

## EXECUTIVE SUMMARY

The five 'Condition Certain' issues identified in § 70-1003(6) were assigned to five separate Technical Groups. The Executive Summary that follows includes the new findings and conclusions that are incorporated in the 2005 Update, as well as the findings and conclusions from the prior years' reports.

### **Issue #1 (Chapter 1)**

**2005 REPORT UPDATE**-President Bush signed the Energy Policy Act into law on August 8, 2005. The FERC chairman has indicated that FERC intends to take a new direction in its role to ensure that competitive wholesale electric markets are free of discriminatory practices. As a result, Nebraska's public power utilities anticipate that they will have many new requirements to meet in the coming years. See Issue # 5(Chapter 5) for an overview of the implications for public power utilities of the Energy Policy Act.

The utility membership in the two RTO's that adjoin Nebraska has solidified to some extent, and it does not appear that the geographical boundaries of the two entities will be changing in the near future. Nebraska utilities continue to remain members of MAPP, and although the geographical footprint of MAPP has shrunk as several members left to join the Midwest ISO, the generation reserve sharing pool has remained the same as the original MAPP membership. Another consideration in the boundary issues is that the footprint of the Midwest Reliability Organization includes all of the original MAPP members, a number of Midwest ISO members, and two Canadian providences. Because of the differing boundaries for transmission service, generation reserve sharing and Regional Reliability Councils, several seams agreements have been executed which require significant data exchange between the regions. The Nebraska utilities have concluded that continued membership in MAPP provides the most cost effective solution for participation in a regional transmission organization. FERC is no longer pursuing mandatory participation in an RTO that meets all of its requirements, so MAPP can continue to function as a regional transmission organization, providing access to the regional wholesale energy markets under its regional transmission tariff.

While the electric industry continues to change under FERC direction and enactment of federal legislation, the end point is no clearer at this time. Therefore, the conclusion remains unchanged from last year's-- report that there is no economically viable FERC-approved RTO for Nebraska utilities to participate in.

**Summary OF 2004 REPORT**-The development of Regional Transmission Organizations remains unsettled. Approximately half of the original Mid-Continent Area Power Pool (MAPP) members have joined the Midwest ISO, while the remaining MAPP members, who include the Nebraska utilities, most of the Dakotas, and parts of Iowa and Minnesota, have chosen to remain as members of MAPP, and keep their transmission facilities under the MAPP regional tariff. MAPP members are now focusing their efforts on developing a seams operating agreement with the Midwest ISO, and investments to upgrade the MAPP software and hardware infrastructure to make the MAPP regional transmission tariff processes more compatible with other regional transmission tariffs, so that MAPP transmission customers will not be at a disadvantage when conducting interregional energy transactions. A seams agreement is needed to coordinate transmission service between the MAPP and Midwest ISO transmission tariffs to ensure that both parties respect the transmission capacity limits on the others' system. This becomes particularly important as the Midwest ISO prepares to implement energy markets, which will use an entirely new method of operating the electric system in the Midwest, known as least cost security constrained economic dispatch. Unless proper procedures can be agreed upon through the seams agreement, MAPP members may find their ability to conduct regional wholesale energy transactions adversely affected by this new method employed by the Midwest ISO. In August 2004, The Federal Energy Regulatory Commission (FERC) issued an Order conditionally approving the Midwest ISO Transmission and Energy Market Tariff. In that order, FERC requires the Midwest ISO to execute seams agreements with the regional transmission entities that surround the Midwest ISO. The Midwest ISO received FERC approval to start its Day-Ahead

and Real Time Energy Markets in March 2005. MAPP will also need to develop a seams agreement with the Southwest Power Pool that received conditional approval to become an RTO in February 2004.

As a result of the August 2003 blackout, there has been a renewed focus on reliability and many changes have been, or will be, implemented in the reliability requirements that must be met by the entities involved in the operation of the electric system. The North American Electric Reliability Council is leading the effort to convert its operating policies into standards by January 2005.

The TRANSLink project was officially terminated in November 2003.

As concluded in previous years' reports, the development of an RTO that is both economically and operationally viable for Nebraska remains very much a work in progress. Tremendous uncertainty remains as to whether the energy markets being developed by the Midwest ISO or SPP would provide economic benefits, or result in increased costs to customers in Nebraska. An answer to this question will not likely be determined with any degree of certainty until after the markets start and actual market experience is obtained. Nebraska's utilities continue to plan and upgrade their transmission systems so that there is adequate transmission in Nebraska to meet customer needs. However, there is not adequate regional transmission capacity to support all of the desired regional wholesale energy transactions.

**SUMMARY OF 2003 REPORT** -The August 14, 2003 blackout, the most wide-ranging in U. S. electric history, will cause a significant review of the nation's transmission infrastructure and the organizational entities controlling it. Congressional hearings have been scheduled and a joint U. S. and Canadian Task Force have been appointed to investigate the blackout. Many are calling for passage of the long debated federal energy legislation. How this will impact the continued development of Regional Transmission Organizations (RTOs) remains to be seen. The Midwest ISO has indicated that it will be reevaluating the timing for the start-up of its energy markets, and will make a recommendation to its Board of Directors in September. Progress on the development of TRANSLink has been slowed due to the lack of state regulatory commission approvals, and as a result the TRANSLink participants are reevaluating their options for continued development of TRANSLink. In light of the pending investigations of the blackout, and uncertainty about federal legislation which may be enacted, it seems prudent for Nebraska utilities to wait until such time as more is known so they can make an informed decision before proceeding to join a RTO. At this time there is not a RTO that has been shown to be economically, technically and operational viable. There is adequate transmission capacity in Nebraska to deliver the generation output of plants in Nebraska to the Nebraska customer load, but there is not sufficient capacity to support all of the wholesale power transactions that are requested in the region.

