

**Capx 2020 Hampton - Rochester - LaCrosse 345k V Transmission Project
PSC Docket 05-CE-136**

NoCapX 2020 “01 Series” Data Requests to Northern States Power/Xcel Energy

DR No.	Reference	Data Request
01-1		Please provide NoCapx2020 with a copy of all Data Request responses to all other parties in this proceeding.
01-02	CapX 2020 Technical Report	Please provide a copy of “CapX 2020 Technical Update: Identifying Minnesota’s Electric Transmission Infrastructure Needs (October 2005).”
01-03	SE MN – SW WI	Please provide a copy of “Southeastern Minnesota-Southwestern Wisconsin Reliability Enhancement Study (March 13, 2006)
01-04	PSC 02-1	PSC Staff Data Request 02-1 refers to an early version of Appendix E containing "462 pages." Please provide copy of the 462 page version of Appendix E.
01-05	Application Appendix E	In addition to the PSC Data Request 02-1 referenced Appendix E containing "462 pages referenced above, please provide a copy of: a) the December 21, 2010, Amanda King "DRAFT for Final Review" 277 page version; b) the March 24, 2011, Amanda King "DRAFT for Final Review" 110 page version; c) the June 13, 2011, rothforkm "PCDOCS-_3731105-v2-Xcel_La_Crosse_FINAL_TSSR_Update_March_2011_LISA.DOC" 110 page redline version; and d) the June 27, 2011 rothforkm "PCDOCS-_3731105-v2-Xcel_La_Crosse_FINAL_TSSR_Update_March_2011_LISA.DOC" 110 page version.
01-06	Application Appendix E	In addition to the versions of Appendix E above, identify and provide copies of all other versions of Appendix E filed with PSC or provided to PSC Staff. and provide copies of all such versions.
01-07	Supplemental Need Study	Supplemental Need Study refers to MISO State of the Market Report. Provide copy of this report cited and any and all more recent State of the Market Report.

01-08	Transmission Studies	Please provide a copy of all electrical, transmission and or market studies by Applicant, ATC, Minnesota Transmission Owners and/or others, referencing the CapX 2020 Hampton-Rochester-LaCrosse transmission line.
01-09	Transmission Studies	Please provide a copy of all electrical, transmission and or market studies by Applicant, ATC, Minnesota Transmission Owners and/or others, referencing a LaCrosse to Columbia and/or West Middleton transmission line and/or any 345kV transmission line from LaCrosse to eastward terminus.
01-10	Transmission Studies	Please provide a copy of all electrical, transmission and or market studies by Applicant, ATC, Minnesota Transmission Owners and/or others, referencing transfer capacity of CapX 2020, including but not limited to the Capacity Validation Study (March 31, 2009) and all appendices.
01-11	Transmission Studies	Please provide a copy of all electrical, transmission and or market studies by Applicant, ATC, Minnesota Transmission Owners and/or others, regarding transmission needs in LaCrosse, WI and surrounding area served by LaCrosse substations listed in Application and Supplemental Need Study.
01-12	Transmission Studies	Please provide a copy of all electrical, transmission and or market studies by Applicant, ATC, Minnesota Transmission Owners and/or others, regarding energy and/or transmission needs in Rochester, Minnesota and surrounding area served by Roshester area substations discused in Application, and discussed in Supplemental Need Study, including but not limited to the Baseline Electric Infrastructure Study Phase I (Burns & McDonnell for RPU).
01-13	Transmission Plans	Please provide copies of complete Xce/NSPI transmission “plans,” “scenario assessments” including but not limited to 10 year Transmission Plan and 20 year Scenario Assessment, and other reports that address Southeast Minnesota and Western Wisconsin transmission, and provide underlying studies supporting such plans and assessment.
	10 Year Plan, 20 Year Scenario Assessment	Following Questions are regarding NSP 10 Year Plan and 20 Year Scenario Assessment: http://www.xcelenergy.com/staticfiles/xe/Corporate/Corporate%20PDFs/NSP%202010%20transmission%20plan%20-FINAL.pdf
01-14	10 Year Plan	Please provide copy/copies of the underlying plans for Minnesota and Wisconsin (NSP 10 Year Plan and 20 Year Scenario Assessment) and associated studies referred to in the powerpoint referred to above.
01-15	Transmission Studies	Transmission map on p. 12/85: http://www.xcelenergy.com/staticfiles/xe/Corporate/Corporate%20PDFs/NSP%202010%20transmission%20plan%20-FINAL.pdf What is date of this map? Provide current full size (3'x5' or so) map of “MAPP map” and MISO transmission grid.
