Chapter 2

"Whether or not a viable wholesale electricity market exists in a region which includes Nebraska."

1.0 Introduction

1.1 Groups' Purpose and Membership

The purpose of the second “condition-certain” issue group was to determine "whether or not a viable wholesale electricity market exists in a region which includes Nebraska." The Technical Group #2 that worked on this issue was combined with the Technical Group #4 because of the common backgrounds required and the similarities of the issue and included the following individuals:

Clint Johannes, Chairman	-	Nebraska Electric Generation & Transmission Cooperative, Inc. (NEG&T)
Bruce Abernethy	-	Lincoln Electric System (LES)
Deeno Boosalis	-	Omaha Public Power District (OPPD)
Barry Campbell	-	Nebraska Public Power District (NPPD)
Doug Erickson	-	The Energy Authority (TEA)
Kevin Gaden	-	Municipal Energy Agency of Nebraska (MEAN)
Burhl Gilpin	-	Grand Island Utilities
John Krajewski	-	MEAN
Derril Marshall	-	Fremont Utilities
Allen Meyer	-	Hastings Utilities
David Ried	-	OPPD

One critical "condition-certain" factor is whether there is a viable wholesale market in place. The LR455 Phase II report (released in December 1999) 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 primary lesson from the California experience with deregulation is, if the wholesale market is dysfunctional, the retail market will be as well. The portion of a retail customer's bill that will be open to competition is the electric commodity (wholesale) portion. The transmission and distribution wires will be utilized much the same with any electric commodity supplier – only one set of electric wires can be financially or operationally supported. It is, therefore, important that the wholesale electric market be adequately established and be viable. This issue addresses that viability for Nebraska.

1.2 Approach

To accomplish the purpose described, the Group first 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 transmission grid, the region for each (eastern and western) was determined.

2.0 Viable Wholesale Market Definition

2.1 Economic Logic

According to the Merriam-Webster Collegiate Dictionary Tenth Edition, the term “Viable” means:

> **1**: capable of living; *especially*: capable of surviving outside the mother's womb without artificial support <the normal human fetus is usually *viable* by the end of the seventh month>
> **2**: capable of growing or developing <*viable* seeds> <*viable* eggs>
> **3a**: capable of working, functioning, or developing adequately <*viable* alternatives> **b**: capable of existence and development as an independent unit <the colony is now a *viable* state> **c** (1): having a reasonable chance of succeeding <a *viable* candidate> (2): financially sustainable <a *viable* enterprise>

For the purpose of this report, the generic definition of a “viable market”, as described in [3 C(1)] above, shall be deemed as “having a reasonable chance of succeeding” financially.

2.2 FERC Definition

Analysis shows a "viable market" must be one in which no single utility, or group of utilities, is able to exercise "market power." The Federal Energy Regulatory Commission (FERC) established procedures for determining whether a proposed merger or settlement will impact certain regions or individual utilities and enhance the ability of certain utilities to control prices or exclude competition. This is known in the regulatory community as "market power." FERC provides the following definition: Market power exis ts if there are concerns with market concentration.

In its merger guidelines, FERC defines "market concentration" in Order No. 592, Merger Policy Statement. In Order No. 592, FERC defines two relevant products for this assessment: economic capacity and available economic capacity. Economic capacity includes all generation in a given area that can be delivered at a price not exceeding 105% of the market price. Available economic capacity is similar to economic capacity, except it does not include capacity required to serve native load. For purposes of determining how viable the wholesale market is, available economic capacity is of greater relevance. Resources committed to serving existing native load would not provide suitable competition to create a "viable market," as that term is defined in this report.

In determining the market concentration for available economic capacity, FERC looks at suppliers that can supply the product (wholesale capacity and energy) at a cost no greater than 5% above the competitive price. The concentration of suppliers that have available economic capacity and energy that can be supplied is less than the FERC-defined threshold for an "unconcentrated" market. FERC defines this using the Herfindahl-Hierschman Index (HHI), which is calculated by summing the squares of the market share of all competitors that can supply power at a price no greater than 5% above the competitive price. An HHI of less than 1,000 indicates an unconcentrated market. This analysis is often referred to as a "hub and spoke" test. The test is described in Section 2.3.