**SUMMARY OF 2002 REPORT** -There have been numerous filings at FERC proposing RTO's since Order 2000 was issued. While conditional approval has been granted to several proposals, FERC has only given full approval to the Midwest RTO (MISO). MISO was approved in December 2001 and the MISO tariff went into effect in February 2002. The geographic size of MISO continued to grow as new members have joined. The Southwest Power Pool (SPP) has agreed to merge with MISO and the SPP transmission system should be integrated into the MISO transmission tariff by late 2002. It can be said that MISO is viable from a legal, financial, and operational viewpoint, but it is still in the early stages of operation and has many issues to resolve before it can perform all of it's functions and duties satisfactorily. Other considerations in determining whether MISO is viable to participate in are dependent on the legal aspects of a participation agreement with MISO to recognize Nebraska state law restrictions, MISO's costs to participate, and the impact on the utilities' transmission revenue due to the MISO transmission tariff. The MAPP/MISO merger has been completed and some of the MAPP members have joined MISO. One of the conditions of the merger was that MISO would continue to provide transmission services for six years to MAPP members that do not join MISO. Certain transmission facilities in western Nebraska would need to participate in a RTO in the western interconnection because those facilities are not electrically connected to the rest of the state.

Since RTO's have not developed as envisioned in Order 2000, FERC took another step to further the development of competitive wholesale electric markets when it issued another Notice of Proposed Rulemaking on July 31, 2002, which is known as FERC's Standard Market Design (SMD). This Order proposes sweeping changes to the development of wholesale electric markets. The Order will not go into effect for many months, until FERC has considered comments submitted by all interested industry participants. Nebraska utilities will need to thoroughly evaluate the economic and legal impacts of this Order as many of the requirements will be implemented by the RTO. The reader is referred to page I-8 for a full listing of items proposed by FERC in the SMD rulemaking. The development of competitive wholesale electric markets continues to be a moving target. Just as utilities think they understand the rules FERC has set forth, FERC pushes the industry in a new direction. Until the FERC rules stabilize, it will be difficult to assess the economic impacts of RTO participation with any degree of certainty.

FERC issued an order in April 2002 accepting certain aspects of the TRANSLink filing and requiring changes to other parts. Since then a TRANSLink Development Company, LLC has been formed and it is expected additional FERC filings will be made in September 2002. In the TRANSLink ITC proposal NPPD and OPPD will no longer be control area operators. They will continue to balance generation and load within their area, but TRANSLink will operate one control area for the MAPP member's facilities. NPPD and OPPD will retain operational control under certain emergency conditions. In the TRANSLink Order, FERC ruled that TRANSLink cannot have its own transmission tariff, but can have its own rate design under a MISO rate schedule.

In the last year a number of new generation resources have been announced by Nebraska utilities. In each case a transmission adequacy study must be completed and approved by MAPP. Thus far, all new generation additions have been able to be accommodated without significant transmission additions. This reinforces the conclusion that adequate transmission exists in Nebraska to deliver the generation resources located in Nebraska-to-Nebraska customers. However, the ability to export generation located in Nebraska for off-system sales, or to purchase generation outside of Nebraska for delivery into Nebraska will be dependent on several factors. In general, it is fair to say that the adequacy of the regional transmission system to accommodate these types of transactions is limited.

**SUMMARY OF 2001 REPORT**-The issue addressed by this Technical Group was "whether or not a viable regional transmission organization and adequate transmission exist in Nebraska or in a region that includes Nebraska". The development of Regional Transmission Organizations (RTOs) has been underway since the Federal Energy Regulatory Commission (FERC) issued Order No. 2000 in December 1999. FERC stated that RTOs would promote competition in the wholesale electric market, enhance reliability, and remove any remaining opportunities for discriminatory practices by transmission owning utilities. In that Order FERC called for all transmission owning utilities to work towards the voluntary formation of RTOs in collaboration with state regulators, transmission dependent utilities, and other market participants.

However, in a series of orders issued on July 12, 2001 FERC reversed its course and now suggests that only four RTOs should be formed, one in the Northeast, Southeast, Midwest and West. This change in direction by FERC has caused considerable confusion in the industry. As a result, this Issue is in a state of flux. At this juncture the only organization that has the potential to become a viable RTO for Nebraska utilities to participate in is the Midwest ISO (MISO), assuming FERC decides that MISO is to become the Midwest RTO it envisions. This report will serve to identify key issues that could significantly affect the way the electric transmission system in Nebraska is planned, operated and priced.

The Nebraska transmission system is adequate to serve Nebraska customers when system conditions are normal. However, under abnormal system conditions, such as the loss of major transmission lines or a large generation plant, Nebraska customers depend on the interconnected utilities in surrounding states and the generation reserve sharing pool to maintain reliability. Nebraska utilities contribute to the reliability of the region in a reciprocal manner. The Nebraska system does experience significant usage due to the wholesale transactions occurring in the region. Reliability is maintained by setting limits on the constrained interfaces and curtailing transactions when system conditions approach those limits.

Because the wholesale market has become regional in nature, it requires regional solutions to fix the constrained interfaces. Additional high voltage transmission lines will need to be built that cross several utilities service areas in order to accommodate much more wholesale activity than what currently exists. Several transmission projects have been identified to relieve the transmission constraints, but until the projects can be funded and paid for by a regional transmission tariff, utilities will be unlikely to build new transmission.

## **Issue #2 (Chapter 2)**

**2005 REPORT UPDATE-**Since the initiation of the Generation Market Screen and Mitigation Policy in April 2005, 21 independent or utility holding companies (representing 48 operating companies) submitted market power screens as part of the FERC Review. Of the 48 utilities, 11 have unconditionally passed the market screens. They are free to continue selling wholesale energy at market-based rates. Most of these utilities are members of “qualifying” RTOs. Four of the 48 utilities submitting tests were asked to revise their filings because of missing information, while the remaining 33 utilities who failed one or more screens were ordered to refile a Delivered Price Test or additional information demonstrating lack of market power, a plan for mitigating market power, or an acceptance of cost-based rates within 60 days. As of this writing, of the 33 utilities that failed the screens, 18 utilities have not yet submitted a filing for the order, 8 utilities have filed plans accepting cost-based rates, and 7 utilities filed additional tests and information to FERC in an effort to demonstrate a lack of market power. In the Midwest, there have been numerous filings with mixed results. Some of the screens have been accepted by FERC, some utilities have accepted cost-based rates, while others will have to submit additional information to FERC.