01-16	Transmission Assessment	Provide the two most recent MN Transmission Assessment and Compliance Team assessment (Minnesota joint utility annual NERC assessment) and similar Wisconsin assessments.
01-17	State ordered studies	Provide copy of any and all “Corridor” studies.
01-18	EIPC/JCP planning	Provide copies of EIPC and JCSP studies that reference transmission between Minnesota and Wisconsin.
01-19	Transmission Reviews	Provide copies of NSP/Xcel internal reliability annual reviews for 2000 to present.

01-20	Economic Planning	Provide copies of NSP/Xcel economic planning studies that address Minnesota to Wisconsin transfer capacity, Minnesota to Wisconsin congestion, and energy and demand loss within NSP Minnesota and Wisconsin.
01-21	Economic Planning	Provide copies of transfer capacity studies by others reviewed by NSP, i.e., DOE, MTEP, MAPP SPGs, MTO TACT Study Group, etc.
01-22	MISO Congested Flowgates	p.20 of NSP 10 Year Plan (http://www.xcelenergy.com/staticfiles/xe/Corporate/Corporate%20PDFs/NSP%202010%20transmission%20plan%20-FINAL.pdf) shows MISO Most Congested Flowgates. Identify congested flowgates on this map that are located near the Minnesota and Wisconsin border.
01-23	MISO Congested Flowgates	p.20 of NSP 10 Year Plan (http://www.xcelenergy.com/staticfiles/xe/Corporate/Corporate%20PDFs/NSP%202010%20transmission%20plan%20-FINAL.pdf) shows MISO Most Congested Flowgates. Identify congested flowgates on this map that are in Wisconsin west of Lake Michigan.
01-24	MAPP SPG Meetings	Is a confidentiality and/or non-disclosure agreement necessary to attend MAPP SPG meetings? Is a confidentiality and/or non-disclosure agreement necessary to receive some or all MAPP SPG documents? Is a confidentiality and/or non-disclosure agreement necessary to receive a copy of a current transmission map? If so, please provide basis for any confidentiality requirement and provide a copy of agreement used.
01-25	MN Biennial Plan	When were most recent annual Transmission Plan public meetings held? When are next public meetings to be held?
01-26	Historic Load Growth	Provide graph of peak <u>wholesale</u> load over last decade.
01-27	Driver – RES Gap	Is NSP MN on track to meet MN RES? Is NSP WI on track to meet WI RES? For what years have goals been met, bot without Renewable Energy Credits and including RECs. In its IRP, how does NSP-MN (Xcel) address RECs in its RES compliance calculations?
01-28	MISO Queue	Of the projects represented as a MISO Queue Map, Oct. 2010 (p. 29) how many projects, and how many megawatts in North Dakota are coal fuel? How many projects and how many megawatts in South Dakota are coal fuel? How many projects and megawatts in Wisconsin are wind? How many projects and megawatts in Illinois are wind?
01-29	Hampton-Rochester-LaCrosse	p.32 Map, what is southern-most blue line from Rochester to LaCrosse?
01-30	Potential Projects	p. 33 - LaCrosse-Madison 345kV line – “Increase Western MN-MISO market transfer 2000MW.” Does that mean increase market transfer by 2,000 MW?
01-31	Zone 1	p. 36 “345kV transformer capacity maxed out.” Are transformers the limiting factor? What are specs of 345kV ring, conductor specs(size, ACSR or ACSS, bundled or not), amps, MVA? Have those lines been reconducted? If not, why not?
01-32	Zone 1	p. 36 “Impact of reduced 115kV generation due to high wind generation conditions.” Explain.
01-33	Zone 2	p. 39 “Max Generation: 2422 MW” Identify generators and MW and location (map).
01-34	Zone 2	p. 39 “Aging 69kV infrastructure” When was this last reconducted? Transformer uprate? Provide map.
01-35	Zone 2	p. 40 “2 nd 161kV line Byron-West Side Energy Park (SMMPA to build). Is this line going forward? What are specs and capacity (MVA) of this line?

01-36	Zone 2	p.41 "Spring Creek – Lake City 161 kV line" Is this the 69kV line that goes through Florence Township, just off Hwy 61 on the west side of Hwy 61?
01-37	Zone 2	Compare Zone 2 projects listed with CapX 2020 Vision Plan, p. 2-3 of CapX 2020 Technical Update: Identifying Minnesota's Electric Transmission Infrastructure Needs (October 2005). Which of the projects listed for Zone 2 are part of the CapX 2020 Vision Plan.
