers the superior resources, we do not find Mr. Alder's recommendation unreasonable and would not object, provided the Hampton Energy Center also moves to this next stage.

Q. HAVE YOU ALSO REVIEWED THE TESTIMONY OF XCEL WITNESS STEVE WISHART?

A. Yes.

Q. ON PAGES 49-51 OF HIS TESTIMONY, MR. WISHART STATED THAT ISSUES RELATED TO: (1) THE COST OF ESTABLISHING A FIRM NATURAL GAS SUPPLY TO CANNON FALLS; (2) WHETHER 2016 OR 2017 IS THE PROPOSED IN SERVICE DATE; (3) A PROPOSED ELECTRICAL INTERCONNECTION COST ADJUSTMENT; AND, (4) CAPITAL LEASE TREATMENT UNDER ACCOUNTING RULES MUST BE RESOLVED DURING ANY PPA NEGOTIATIONS WITH INVENERGY. DO YOU ENVISION ANY PROBLEMS ARISING WITH THESE ISSUES DURING PPA NEGOTIATIONS?

A. No. Let me address his four concerns.

1. As I discussed earlier in my testimony, we believe that the procurement of firm natural gas for the Cannon Falls expansion is not the best investment for Xcel ratepayers. The Invenergy projects are designed to fill a peaking need and history indicates that the vast majority of operating hours are during the summer months at times when natural gas is readily available on an interruptible basis. In the unlikely event that natural gas is not available the units can be operated on fuel oil. In the event that the commission or Xcel insisted on having a firm supply of natural gas, we believe that a reduced rate could be negotiated from Northern Natural and through much of the year, the firm gas could be released to the gas market on a re-callable basis substantially reducing the incremental cost of firm gas that all of the current analyses have assumed.
2. Invenergy has indicated in their response to IR 029 that its pricing would be the same for a commercial operation date of either June 1 2016, or June 1, 2017.
3. Invenergy believes that the electrical interconnection could be completed at a very affordable price provided Xcel collaborates in the best interest of both parties.
4. Invenergy has reviewed the capital lease treatment concerns, also expressed by Xcel witness Mr. Savage. I believe Xcel's concerns are misplaced. First, capital lease concerns have never been an issue for Invenergy with our power purchase agreements. Nonetheless, I reviewed these concerns again with our accounting department and we believe that the existing PPAs are not subject to capital lease treatment, nor do we believe a PPA for the Cannon Falls Expansion or Hampton Energy Center proposals would receive such treatment. Moreover, Invenergy is

prepared to negotiate the structure of the PPAs growing out of this proceeding in a manner that address any legitimate concerns Xcel may have.

Q. MR. WISHART ALSO DISCUSSED HOW XCEL ADDED A REPLACEMENT COST ASSUMPTION IN ITS STRATEGIST MODELING DURING ITS LONG TERM SIMULATION. (WISHART DIRECT, P. 29). DO YOU BELIEVE THAT ADDING THIS REPLACEMENT COST ASSUMPTION WAS APPROPRIATE?

A. No. By inserting a replacement cost assumption at the end of the 20 year PPA Term for the non Xcel projects, Xcel creates a bias toward their own projects where they assume a longer life. Invenergy would propose to add an additional PPA term that would give Xcel the option to extend the PPA in five year increments at a reduced Capacity price for up to three additional five year terms. If Xcel were to model this, we believe that the Invenergy projects will show significantly improved economics.

C. Calpine

Q. MR. THORNTON TESTIFIED ON BEHALF OF CALPINE THAT COMBINED CYCLE UNITS HAVE THE ABILITY TO PROVIDE "LOWER COST ENERGY FOR CONSUMERS AS WELL AS SUPERIOR ENVIRONMENTAL PERFORMANCE" COMPARED TO COMBUSTION TURBINES. (THORNTON DIRECT, P. 12). HOW DO YOU RESPOND?