The new information gathered for this year’s analysis continues to send mixed and ambiguous signals regarding market power in the Midwest portion of the Eastern Interconnect. On one hand, “traditional” tests of market power used by FERC suggest that this market has a large number of buyers and sellers and appears to be viable. A defined process for assessing wholesale transmission is available through MAPP, utilizing Schedule F for a period of up to 12 months, or by utilizing MISO or individual transmission provider’s tariffs for durations ranging from hourly service to multi-year service. In short, the wholesale market appears to be reasonably efficient and workable supporting many useful trades each day. On the other hand, the Midwest market, at times, has limited access to reliable transmission for delivery, conditions that are conducive to the exercise of market power. The MISO State of the Market Report shows that while this has not led to widespread exercise of market power, the potential clearly exists. This is evidenced by the fact that many transmission requests are not attempted because of the likelihood that they would be rejected. Furthermore, the newly approved FERC market power tests suggest most of the utilities in the region would be found to have market power, at least until all are members of an RTO that has centralized dispatch, a formal power market and established market power mitigation measures. The final conclusion is that a reasonably efficient and workable wholesale market does exist in the Midwest region, but it cannot be judged as being free from market power given the new FERC rules.

**SUMMARY OF 2004 REPORT-**The new information gathered for this year’s analysis is sending mixed and ambiguous signals regarding market power in the Midwest portion of the Eastern Interconnect. On one hand, “traditional” tests of market power used by FERC suggest that this market has a large number of buyers and sellers and appears to be viable. A defined process for accessing wholesale transmission is available through MAPP, utilizing Schedule F for a period of up to 12 months, or by utilizing Midwest Independent System Operator (MISO) or individual transmission provider’s tariff for durations ranging from hourly service to multi-year service. In short, the wholesale market appears to be reasonably efficient and workable, supporting many useful trades each day. On the other hand, the Midwest wholesale market, at times, has limited access to reliable transmission for delivery, conditions that are conducive to the exercise of market power. The MISO State of the Market Report shows that while this has not lead to widespread exercise of market power, the potential clearly exists. This is evidenced by the large number of TLR’s in the area, the existence of pivotal suppliers and the anecdotal evidence that many transmission requests are not attempted because of the likelihood that they would be rejected. Furthermore, the newly

approved FERC market power tests suggest most of the utilities in the region would be found to have market power, at least until all are members of an RTO that has centralized dispatch, a formal power market and established market power mitigation measures, a status not yet attained by MISO. The final conclusion is that a reasonable efficient and workable wholesale market does exist in the Midwest region, but it cannot be judged as being free from market power given the new FERC rules.

There have been disruptions in Western wholesale power markets in recent years. In spite of these disruptions, energy deliveries have been maintained to customers in Nebraska located on the Western Interconnection. These customers are primarily served by MEAN and Tri-State.

The viability of the wholesale market has been hampered in recent years by transmission constraints, adverse hydro conditions, and lack of a viable regional transmission organization. Unless these conditions are addressed, it is unlikely that a viable wholesale market will exist on the Western Interconnection in the foreseeable future.

**SUMMARY OF 2003 REPORT** -In the past, Technical Group #2 conducted FERC's standard test of market viability using public domain data. Two factors have changed that approach. First, the data used for conducting this analysis is no longer available to the Group. Second, FERC has proposed that Regional Transmission Organizations (RTO) assume the responsibility of testing for market viability in the regions they serve. Conducting annual market viability tests is one of those responsibilities. The Midwest Independent System Operator (MISO) is the approved RTO for the Midwest region that includes the Eastern Interconnection of Nebraska. In May 2003, MISO issued their first "State of the Market Report". This analysis includes all the current and prospective utility members of MISO. Therefore, the major transmission owning utilities in Nebraska are included. Since the MISO report is the definitive analysis for "whether or not a viable electricity market exists for the region which includes Nebraska", it is the primary source for this report. The reader is referred to Chapter 2, Section 6.0 for a full discussion of the information included in the first MISO "State of the Market Report".

The standard test for market power is called the "Hub and Spoke" test. It has been the basis for this report for the last two years. The "Hub and Spoke" test conducted by MISO for the MAPP region in 2003 produced results that are very similar to the results produced by Technical Group #2 for a similar region in 2001 and 2002. The MISO analysis confirms the previous year's conclusions that the MAPP area of MISO has an unconcentrated market and is relatively free of market power.

As wholesale electric markets matured and market power became a prevalent issue, FERC acknowledged that the "Hub and Spoke" test alone was not sufficient to detect all market power. Notably, FERC recognized the effect of transmission constraints on the exercise of market power. The latest evolutionary cycle of market power testing and mitigation is defined in the "Standard Market Design" (SMD) Notice of Proposed Rulemaking. SMD proposes that RTO's assume the function of Market Monitoring and Market Power Mitigation. The RTO will be required to periodically report on the status of market power in their region. The assumption is that RTO's are uniquely qualified to assess market power in the region they serve. RTO's are independent. They will run the regional spot market and operate the transmission system, and therefore will have all the operational data required to run the appropriate tests. RTO's will also have the transmission and market models, the budget and the expertise to conduct market power analysis. The reader is referred to Chapter 2, Section 4.0 for a full discussion of the new FERC methods for assessing market power.

The Eastern Interconnect wholesale market appears to be viable in that it has a large number of buyers and sellers. However, at times, it has limited access to reliable transmission to either deliver into Nebraska or export from Nebraska generation, depending on system loading conditions. There have been disruptions in the Western wholesale power markets in recent years. In spite of these disruptions, energy deliveries have been maintained to customers in Nebraska located on the Western Interconnection. The viability of the wholesale market in the Western Interconnect has been hampered in recent years by transmission

constraints, adverse hydro conditions, and lack of a viable regional transmission organization. Unless these conditions are addressed, it is unlikely that a viable wholesale market will exist on the Western Interconnect in the foreseeable future.