01-38	Zone 2	Identify projects in CapX 2020 Vision Plan that are within Zone 2.
01-39	Zone 3	Compare Zone 3 projects listed with CapX 2020 Vision Plan, p. 2-3 of CapX 2020 Technical Update: Identifying Minnesota's Electric Transmission Infrastructure Needs (October 2005). Which of the projects listed for Zone 3 are part of the CapX 2020 Vision Plan.
01-40	Zone 3	Identify projects in CapX 2020 Vision Plan that are within Zone 3.
01-41	Zone 4	Compare Zone 4 projects listed with CapX 2020 Vision Plan, p. 2-3 of CapX 2020 Technical Update: Identifying Minnesota's Electric Transmission Infrastructure Needs (October 2005). Which of the projects listed for Zone 4 are part of the CapX 2020 Vision Plan.
01-42	Zone 4	Identify projects in CapX 2020 Vision Plan that are within Zone 4.
01-43	Zone 5	p. 48 "Major transmission expansion underconstruction in Eau Claire" Explain and provide PSC docket number.
01-44	Zone 5	p.48 "Substantial major industrial expansion under consideration in northern Wisconsin." Identify with specificity, including locations.
01-45	Zone 5	What part of Northern Wisconsin in NSP-WI territory?
01-46	Zone 5	p.49 "pumping loads" – for what purpose/industry, what pumping loads are anticipated, in MW and by location.
01-47	Zone 5	Compare Zone 5 projects listed with CapX 2020 Vision Plan, p. 2-3 of CapX 2020 Technical Update: Identifying Minnesota's Electric Transmission Infrastructure Needs (October 2005). Which of the projects listed for Zone 2 are part of the CapX 2020 Vision Plan.
01-48	Zone 5	Identify projects in CapX 2020 Vision Plan that are within Zone 5.
01-49	Zone 6	p. 52 – are the three projects proceeding and in service in 2011? Are these upgrades in the models for CapX2020?
01-50	Zone 6	p. 53 – Project 1, what is current capacity of LaCrosse – West Salem? Does LaCrosse transformer #2 connect to the LaCrosse-West Salem line?
01-51	Zone 6	Compare Zone 6 projects listed with CapX 2020 Vision Plan, p. 2-3 of CapX 2020 Technical Update: Identifying Minnesota's Electric Transmission Infrastructure Needs (October 2005). Which of the projects listed for Zone 6 are part of the CapX 2020 Vision Plan.
01-52	Zone 6	Identify projects in CapX 2020 Vision Plan that are within Zone 6.
01-53	Zone 7	Identify and provide map showing locations of generation in North Dakota, existing, planned with interconnection agreement, and planned retirement, including all types of coal generation, gas, wind and other.
01-54	Zone 7	Identify and provide map showing locations of transmission lines in North Dakota and MVA ratings (identify source of MVA ratings, i.e., modeling assumptions for specific models – if using models, provide most recent model).
01-55	Zone 7	Identify all generation interconnection requests for all types in MISO queue for North Dakota and South Dakota (spreadsheet of MISO queue identifying date is sufficient).
01-56	Zone 7	Compare Zone 7 projects listed with "Post CapX 2020 Potential Projects" (p. 33) #4 Ashley-Hankinson and Fargo-Hankinson-BigStone-Brookings. Are any of the Zone 7 projects listed all or part of the #4 Post Capx 2020 Potential

		Projects?
01-57	Zone 7	Compare Zone 7 projects listed with CapX 2020 Vision Plan, p. 2-3 of CapX 2020 Technical Update: Identifying Minnesota's Electric Transmission Infrastructure Needs (October 2005). Which of the projects listed for Zone 7 are part of the CapX 2020 Vision Plan.
01-58	2009 Bridge Study	p. 67 - Please provide copy of 2009 Bridge Study Strategic Vision ("a broad regional 20 year vision plan").
01-59	Bridge Study	p. 69 and 70, explain differences between the Scenario 2 Sub-Regional Renewable plan and the Scenario 3 Non Renewable Long Range plan for the states of North Dakota, South Dakota, Minnesota and Wisconsin.
01-60	Green Power Express	What is the current employment of Green Power Express' Ingrid Bjorklund?
01-61	JCSP	Regarding "Eastern load serving entities" referred to on slide 73, and JCSP plan on p. 83, what letters, testimony and comments are Applicants aware of from "Eastern" sources critical of transmission proposals from the Midwest to the East Coast, i.e., Letter of withdrawal from JCSP announcement by NYISO and ISO-NE; "10 Mid-Atlantic Governors" letters; testimony of New York's Deputy Commissioner of Energy, etc. Provide copies of all critiques of the JCSP plan of which Applicants are aware.