A. Many of Calpine's assertions are based only on the "efficiency" of a combined cycle project versus a simple cycle project. The energy cost may be lower, but it will come at a higher price for the capacity. If the Calpine Mankato expansion is selected, Xcel's fleet

of combined cycle units that are already underutilized will be even further underutilized as a whole. The need identified is primarily for peaking hours and thus the low capital cost of a peaker is the best fit for the need.

Q. MR. THORNTON ALSO CRITICIZES INVENERGY'S COMBUSTION TURBINE PROJECTS FOR NOT HAVING "BACK-END ENVIRONMENTAL CONTROL TECHNOLOGY. HOW DO YOU RESPOND?

A. The back-end environmental control technology that Mr. Thornton refers to include a selective catalytic reduction and CO catalyst system to reduce emissions of NOx and CO. These systems are expensive to install and operate. The project will undergo a Best Available Control Technology review as part of the air permitting process. This process includes an economic review of the control technology and will demonstrate that the addition of the referenced technology is not cost effective for units that run at a very low capacity factor such as the peakers proposed by both Invenergy and Xcel.

Q. MR. PAUL HIBBARD TESTIFIES FOR CALPINE ON PAGES 3-4 OF HIS DIRECT TESTIMONY THAT THE POTENTIAL RETIREMENT OF LONG-STANDING BASELOAD RESOURCES "MAY REQUIRE" SUBSTITUTION WITH CAPACITY WITH BASELOAD AND/OR INTERMEDIATE CHARACTERISTICS. (HIBBARD DIRECT, PP. 3-4). DO YOU AGREE WITH MR. HIBBARD'S STATEMENT?

A. Mr. Hibbard's statement is mere speculation at this time and is not relevant. Mr. Norman will address this in more detail in his testimony, but the need identified in this docket is not for baseload, it is for peaking and intermediate.

Q. MR. HIBBARD ALSO TESTIFIED THAT BECAUSE ROUGHLY A THIRD OF XCEL ENERGY'S RESOURCE PORTFOLIO IS COAL-FIRED BASELOAD RESOURCES, AND WITH THE MOVE TOWARDS MEANINGFUL CONTROLS OF EMISSIONS OF CARBON DIOXIDE FROM EXISTING POWER PLANTS, "THE SELECTION OF CC TECHNOLOGY RATHER THAN OR AT LEAST IN ADDITION TO CT TECHNOLOGY PROVIDES A HEDGE AGAINST THE RISK THAT INCREASINGLY STRINGENT CONTROL REQUIREMENTS LEAD TO GREATER THAN EXPECTED RETIREMENTS OF BASELOAD COAL-FIRED CAPACITY SINCE CC CAPACITY CAN OPERATE IN BASELOAD AND INTERMEDIATE ROLES." DO YOU HAVE ANY OBSERVATIONS ON THE ABILITY OF CC CAPACITY TO OPERATE IN THIS ROLE?

A. Mr. Norman address this argument in greater detail, but even if pressure to replace coal fired baseload resources with combined cycle generation does in fact occur in the next twenty years, additional combined cycle capacity on the Xcel system simply is not needed at this time. As I pointed out in my direct testimony and as Mr. Norman further discusses, Xcel's current fleet of combined cycle resources are significantly underutilized and in the event that coal fired baseload resources are to be replaced, an increase in utilization of the current CC resources would satisfy that need and benefit ratepayers.

V. CONCLUSION

Q. CAN YOU SUMMARIZE INVENERGY'S POSITION IN THIS PROCEEDING?

A Yes. Based on the record to date, and considering overall cost to Xcel ratepayers, Invenergy believes that three proposals should move forward – Xcel's Black Dog Plant, Invenergy's Cannon Falls Expansion and Invenergy's Hampton Energy Center. These three projects feature nearly identical technology that is ideally suited to meet the need being addressed by this Docket. Invenergy further recommends that the Hampton Energy Center should be re-evaluated based on staged in-service dates, utilizing the information Invenergy has already provided to Xcel. We recommend an evaluation with the first unit on line on June 1, 2017 and the second unit on line on June 1, 2019. We believe that an evaluation of this project will show an economically superior combination.

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes.

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