**SUMMARY OF 2002 REPORT** -FERC's methodology for assessing market power has been evolving. Notably, FERC has taken steps to recognize the effect of transmission constraints on the exercise of market power. Initially, FERC began using variations to the traditional hub and spoke analysis that compensated for transmission constraints. This evolution culminated in a new FERC order issued on November 20, 2001 entitled "ORDER ON TRIENNIAL MARKET POWER UPDATES AND ANNOUNCING NEW INTERIM GENERATION MARKET POWER SCREEN AND MITIGATION POLICY". The order introduced a new test for market power called the "Supply Margin Assessment" which laid out mitigation measures for companies failing the test and found a number of companies not in compliance with the order.

This Group used the same definition of a viable market that was used for the 2001 Report. The Group considered an alternative market region that was basically a footprint of the proposed Midwest Independent System Operator (MISO). However, it was decided to use the same market region that was used for the 2001 Report since MISO has not yet been completely formed, nor are all of the protocols and rules completely developed. As a result, Nebraska utilities and MISO do not currently function as a single market and may not do so for the foreseeable future.

It was concluded that the Eastern Interconnect appears to be a viable market in that it has a large number of buyers and sellers. However, at times it has limited access to reliable transmission to either deliver into Nebraska loads or export from Nebraska generation, depending on system loading conditions. The presumption that the region will be served by MISO, which will migrate to a standard transmission tariff, manage congestion and monitor the members for market power, suggests that this viability will be maintained in the future.

If one applies the FERC logic, Condition # 1, "Whether or not a viable regional transmission organization and adequate transmission exist in Nebraska or in a region that includes Nebraska", and Condition # 2, "Whether or not a viable wholesale electricity market exists in a region that includes Nebraska", merge into one. In other words, if Condition # 1 is satisfied, Condition # 2 by definition, will also be satisfied. If the TRANSLink ITC is accepted by FERC as part of the MISO, then the portion of Nebraska included in the Eastern Interconnect will be part of one RTO. By FERC's definition, this entire region, which includes the majority of Nebraska, will therefore be free of market power.

There continue to be significant capacity short falls and transmission interconnect problems that have caused a substantial lack of continuity to energy deliveries to loads in the Western Interconnect.

**SUMMARY OF 2001 REPORT**-This Technical Group dealt with the question "whether or not a viable wholesale electricity market exists in a region which includes Nebraska". The LR 455 Phase II report stated "that a viable wholesale market requires an operational regional 'market hub' through which transactions may take place. It requires sufficient buyers and sellers to make an active market. It requires clear and equitable trading rules. While judgment of what level of these requirements is sufficient may be considered subjective, viability should be reflected in stable or predictable pricing patterns".

Before moving toward retail competition, wholesale markets must be viable. The portion of a retail customer's bill that will be open to competition is the electric commodity (wholesale) portion. It is, therefore, important that the wholesale electric market be adequately established and be viable. The Group defined the term 'viable' using several alternate methodologies. Next, the size of the region was determined. Since the Nebraska electric system is in two portions of the United States interconnected systems, the region for each (Eastern and Western) was determined.

The Eastern Interconnect wholesale market appears to be viable in that it has an adequate number of buyers and sellers. However, at times it has limited access to reliable transmission facilities to either deliver electricity to Nebraska loads or export electricity generated in Nebraska to surrounding states, depending

on the demands on the transmission system. Since Nebraska's electricity supply is cost-based and consumer owned, there is considerably less volatility than that of the regional indices, which are based on the hourly, daily and monthly wholesale spot market.

There are considerable capacity shortfalls and transmission interconnect problems that have caused significant lack of continuity to energy deliveries to loads in the Western Interconnect. There could be significant economic implications to Nebraska utilities if large coal-fired generation is unavailable, de-rated or off-line to Western Nebraska utility members, which includes primarily MEAN which serves most of the municipalities in western Nebraska, and Tri-State G&T in Westminister, Colorado which serves all of the rural electrics in the panhandle of Nebraska.

### **ISSUE # 3 (Chapter 3)**

**2005 REPORT UPDATE-**There were no new developments in 2005 for Technical Group #3 to address.

**SUMMARY OF 2004 REPORT-**There were no new developments regarding unbundling of retail rates in Nebraska in 2004. Technical Group # 3 did conduct another survey of Nebraska's utilities in 2004 to obtain the current status of information gathered from a survey several years ago. Surveys were sent to 165 retail electric utilities. A response rate of 97.6% (161 utilities) produced the following results.

- One utility has formally unbundled their retail rates.
- Over half (78%) of the utilities did not have unbundled cost of service studies.
- Less than half (40%) of the utilities' billing systems will accommodate unbundling.
- Only 50% of the utilities believe they have enough information to unbundle.

These results are almost identical to the 2001 survey results.

**SUMMARY OF 2003 REPORT -**There were no new developments in 2003 for Technical Group #3 to address.

**SUMMARY OF 2002 REPORT -**For this year's report, this Technical Group was requested to estimate the cost that would be incurred if retail electric bills were to be unbundled in Nebraska. The cost associated with moving to retail competition is hard to estimate because of the different issues and concerns to be addressed. Unbundling of retail bills is put one small part of the entire deregulation process and can be impacted by the unique requirements that each state imposes on the process. In the 2002 report, this Group presents information regarding the estimated costs for unbundling bills in Nebraska for informational purposes only. It is not intended to estimate the total cost of deregulation.

The consumer-owned utilities in Nebraska were contacted to obtain their estimated costs of unbundling based on guidelines provided by the Technical Group. In addition, using information obtained from other states, a component for consumer education was derived and applied uniformly on a per customer basis to all of the utilities. Information from the utilities was aggregated to obtain a total cost for the State of Nebraska.

The expenses were identified in three categories. The total one-time Set-Up Expenses are estimated to be approximately \$7 million, the Annual On-Going Expenses are estimated to be approximately \$1 million, and the State-Wide Consumer Education Expenses are estimated at approximately \$1.2 million. These are preliminary estimates for informational purposes only and should not be relied on as the costs to unbundle retail electric bills in Nebraska if deregulation of the State's electric utility industry were to occur.