01-62	RGOS	Provide <u>specific</u> links for RGOS 1 and 2 study and drafts (not "www.midwestiso.org/home").
	Supplemental Need Study ERF 152526	The following Data Requests are related to the Supplemental Need Study, ERF 152526
01-63	Existing Xmsn System	When was Xcel's existing transmission system (over 110kV) in Wisconsin last upgraded? From what voltage and MVA to what and when?
01-64	Existing Xmsn System	What plans are there to upgrade Xcel's existing transmission system (over 110kV) in Wisconsin?
01-65	Upgrades	If Hampton-Rochester-LaCrosse 345kV is built, what associated upgrades are part of the project, i.e., Chester line, others not needing CPCN or CoN, in Minnesota or Wisconsin?
01-66	Upgrades	The SNS identifies 200 miles of upgrades in the LaCrosse area are needed. Identify those 200 miles of LaCrosse transmission on map, and which are scheduled for upgrade and when? Provide details.
01-67	MVP Study	Provide copy of Candidate Multi-Value Projects study (not power point presentation to MISO or ?, but foundational study), hard copy or working link.
01-68	MTEP	Provide copy of MTEP 10 Final Report, hard copy or working link.
01-69	SNS	Provide any and all other studies cited in and/or relied on for the Supplemental Need Study.
01-70	MTEP 11	Provide any and all iterations of MTEP 11 Top Congested Flowgates Study
01-71	DOE Money	Provide copies of any and all applications to U.S. Dept. of Energy for funds for any and/or all parts of CapX 2020, and any and all supporting documents, disbursements and record of monies spent.
01-72	SNS	p. 2, provide the "[e]arlier cost and engineering analysis" referred to on p. 2, either hard copy or links.
01-73	SNS	p. 3, provide most recent Rochester load forecasts referred to on p. 3
01-74	SNS	p. 4 – "Addition of the 345kV Project or the La Crosse 161 kV Alternative alone adds 700-850 MW of thermal transfer capability between Minnesota and Wisconsin." Provide underlying study demonstrating this increase in transfer capability.

01-75	SNS	p. 4. "However, a 345 kV connection is more robust in that it also provides for additional transfer capability as the 345 kV system is extended to the east." This presumes additional transmission eastward. Provide copy of transfer study analysis showing additional capacity could be as high as 1200 MW (depending on eastern terminus).
01-76	SNS	p. 4 – "By increasing transfer capability, the 345kV Project enhances overall regional reliability." Provide copy of study demonstrating that the 345kV Project enhances overall regional reliability."
01-77	SNS	p. 4 – Reduce Congestion – "relieved generation trapped in Minnesota that was identified in 2010 and 2014 models. Does "trapped in Minnesota" mean generation that is stopped from getting into Wisconsin?"
01-78	SNS	p. 4 – paragraph refers to "congestion in Wisconsin." The maps in section 2.4.1 show no congestion in Wisconsin predicted for 2014 and blue areas of "congestion" in eastern WI in 2019. The line in at issue in this proceeding ends at LaCrosse. How will this project have an impact on areas on the eastern side of Wisconsin. Provide studies showing this impact.
01-79	SNS	p. 5 – "Part of an Approved Regional Plan." Identify by beginning and terminus and substations in between "The 345kV Project" that was "thoroughly evaluated by MISO and approved." What is basis for MISO "approval." Provide MISO resolutions, decisions regarding this project. Provide underlying studies upon which approval was based.
01-80	SNS	p. 8 – "Reconductor Only Alternative." Why was only LaCrosse and surrounding area selected for a "Reconductor Only Alternative." What transmission lines comprise MWEX and current iteration of Minnesota/Wisconsin transfer? Identify specs for each line (conductor size, type, amps and MVA of conductor and transformers) and identify limiting factor (i.e. King-Eau Claire-Arpin Operating Guide). When was each of these lines reconducted?
01-81	SNS	p. 9 – the lower voltages "provide less load serving capability." What is geographic location of the load serving capability referred to? LaCrosse areas only or LaCrosse and Rochester areas?
01-82	SNS	p. 9 – "these alternatives do not provide the regional reliability benefits of the 345kV project." LaCrosse load is used as local load serving capability "need." Is there a regional reliability benefits need to go to LaCrosse? Explain.
01-83	SNS	p. 9 – "transfer capability between Minnesota and Wisconsin is degraded ... with the 161kV La Crosse Alternative in service." Provide studies demonstrating transfer capability is lower.