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 has 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 (Docket No. ER96-2495-015, et al). 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. A complete review of the new FERC tests and their impacts on this report are included in Section 4.1.1.3.

2.3 Basic Elements of Traditional FERC Market Power Analysis

In general arithmetic terms, to achieve an unconcentrated market, there would need to be roughly 10 suppliers each with roughly 10% of the market. No single supplier should have more than 20% of the market and there should be at least 10-15 other competitive suppliers. Each of these suppliers must be capable of providing capacity and energy at prices competitive with the prevailing market price.

Off-system energy sales data was calculated for utilities in a market region that is roughly defined as the Mid-Continent Area Power Pool plus one transmission tier. This raw data was attained from the 2000 Resource Data International (RDI) database. The results are shown on Exhibit II-1. This approach is different from the market index approach that is used in Issue #4 of this report. This is because the futures indices are only available for certain electric trading hubs. The "markets" or "hubs" represent specific transmission systems where the electricity can be obtained at the price listed on the specified index. However, it may not be possible to procure transmission from the hubs to Nebraska. Since available economic capacity is defined as "capacity not needed to serve a utility's native load obligations (including applicable reserve requirements)" and capacity is defined as "all of a utility's generating capacity", therefore, the available capacity should be the net difference between total capacity in the region and peak demand of the utilities serving the region, as calculated in Exhibit II-1.

One item that should be noted is the difference between Nebraska's supply cost and the indices. There is considerably less price volatility in Nebraska's customer-owned generation and long term purchase contracts than the hourly, daily, and monthly wholesale spot markets. This difference is due to the stability of the physical asset base and long-term contracts that provide less variability associated with fuel cost volatility, transmission access, and regional regulatory issues.

2.4 Definition of a Viable Market

Considering the factors described above, the following definition of a "viable market" is used for this report:

"A viable market is a market that has roughly the same number of competitive wholesale buyers and sellers that have adequate resources and transmission capabilities to serve the electric power needs of the defined region or market."

There must be at least 10-15 sellers of roughly equivalent size and scope that can provide capacity and energy at rates competitive with prevailing market prices. A viable market also provides relevant real-time information to all market participants. A viable market also must be a sustainable market. Although there are various thoughts on this, there appears to be consensus that the recent wholesale market in the Western Interconnect is not sustainable from a price standpoint for the long-term at current retail rates and wholesale cost expectations.

3.0 Region Defined

3.1 East/West Interconnection Description

The Eastern and Western Interconnections are separated by six alternating current/direct current/alternating current (AC/DC/AC) tie converter stations, which are located throughout various states in the U.S. and provinces in Canada. These include ties such as the Miles City Tie in Montana, the McNeill Tie in Western Saskatchewan, Canada, the Blackwater Tie and the Artesia Tie, both in Eastern New Mexico. Two of those ties are located in the State of Nebraska: (1) the Stegall converter station, located just southwest of Scottsbluff, Nebraska, which is a 110 MW facility that is owned and controlled by Basin Electric Power Cooperative from North Dakota; and (2) the Virginia Smith converter station (also known as the Sidney tie), which is located just north of Sidney, Nebraska, is a 200 MW converter station that was installed by Western Area Power Administration (WAPA) and controlled by the WAPA-Rocky Mountain Regional office in Loveland, Colorado. In essence, the potential market that interconnects to the West to/from Nebraska has an impact of 310 MW; however, most of that capacity is committed for the long-term by utilities and marketers outside Nebraska.