**SUMMARY OF 2001 REPORT-**This Technical Group was charged with determining "to what extent retail rates have been unbundled in Nebraska". To do this, the Group surveyed 162 municipal, rural electric cooperative, federal, state, and district electric utilities. The survey results showed that, except for one case, retail electric rates in Nebraska are not unbundled. The majority of electric utilities in Nebraska do not have unbundled cost of service studies, although half of all electric utilities surveyed believe they have enough

information to unbundle their rates. The survey also disclosed that only half of the utilities' billing systems would handle unbundling. Seventy percent of the utilities stated they would not unbundle their electric rates unless mandated.

There are many issues that are involved in unbundling retail electric rates. These issues will require resolution by the utilities or the state legislature in order to implement unbundling. Issues such as upgrading of billing systems and educating customers will involve significant time and expense. Discussion of these issues is contained in this report. The results of the survey, sample bills from other out-of-state utilities, and a summary table of unbundling activity nation-wide are included in the appendixes.

#### **Issue #4 (Chapter 4)**

**2005 REPORT UPDATE-**In 2005, Technical Group # 4 was again focused on the task of making "a comparison of Nebraska's wholesale electricity prices to the prices in the region". This involved using the same fixed and variable cost allocation tool that was used in prior years' comparisons. The results of this year's comparisons between the market product indices and the Nebraska production costs show that Nebraska production costs are approximately 28% lower than the equivalent "median" market price based on the period 2002-2005 (three years actual and one year estimated) and weighted based on MWH. These results compare to the prior period results for 2001-2004 of 21%. The results for 2002-2005 show a widening gap between the Nebraska production costs and the market, due mostly to the upward trend of market prices driven by higher natural prices. Nebraska utilities do not have as high of concentration of natural gas-fired units when compared to the entire electric industry. The "median" market price comparison compares favorably with rate comparisons. The Energy Information Administration annually compiles data from the Form EIA-861 for approximately 3,300 public and investor-owned electric utilities including active power marketers and other energy service providers. The most current data for 2003 shows that Nebraska's average retail rate of 5.40 cents/kWh is approximately 26% lower than the national average retail rate of 7.26 cents/kWh. The price volatility associated with Nebraska production costs remain stable compared to market price, providing a fairly consistent, less volatile, cost expectation for Nebraska's ratepayers.

**SUMMARY OF 2004 REPORT-**This Technical Group was assigned the task of making "a comparison of Nebraska's wholesale electricity prices to the prices in the region". The same fixed and variable cost allocation tool used in prior year comparisons was utilized for the 2004 comparisons. The results of this years comparisons between the market product indices and the Nebraska production costs show that Nebraska production costs are approximately 21% lower than the equivalent wholesale "median" market price based on the period 2001-2004 (three years actual and one year estimated) and weighted based on MWH. These results are slightly better than the 18% results for the prior period 2000-2003, due mostly to the upward trend of market prices driven by higher natural gas prices. Nebraska utilities do not have as high of concentration of natural gas-fired units when compared to the entire electric industry. The "median" market price comparison compares favorably with rate comparisons. The Energy Information Administration annually compiles data from the Form EIA-861 for approximately 3,300 public and investor-owned electric utilities including active power marketers and other energy service providers. The most current data for 2002 shows that Nebraska's average retail rate of 5.55 cents/kWh is approximately 23 % lower than the national average retail rate of 7.21 cents/kWh.

The calculated volatility is about the same for Nebraska production and the market. In the past, Nebraska production was lower than the market. Nebraska production volatility is slightly higher than the past, but the market volatility has decreased. There are three possible reasons the market volatility is lower than in previous years: 1) maturing of the market and better risk management practices, 2) the higher natural gas market driving all months prices higher and closer to one another, and 3) the present overbuilt capacity market in the Eastern Interconnect has reduced the capacity premium paid by the market in the summer, causing the monthly market costs in July and August to be closer to the other months. Reasons the Nebraska production costs have been rising include: 1) when Nebraska utilities baseloaded units are off-line, the utilities need to use higher variable cost units, and due to the rise in natural gas prices, there is a larger gap between the variable costs of a coal or nuclear unit vs. a natural gas unit, and 2) no new low

variable cost baseloaded units have come on line within the last few years, thus new native load is more likely to be served from the higher variable cost units.

**SUMMARY OF 2003 REPORT** - Technical Group # 4 utilized the same fixed and variable cost allocation tool in 2003 that was used in the prior two reports. The results of this years comparisons between the market product indices and the Nebraska production costs show that Nebraska production costs are approximately 18% lower than the equivalent wholesale “median” market price based on the period 2000-2003 (three years actual and one year estimated) and weighted based on MWH. These results are slightly better than the 15% results for the prior period 1999-2002 due primarily to the upward trend of market prices driven by higher natural gas prices and stable generation. The price volatility associated with Nebraska production costs remains stable compared to market price, providing a fairly consistent, less volatile, cost expectation for Nebraska’s ratepayers. The “median” market prices compare favorably with retail rate comparisons. The Energy Information Administration (EIA) annually compiles data from Form EIA-861 for approximately 3,300 public and investor-owned electric utilities including active power marketers and other energy service providers. The most current data for 2001 shows that Nebraska’s average retail rate of 5.39 cents/kWh is approximately 26 % below the national average of 7.32 cents/kWh.

The Nebraska power system product is based on a long-term “obligation to serve” that is not inherent in market-based electricity products. Typically, there is a thirty to forty year obligation stemming from the commitment to build various physical generation unit types to provide stability in power resources that is derived from having “iron in the ground”, and limited dependence on the market. This translates to a long-term commitment to providing physical resources that meet or exceed Nebraska’s power systems “obligation to serve”. A market-based electricity product provider does not share this same responsibility, hence, there is downward pressure on the price for the market-based electricity product as compared to local providers. This actual value is difficult to quantify since this is a subjective criteria that may be different for each customer depending on individual risk tolerance for price changes. Four different analytical approaches were developed and modeled to establish the value of the long-term “obligation to serve”. The results of the four different analyses indicate that it appears reasonable that the value of the long-term obligation to serve is in the \$3-\$5/MWH range for a 5X16 peaking type product. This results are presented for subjective consideration only, and are not specifically accounted for in the 2000-2003 Nebraska production cost comparison to market pricing.