01-84	SNS	p. 9 – Explain basis for wanting increased transfer capability, and basis for wanting the various increments of transfer capability.
01-85	SNS	Transfer capacity v. transfer capability – are the two terms interchangeable? If not, explain distinction(s).
01-86	SNS	Provide all transfer capacity and transfer capability studies regarding CapX 2020 and/or this 345 kV Hampton-LaCrosse project, including but not limited to any and all Capacity Validation Studies and Appendices, e.g. MTO's CVS, March 31, 2009 www.minnelectrans.com/documents/capacity-study/cvsreport.pdf
01-87	SNS & CVS Report	The Minnesota Transmission Owners Capacity Validation Study (CVS), link above, notes that "Another finding of the study is that the Capx2020 Group I projects appear to provide more outlet capability than had previous been assumed" and that the CapX projects were not studied on a "combined basis" previously and that the "combination of transmission provides more transfer capability." Provide copies of the individual studies and the combined studies referenced.
01-88	SNS & CVS Report	CVS Report p. 9-10 – "Further results of the CVS indicate a new transmission line is needed east of Minnesota. In nearly every transmission scenario which sinks to the Midwest ISO footprint, the King-Eau Claire line emerges as the limiting element." The only scenario in which this line is not the limiting element is when a parallel line exists between LaCrosse, Wisconsin and the Madison, Wisconsin area. From the study results, each scenario which contains a new LaCrosse-Madison line provides more transfer capability when sinking to the Midwest ISO than any of the scenarios without this line." Do applicants dispute this Minnesota Transmission Owners report? Why was this MTO CVS not included in the Minnesota

		Certificate of Need docket filings? Why was this MTO CVS not included in the Wisconsin CPCN docket filings?
01-89	SNS & CVS Report	CVS Report, p. 13 – provide the “LaCrosse/Rochester load serving studies” referred to on p. 13.
01-90	SNS & CVS Report	CVS Report, p. 14 – provide the “Corridor Study” referenced in the first full paragraph on p. 14.
01-91	SNS & CVS Report	CVS Report, p. 14, provide the “transmission study underway to determine the need for anew transmission line from LaCrosse, Wisconsin to an end point in the Madison, Wisconsin area,” including but not limited to the MISO evaluation noted, and the Western Wisconsin Transmission Reliability Study, Final Report, September 20, 2010.
01-92	SNS & CVS Report	CVS Report, p. 15 notes a “Gap Analysis” of RES compliance and forecasted compliance. There are claims in this docket that the Hampton-LaCrosse transmission line is in part to enable RES compliance. Provide a copy of the Minnesota Gap Analysis referenced, and any other such RES compliance analysis for Wisconsin and other areas of MISO.
01-93	SNS & CVS Report	CVS Report p. 21 – Reference to Center-Arrowhead DC line purchase by MP (along with the Center-Prairie or Maple River 345kV line). If this purchase by Minnesota Power is utilized for wind only, what transmission will the existing generation that was on that line use? CapX 2020?
01-94	SNS	p. 10 – 200 miles of transmission upgrades – is the 100 mile 161kV line starting at Prairie Island the existing 69 kV line that extends over the “Site P” – the proposed Florence Township nuclear waste site?
01-95	SNS	p. 15 – What is the impact of the 345 kV project as applied for on “reliable delivery of power through fair and competitive wholesale electric markets?”
01-96	SNS	p. 17 – Provide documentation of MISO review and coordination of “the 345 kV Project” referenced in 2 nd paragraph.
01-97	SNS	p. 17 – What “other expansion concepts underway in Iowa and Wisconsin” are referred to? Identify which, if any, are Capx 2020 Vision Plan projects (see list, p. 2-3, CapX 2020 Technical Update, October 2005).
01-98	SNS	p. 17 – Provide all MISO documentation, studies, etc. that address “the project’s effectiveness and need for community reliability.”
01-99	SNS	p. 17-18 – Provide all MISO documentation, studies, etc. that address whether “these projects were necessary to ensure continued compliance with NERC standards.
01-100	SNS	p. 18 – MISO Market Function – please provide copies of all MISO and MISO commissioned studies, reports and documentation of Market Benefits, including but not limited to ICF’s Independent Assessment of Midwest ISO Operational Benefits and subsequent similar reports.
01-101	SNS	p. 20 – 2.3.1 references Superior Water Light and Power. Is this a Minnesota Power company? Was entity involved in Western Wisconsin transmission planning Minnesota Power or Superior Water Light and Power?
01-102	SNS	p. 20 – isn’t the Arrowhead Transmission line in western Wisconsin owned by American Transmission Company, LLC?
01-103	SNS	p. 20 – “As a result, the transmission system in Western Wisconsin is currently more closely linked with the transmission system in Minnesota than that in eastern Wisconsin.” Please explain. Wasn’t one of the rationales for the Arrowhead Project to provide transmission for WUMS (eastern WI)?
01-104	SNS	p. 20 – regarding the 345kV ring – what is capacity of various sections of the 345kV ring (substation to substation) expressed in amps and MVA. When was 345kV ring last upgraded with conductor and/or transformers that could increase capacity? Please provide Xcel/NSP and/or MISO studies within last 10 years of potential upgrades to existing 345kV infrastructure.
01-105	SNS	p. 21 – “ For example, a heavy-duty 115kV line could transmit power up to 400 megavolt ampere (“MVA”) for several miles,

		whereas a 345kV line could transmit as much as 1, 200 MVA over hundreds of miles.” Isn’t it correct that 115kV lines, equipped with high capacity conductor and transformers to match, could carry well over 400 MVA? Isn’t it correct that the thermal limits for the Chisago Project, as permitted by Wisconsin, was designed with over 800 MVA capacity? Isn’t it correct that the 345kV project at issue in this docket is designed to have thermal limits of 2,050 MVA and twice that if double circuited? (reference MN Certificate of Need testimony).
01-106	SNS	p. 22, fn. 12 – Provide studies, plans, documentation regarding the subsequent phase of the Capx 2020 initiative referenced in the footnote.
01-107	SNS	p. 23 – Provide examples of “market inefficiencies” caused by congestion.
01-108	SNS	p. 24 – This is a transmission line in Wisconsin. Is there congestion noted in Figure G in Wisconsin?
01-109	SNS	p. 24 & Figure G – Identify source of 443MW not effectively shared? Is the shaded area in North Dakota, Minnesota and some of South Dakota the source of generation “trapped” in Minnesota? Does the ending of the shaded area on the eastern Minnesota border mean that generation from the west stops at the border? How does this 345kV project at issue in this docket affect this scenario?
01-110	SNS	P. 25 & Figure H – How does this 345kV project at issue in this docket affect the scenario depicted in Figure H?
01-111	SNS	p. 25, FERC Designated Narrow Constrained Areas – provide map showing these areas. What FERC Designated Narrow Constrained Areas are present in Minnesota? In Wisconsin? What is impact of this 345kV project at issue in this docket on those constrained areas?
01-112	SNS	p. 26 – if SE Minnesota, northern Iowa and SW Wisconsin are constrained, why is this not reflected in Figure G and H?
01-113	SNS	P. 25-26 – Define “congestion” and “constraint” and compare and contrast the two terms.
01-114	SNS	p. 27, regarding “anecdotally, the IMM has declined to reassess the status” of the NCA – isn’t it correct that MISO argued that “With regard to the duration of the NCA, Midwest ISO asserts that the factors necessitating the new NCA are sufficiently clear to permit the IMM to assess the likelihood that congestion levels would persist or abate and thus when it would be appropriate to disband the NCA.” What is the history of Manitoba Hydro exports over last 10 years? Is Manitoba Hydro now exporting at prior levels? Is the A.S. King plant still on its 10-month outage? What other factors have changed?
01-115	SNS	Regarding the FERC order (http://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=11231068) isn’t it correct that the Southeast Minnesota constraint was northward from Iowa into Minnesota, from “Tiffin in eastern Iowa to Arnold, to Hazleton, to Adams, to Pleasant Valley, and to Prairie Island in southern Minnesota.” and the other also from Raun in western Iowa to Lakefield, Wilmarth and Blue Lake?” Provide studies, reports, and any and all other documentation that the 345kV project at issue in this docket has an impact on these claimed constraints. Provide any and all documentation that the addition of the 345kV project at issue in this docket will not exacerbate south to north flows on these two paths.
01-116	SNS	Isn’t it correct that the Mid-American Neal 3 coal-fired generating unit connects directly via the 0.9 mile Neal 3 transmission line to the Raun substation?
01-117	SNS	P. 27 & 28 reference the MISO State of the Market Report – provide copies/links to all State of the Market reports, annual and quarterly.
01-118	SNS	p. 28 – “... the 345kV project will provide the necessary foundational facilities to increase transfers across the MWEX interface.” Alone, will the 345kV project at issue in this docket increase transfers across the MWEX interface?
01-119	SNS	p. 28 – “If the 345 kV Project is constructed, any one of several additional 345 kV connections to the east... would result in a significant MWEX transfer capability increase.” Therefore, an eastern connection is required to see significant increase in MWEX transfer capability?