**SUMMARY OF 2002 REPORT** - Although there are other cost allocation issues that could be considered for equitable comparison purposes, the modeling tool that was initially developed last year was updated and enhanced in 2002 to include user options to incorporate transmission cost adders that reflect the additional cost of actually delivering a market product to the Nebraska system (both losses & tariffs). Although this flexibility is built into the modeling tool, this year’s overall comparison results are based on these values being set to zero so that an equitable comparison to last year’s results can be made and any market bias perception is eliminated. A model user option to include an “obligation to serve” value was also incorporated, but, again, this option was set to zero for the same reasons described above. Additional model flexibility and information detail was incorporated to allow users to determine the effect of allocating fixed costs when the market price would allow higher price signals, even in winter months. This is for informational purpose only, and strictly impacts the market price weighted results, so the MWH-weighted results, considered the bottom-line comparison values, are not affected. Also, in order to compare various generation resource types, (baseload, intermediate & peaking) the model is enhanced to provide informational detail and comparisons on multiple physical resources as opposed to only an intermediate-type unit.

The results of this years comparisons between the market price indices and the Nebraska production costs show that Nebraska production costs are approximately 15% lower than the equivalent wholesale “median” market price based on the period 1999-2002 (three years actual and one year estimated) and weighted based on MHW. The results for the 1999-2002 study period are slightly lower than the results for the previous period, 1998-2001, due mostly to the downward trend of market prices driven by lower natural gas prices and increased generation, as well as a slight increase in Nebraska production costs. However, the price

volatility associated with Nebraska production costs remains stable compared to market price, providing a fairly consistent, less volatile, cost expectation for Nebraska's ratepayers.

The "median" market prices compare favorably with retail rate comparisons. The Energy Information Administration (EIA) annually compiles data from Form EIA-861 for approximately 3,300 public and investor-owned electric utilities including active power marketers and other energy service providers. The most current data for 2000 shows that Nebraska's average retail rate of 5.31 cents/kWh is approximately 22% lower than the national average retail rate of 6.78 cents/kWh.

**SUMMARY OF 2001 REPORT**--The task assigned to this Technical Group was to make "a comparison of Nebraska's wholesale electricity prices to the prices in the region". There are no directly comparable electric price indices available for the electricity product currently provided to and expected by Nebraska customers. The Nebraska product is a firm, total requirements product, available 24 hours per day, seven days a week in quantities that usually vary hourly, weekly, monthly, seasonally and annually based on individual customer needs. This obligation to serve includes both existing and new customers. The typical index provides a price for a fixed hourly quantity of energy, possibly with a premium for financial firmness, but with no obligations on the part of the seller beyond the current month or in the case of daily indices, beyond that day. The forward market does not have a published product that goes beyond an 18 to 24 month period. To make a price comparison using these available market product indices required the conversion of Nebraska's electricity prices to the market product indices.

There are several methods of approaching a fair and equitable comparison. As outlined in the report, the development of a fixed and variable cost allocation tool was deemed to be the best approach for modeling Nebraska's costs to the price indices that are publicly available, independent and credible.

The results of the comparisons between the market product indices and the Nebraska production costs show that Nebraska production costs are approximately 18% lower than the equivalent wholesale "median" market price based on the period 1998-2001 (three years actual and one year estimated) and weighted based on MWH. The "median" market prices compares favorably with retail rate comparisons. The Energy Information Administration (EIA) annually compiles data from Form EIA-861 for approximately 3,300 public and investor-owned electric utilities including active power marketers and other energy service providers. The most current data for 1999 shows that Nebraska's average retail rate of 5.31 cents/kwh is approximately 20% lower than the national average retail rate of 6.61 cents/kwh.

## **Issue #5 (Chapter 5)**

**2005 REPORT UPDATE**--The development of retail choice across the nation showed very little progress in the last year. On September 1, 2005 the Virginia Corporation Commission issued its fifth annual report on retail choice in the state noting that retail competition in Virginia has not led to prices lower than would have been charged under traditional regulation, and offered that "It appears that, from the data so far, most retail customers (especially residential) in restructured states where the transitional period has ended and the price is now based on the wholesale market, are seeing prices increase faster than in the non-structured states or states still in transition with a price cap. At best, at this point in time, no discernable overall benefit to retail consumers can be seen from restructuring".

Texas continues to receive attention as the most successful retail choice state. The process in Texas began in 1999 with legislation, and retail choice for all customers on January 1, 2002 at which time retail rates were reduced by 6%. Generally, retail choice participation in Texas is growing. During the period 2004 thru March 2005, residential participation has grown from just over 14% to 21.6%, and small industrial and commercial participation has increased from 19% to 28.9%. This equates to about 22.5% of the residential load, and 60% of the small industrial and commercial load. Over 65% of the large industrial loads have switched to non-affiliated retail electric suppliers.

On August 8, 2005, President Bush signed into law national energy policy legislation. Some of the major elements of this legislation were the repeal of a long-standing law, the Public Utility Holding Company

Act, and reform of the Public Utility Regulatory Policies Act of 1978. In addition, a provision known as “FERC Lite” will allow limited expansion of FERC jurisdiction over public power to promote wholesale power markets. Public power would provide transmission services at non-rate terms and conditions that are comparable to what they provide to themselves. No FERC ratemaking authority over public power was included. Other elements of the new law that could impact public power include: Service Obligation/Native Load Protection, Uniform Refund Authority, Participant Funded Transmission, Transmission Reliability Standards, Transmission Siting Authority, Renewable Energy Production Incentive, and Clean Energy Bonds.

**SUMMARY OF 2004 REPORT-**Little has changed in the development of retail choice around the nation in the past year. Most state retail choice programs are either struggling or inactive. A recent press release from the State Corporation Commission of Virginia noted, “that the electricity supply industry continues to struggle following price run-ups, disclosures of accounting and dated improprieties, credit worthiness issues and volatile fuel prices, particularly natural gas”. The release concludes, “that Virginia is not the exception when it comes to the lack of competitive activity for electricity service. In other states with retail choice, energy markets are generally inactive with few customers able to purchase power at a price lower than their traditional utility company”.