01-120	SNS	p. 29 reports “new peaks.” Isn’t it correct that Xcel’s SEC 10-k filing reported peak demand of 9,859 in 2006?
01-121	SNS	p. 29-30 regarding MISO Multi-Value Projects – what is relationship between MISO’s recommendation of projects as “MVP” projects and the state of Wisconsin’s criteria for determination of need and impacts of transmission infrastructure?
01-122	SNS	p. 30 – What load serving entities are enabled, by the LaCrosse-Madison transmission line in meeting their state-mandated renewable energy standards? Has the LaCrosse to Madison line been applied for in this docket? What is impact of the line at issue in this docket, the Hampton-LaCrosse transmission line, on enabling load-serving entities in meeting their state-mandated renewable energy standards? Provide documentation of whether and how these two transmission lines enable load-serving entities in meeting their state-mandated renewable energy standards.
01-123	SNS	p. 30, fn. 24 – The MVP powerpoint focuses on economic issues, e.g., slide 3, “Conditions Precedent to Increased Transmission Build.” Provide documentation of engineering basis for Multi-Value Projects.
01-124	SNS	p. 30, “least-cost delivery of reliable electric power.” Minnesota and Wisconsin have had traditionally low electric rates. If market focus enables distribution of lower-cost power to higher cost states, what will be the rate impact on these traditionally lower cost states? Least cost for who? Where? Hasn’t Xcel/NSP in Minnesota asked for a 37.5% rate increase over 5 years in the latest rate case? What is rate increase Xcel/NSP is seeking in its latest Wisconsin rate case?
01-125	SNS	p. 30 – “A central factor in the effectiveness of the LaCrosse to Madison line is the presence of a 354kV connection in the LaCrosse Area that will enable the efficient transfer of energy between Minnesota, western Wisconsin, and eastern Wisconsin.” Is “efficient transfer” meant in engineering sense or economics? Explain relation of “efficient transfer” to “least-cost delivery of reliable electric power.” Explain whether capital cost of transmission build-out reflected in “least-cost delivery” as described here.
01-126	SNS	p. 31. The testimony and exhibits in MN Certificate of Need for this 345kV project reflect MVA ranging from 2211-2050 MVA (Kline, Tr. Vol 7, p. 55, l. 23-24 (capacity); Ex. 76, Shedin Attachment J, Applicants’ Response to JI IR No. 3 (2211MVA); Kline, Tr. Vol. 7, p. 57, l. 4 (2050). Are line specifications found in Minnesota record, MVA ranging from 2211-2050 MVA the same as proposed in this Wisconsin docket? Would line be double circuited? If double circuited, would that essentially double the MVA?
01-127	SNS	p. 31 - What is engineering basis for line specifications of this magnitude for LaCrosse load?
01-128	SNS	p. 31 – provide annual Loss of Load Expectation information for LaCrosse area generators over last decade.
01-129	SNS	p. 31 – Provide Genoa generation outages over the last 10 years.
01-130	SNS	p. 34-35, Figure K – see attached Exhibit /, Comparison of LaCrosse substation data. Do you agree this is an accurate compilation of information depicted in the MN Certificate of Need docket, the initial CPCN application and the August 2011 Supplemental Need Study(SNS)? For the MN CoN numbers, which are actuals and which are forecast? Are the SNS 2010 numbers in Figure K “actuals?” Why has there been no adjustment of the furthest right column when there has been changes to the MW numbers further to the left over time?
01-131	SNS	P. 34-35, Figure K – were these forecasts conducted using MISO’s Peak Forecasting Methodology Review? Have they been reviewed by MISO? Result of review?
01-132	SNS	p. 34-35, Figure K – How many MW of Demand Response is in affected LaCrosse area? Energy Efficiency?
01-133	SNS	p. 34-35, Figure K – Provide narrative summary of non-coincident peak forecast methodology, net energy for load forecast methodology and coincident peak forecast methodology, supporting studies and materials for LaCrosse forecasting.
01-134	SNS	p. 36, Figure L – Are the growth estimates in Figure L consistent with growth factors in MISO’s MTEP12 Futures Matrix? See e.g. http://legalelectric.org/f/2011/10/miso-20111026-pac-mtep12-futures-matrix.pdf

01-135	SNS	p. 36-38 – Provide updated table such as Figure K (referenced above) for Rochester substations, as was provided in Certificate of Need proceeding and Testimony of Amanda King.
01-136	Redlined CPCN Application p. 2-40 and 2-41	Regarding LaCrosse forecast, WI CPCN Application pages 2-40 and 2-41, redlined version, column "Load MW 2010" several questions: 1) are the red versions just to the right of the strike-outs the actual "Load MW 2010?" 2) is the Holland substation a new substation? 3) was load transferred to Holland substation from another substation? If so, which one(s)? 4) despite reductions in many of the Actuals, only two "Projected" loads have been altered, for Brice and New Amsterdam. What is basis for changes made?
01-137	CPCN App.	Table 2.1-10, for each substation, identify transformers and MVA rating (e.g., Hiawatha Project, MN PUB Docket 10-694, Testimony of Zima, Sched. 3). For transformers, identify percentage of utilization.
01-138	CPCN App.	Table 2.1-10, for each substation, identify feeder lines and MVA rating (e.g., Hiawatha Project, MN PUC Docket 10-694, Testimony of Zima, Sched. 2). For feeder lines, identify percentage of utilization.
01-139	SNS	p. 38 – “However, the Minnesota Certificate of Need Order approved a double-circuit capable 345 kV design from the Hampton Substation to the Alma crossing.” In addition to the Alma crossing of the Mississippi River was any other location other than Alma presented to the Minnesota Public Utilities Commission by the applicants as an alternative crossing location? In addition to the Alma crossing of the Mississippi River was any other location other than Alma presented to the Wisconsin Public Service Commission by the applicants as an alternative crossing location?
01-140	SNS	p. 39, Alternatives Considered. This addresses post 2009 alternatives. What alternatives were considered in the 2004-2005 early CapX 2020 studies? Identify those alternatives not now considered, and of those not now considered as alternatives, why were they eliminated?
01-141	SNS	p. 46-48 PSCW Alternatives – Provide documentation and studies supporting conclusions regarding PSCW Alternatives.
01-142	SNS	Loss Calculations – is the loss calculation based on system losses of this 345kV addition when compared to losses in the Eastern Interconnect?
01-143	SNS	p. 49, Figure R: 1) Why is “Term of loss reduction” set at 40 years where “Assumed life, xmsn” is set at 35 years? 2) Explain meaning of “Loss Factor 0.30’ 3) What is basis for assumption of 50% peaking and 50% baseload? 4) What is basis for \$/kW attributed to peaking and baseload capacity?
01-144	SNS	p. 50, Figure S – column “System Losses/MW” – if these are the losses, what is the gross MW of which these losses are part?
01-145	SNS	Regarding losses, provide and all losses analysis addressing impacts of double circuiting, including but not limited to MAPP TPSC Economic Planning Studies, System Losses Screening Analysis.
01-146	SNS	p. 55, notes study of 345kV line connecting LaCrosse and Madison – provide copy of this study.
01-147	SNS	p. 55, “The 345k V Project is needed to meet the identified local and regional needs regardless of whether additional facilities are constructed to the east.” If further facilities are NOT constructed to the east, what size is justified, i.e., is 345kV line needed, is bundled conductor needed, is double circuited, what amps and MVA of capacity are needed? Provide studies, other documentation as basis for answer.
01-148	SNS	p. 56 – Eau Claire-Aprin special protection system (“SPS”) – What is “special protection system.” Is this an iteration of the

		operating guide that limits MW on the transmission line? Provide documentation of "Special protection system"
01-149	SNS	Regarding Eau Claire-Arpin operating guide, provide copies of any and all studies regarding blackout on 6/25/1998 that reference operating guide and NSP operators non-compliance with operating guide, including but not limited to "Northern MAPP/Northwestern Ontario Disturbance, June 25, 1998, Final Report (September 2, 1998)" and NERC's "1998 System Disturbances: Review of Selected Electric System Disturbances in North America"
01-150	SNS	P. 56 – under what circumstances would the Eau Claire-Arpin SPS be retired? How could/would a 345kV line to the east eliminate the need for the SPS?
01-151	SNS	RES requirements – what RES requirements are being discussed here, expressed in name of utility, load in kWhr of which a % is to be RE, and % of RES?
01-152		Applicant Xcel has a RES in Minnesota and Wisconsin. What progress has Xcel made in each state?
01-153		What progress are individual utilities making toward RES requirements when compared to the 2007 Gap Analysis?
01-154	Routing	For routing evaluation purposes, please provide map of Wisconsin transmission lines under 69kV and distribution lines.
01-155		Provide criteria utilized for any classification of information requested as "Critical Energy Infrastructure Information" and provide for review, and potential execution, agreement regarding CEII information.
01-156		Provide for review, and potential execution, agreement authorizing confidential release of NSP proprietary information.