Texas continues to receive attention as the most successful retail choice state. It is important to note that much of Texas is operated as a separate electrical interconnection. This limits and confines the size of the restructured area and restricts the impact of wholesale energy deliveries from potentially lower cost resources. When Texas initiated the retail choice program, the impacted region was operating with significant generation in reserve and significant new Independent Power Producer projects underway. In addition, retail rates were relatively high, in the 10cents/kWh range, compared to other regions of the country. With these conditions in place, Texas provided a prime opportunity to initiate retail choice. This is not to discount what has been accomplished in Texas, but it does confirm that for retail choice to be successful, the appropriate preconditions need to be in place. Positive results have occurred in Texas, with residential participation in 2003 at 14%, and small industrial at 19%.

Driven in part by the electricity supply and reliability problems in the western United States, as well as the large blackout in the Northeast in August 2003, the focus of restructuring has been expanded to include energy supply and infrastructure concerns, as well as reliability. Legislation addressing regional transmission entities, eminent domain, transmission reliability standards, and other issues has been the focus of both Congress and the FERC. Infrastructure/pipelines for natural gas have not kept up with the growing demand for natural gas, which has become the most common fuel for generating facilities built in the last ten years.

Although there were renewed efforts to pass national energy legislation in 2004, it is highly unlikely national energy policy legislation will pass in 2004, and it is unknown whether Congress will push for passage of such legislation next year.

**SUMMARY OF 2003 REPORT** -Retail deregulation gained considerable popularity between the late 1990's and January 2001 with 25 state legislatures or regulatory agencies committing to various forms of retail customer choice. This trend reversed considerably by June 2003 when only 18 states and the District of Columbia were pursuing such action and some of these states have retail choice on only a very limited basis. Five other states have suspended or repealed retail choice, while retail choice is not being pursued in the remaining 27 states.

In 2003, Arkansas repealed retail choice with the caveat that their PUC would study the possibility of retail choice for the largest power users. New Mexico also repealed retail choice in 2003, while in Oregon, retail choice has commenced for non-residential customers only. In late 2002, Arizona eliminated a key provision of their deregulation plan that would have required two of the state's large investor-owned utilities to move their power plants into a separate subsidiary or sell them to another unrelated company.

By June 2003 new developments were emerging in California's efforts to restore stability to its electricity markets. Pacific Gas & Electric reached a tentative settlement with the PUC on a plan to allow the company to emerge from bankruptcy. Also in June 2003, the California Legislature was working on a proposal to dismantle the state's retail choice law and return to traditional rate regulation. The Legislature is experiencing difficulty in writing the new law in the face of opposition from consumer, business and utility interests. The legal effort to recoup nearly \$12 billion in energy costs under contracts signed during the height of the 2000-2001 wholesale power crisis was set back when FERC voted to uphold the contracts despite massive evidence of market manipulation during the time frame which they were entered into.

In Montana, the PUC approved guidelines for NorthWestern Energy to follow as the company procures electricity on behalf of its 290,000 mostly residential and small business customers who have not chosen an alternative supplier. In its role as default supplier, NorthWestern must assemble a portfolio of supply contracts to provide electricity to these retail customers, and can recover its prudently incurred costs for that service.

Pennsylvania has seen deterioration in retail choice over the last three years as measured by the energy sold to all customers and industrial customers by competitive suppliers.

Some customer switching has occurred in New York, although the numbers are but a fraction of those that are eligible.

Although retail choice has technically been in effect in Connecticut since July 2000, the concept remains more theory than reality as most suppliers have shown little interest in the Connecticut market. In January 2003 Green Mountain Energy Co. pulled out of the Connecticut market after less than a year of doing business in the state.

In Maine, there has been some progression of the percentage of load served by competitive suppliers but mostly to customers with attractive load profiles. There is virtually no competition in the residential or commercial markets.

In Massachusetts retail choice accounts for about 15% of all energy sold, with the majority being sold to the largest customers. There has been some minimal success in marketing to residential customers via a municipal aggregation program in the Cape Cod region of the state.

Some analysts of the New England electricity markets are now raising flags of caution on the regions increasing reliance on natural gas as the fuel choice for new generating facilities. The regions fuel diversity is now undergoing substantial revision due to environmental concerns and the cost of construction associated with coal and nuclear construction. According to a 2003 report of the Associated Industries of Massachusetts, "New England's reliance on natural gas to fuel all new plants has raised concerns that new plants may cause existing natural gas pipeline capacity to be approached or exceeded within a few years. In addition, up to 75% of the new power plants being built or currently in operation are located on just two of

the regions five major pipelines. As a result, the security of the gas grid is becoming increasingly important to the reliability of the electric grid.”

In a May 2003 report, the Ohio PUC indicated that most of the success of retail choice in Ohio is a result of the customer aggregation provisions of the retail choice law.

In Illinois, there was a small increase in the number of customers participating in retail choice. However, of the 15 alternative energy suppliers certified by the state, none have requested certification to serve residential customers

In a January 2003 report, the Texas PUC detailed the status and progress of retail competition after one full year of implementation. The PUC estimates that retail customers have saved over \$1.5 billion in electricity costs during the first year, and low-income customers have received almost \$70 million in discounts through the System Benefit Fund through October 2002. In all areas open to competition, there are multiple retail electric providers, with as many as ten offering residential service in some areas. The PUC indicated that the competitive market is small but growing. There have been some problems in the Texas market. New Power was one of the more aggressive marketers in Texas. After signing up 78,000 customers, it filed for bankruptcy in June 2002. Technical problems have delayed bills and blocked some switching requests. A far more serious problem emerged in March 2003 when a surge in wholesale power prices indicated evidence of market manipulation, prompting a Texas PUC official to state that some regulation of the merchant energy business may be needed.

Arkansas has been thru a series of legislative actions dealing with retail choice since 1999, the latest of which was in early 2003 to repeal the retail choice in Arkansas.

Driven in large part by the electricity supply and reliability problems in the western United States, the issues of restructuring have now been expanded to include energy supply and infrastructure concerns. Transmission across the United States is frequently inadequate to support retail deregulation. Legislation addressing regional transmission entities, eminent domain, transmission reliability standards, and other issues has been the focus of both Congress and the FERC. Infrastructure/pipelines for natural gas supply have not kept up growing demand for natural gas, which has become the most common fuel for generating facilities built in the last ten years.

**SUMMARY OF 2002 REPORT** -On March 21, 2002 the California PUC took the long anticipated step of suspending the direct access program effective back to September 20, 2001. The order announced a remarkable shift in philosophy on the part of the PUC that has long championed the merits of customer choice and market efficiency. In February 2002, the California PUC filed a complaint with the FERC against certain sellers of long-term power contracts to the state alleging that a significant number of wholesale power contracts entered into by the state were at prices some \$21 billion in excess of what could be considered “just and reasonable” and that the state was forced to procure enormous amounts of electricity under conditions of extreme market power. Recent disclosures in the Enron bankruptcy matter have given new ammunition to California’s claim.

In Montana very few residential customers have selected a competitive supplier and no competitive suppliers are currently marketing to them. Montana Power Company faded into history when its electricity assets were purchased by NorthWestern Energy Company based in South Dakota.

Although Pennsylvania is often cited as the one state where retail competition exists in a meaningful way, there are fewer customers switched today than there were three years ago. Both the energy sold by competitive suppliers to all customers and the quantity of energy sold by competitive suppliers to industrial customers is considerably below that of three years ago.

In Illinois, residential customers were given the retail choice option as of May 1, 2002. The Illinois Commission continues to find signs of retail electric market growth in the service territories of the three largest utilities in the state, but customer switching is still negligible or non-existent in the service

territories of the state's smaller utilities. The Commission explained in its 2001 report that growth in the retail market is dependent on the competitiveness of the wholesale market, but there are indications that the wholesale market is not yet capable of supporting a competitive retail market.

In February 2002, Vermont halted its investigation into retail competition stating that significant changes and uncertainty in the wholesale market for electricity make conditions inappropriate for the implementation of retail choice for several years.

In November 2001, a Florida Study Commission issued a final report calling for the State of Florida to transition to a competitive wholesale market. However, the Commission recommended that the retail electric market remain regulated.

The Louisiana Public Service Commission issued an order in December 2001 which reaffirmed their earlier conclusion that retail competition in Louisiana, which is a low cost state, would not be in the public interest for any class of retail customer.

In December 2001, the Arkansas PUC provided a report to the legislature recommending either a repeal of the Electric Consumer Choice Act of 1999, or a delay in the start of retail competition until 2012. The Commission estimated that retail competition could result in rate hikes of up to 13%. The legislature will consider this recommendation when it next meets in 2003.

The jury is still out on the State of Texas Electrical Deregulation. After a brief pilot program last summer to test the waters, nearly all the State of Texas was deregulated on January 1, 2002. Information on the number of customers that have switched is limited. In southeast Texas, deregulation of retail sales has been delayed to 2003 due to the lack of a regional transmission organization. Despite aggressive promotional campaigns, the average Texas consumer isn't convinced there is much value in switching providers, and interest is not much higher among commercial and industrial customers. Startup delays, lag in switching customers to new suppliers and computer problems have contributed to customer reluctance to switch providers. Texas Utilities recently announced that as many as 150,000 customers have gone without power bills for several months and many municipalities report hundreds of thousands in lost savings because of billing problems. The aftermath of the California troubles and the bankruptcy of Enron have cast a shadow over deregulation. Recent disclosures of trading irregularities at Dynegy and Reliant have also created further doubts in consumer's minds. Texas has plenty of power plants to supply power, and Texas incumbent utilities can raise rates twice a year when natural gas prices change, shielding them from bankruptcy when power prices skyrocket. Until the switching process is smoothed out, consumers will continue to resist deregulation as they see no positive value in changing providers.

At the Federal level, House Bill HR4 and Senate Bill S517 have both been passed and are now in conference. Whether compromise legislation can be agreed to should be known by October 2002. Depending on its final form, this legislation could dramatically impact the electric industry throughout the nation.

**SUMMARY OF 2001 REPORT**-This Technical Group was asked to assemble "any other information the board believes to be beneficial to the Governor, the Legislature, and Nebraska's citizens when considering whether retail electric competition would be beneficial, such as, but not limited to, an update on deregulation activities in other states and an update on federal deregulation activities".

Retail deregulation gained considerable popularity between the late 1990's and 2001 with 25 state legislatures or regulatory agencies committing to various forms of customer choice. However, developments during the summer of 2000 in California, Washington, Montana, New York and certain other states have created significant questions about the benefits of retail choice and have resulted in delays or repeals of retail choice in six states.

This section contains a brief summary of the status and implementation of retail competition in a variety of states. Some of these states have attempted a retail competition regime for a number of years while others are just now beginning to implement retail competition legislation. No state was found that had a vibrant

competitive retail electricity market. The crisis in California affected all 11 states in the western grid. Volatile wholesale markets resulting, in part, from poorly implemented retail deregulation can have tremendous impacts in states that have formally rejected retail choice.

On the federal level, two national energy policy bills have been introduced in the Senate, but neither has been passed. In the House, national energy policy legislation (H.R. 4) was introduced on July 27, 2001 and was passed on August 2, 2001. The Bush Administration has released its recommendations for a national energy policy, but no action has taken place to date. FERC recently extended wholesale price controls over California's spot market as well as spot market sales in the entire 11 state Western System Coordinating Council area.

In July 2001, the FERC issued orders, the purpose of which is to create four regional transmission organizations. FERC's orders mandate action designed to create Southeast and Northeast RTO's. The orders do not require immediate action for the Midwest or West RTO's. FERC's ability to make that happen and how Nebraska's public power, cooperative and federal transmission facilities might be voluntarily integrated in the process remain as open questions.