3.2 Nebraska's Portion of Each Interconnect

The converter station owned and controlled by Basin (Stegall) is used at the discretion of Basin operational staff. The Sidney tie is placed under WAPA's Open Access Tariff that is being applied on a uniform tariff basis by WAPA. Therefore, it uses FERC approved Open Access Same Time Information System (OASIS) and all the other tariff provisions that are required including on-line reservations and ancillary charges that are Internet subscription based. There are a few Nebraska based utilities that have rights to deliver WAPA allocations over the Sidney Tie from the Loveland Area Office to utilities located in western Nebraska. Other utilities, specifically NPPD and MEAN, have contracted paths for deliveries from the West system to the East system. There are also long-term rights that are held by some Nebraska utilities to serve loads via the Sidney Tie. Concerning the Stegall Tie, there is no contractual commitment by any Nebraska utilities to transmit power through this facility.

3.3 Eastern Interconnection Defined

The Eastern Interconnection is defined as any generation and load that is synchronously connected to the grid that includes the entire eastern, southern and central United States and eastern Canada. Generally, this includes the states and provinces of North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, a small portion of Texas and all states to the east as well as Saskatchewan and provinces to the east. However, there are a few locations, including the far western edge of South Dakota (divided at Rapid City) and everything located west of Sidney, Nebraska, that are not on the Eastern Interconnection. This includes almost all of the NERC reliability regions such as MAPP, MAIN, SPP, ECAR, NECC, FRCC, MAAC and SERC as defined in the glossary. The regions that specifically impact Nebraska include the MAPP region, the MAIN region, and the SPP region because some Nebraska utilities have contracted to receive or deliver power to those locations. (See Exhibit II-2)

3.4 ERCOT Interconnection

The Electric Reliability Council of Texas (ERCOT) operates its own interconnect, separated from the rest of the Eastern Interconnection by two AC/DC/AC ties. The amount of transfer capability between ERCOT and the Eastern Interconnection is 800 MW.

3.5 Western Interconnection Defined

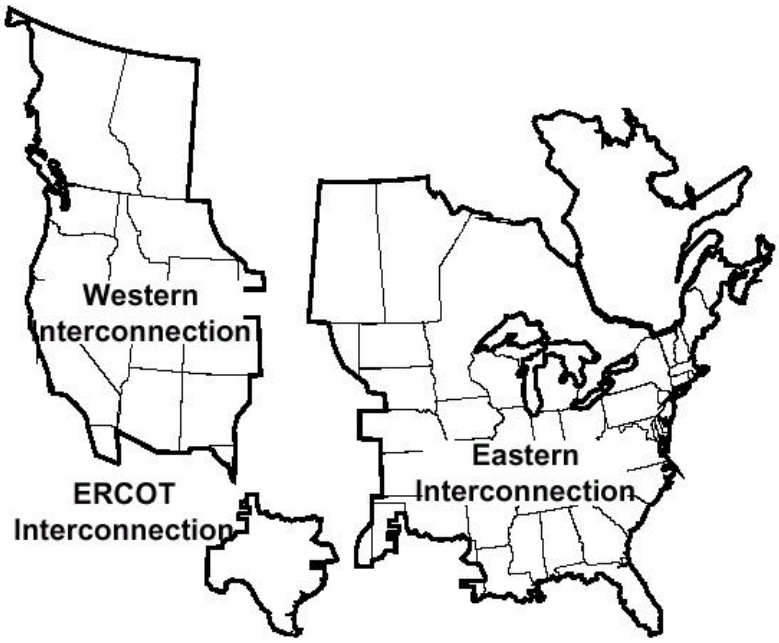
The Western Interconnection is defined as all load and resources that are synchronously connected with the reliability region of the Western Systems Coordinating Council (WSCC). States and provinces in this region include most of Montana, with the exception of a small part of eastern Montana that is located on the Eastern Interconnect (basically, everything west of Miles City, Montana), Wyoming, Colorado (with the exception of a small portion in the northwest corner that is connected on the Eastern Interconnect), New Mexico, Nevada, Idaho Washington, Oregon, California, Alberta, and British Columbia.

Exhibit II-1

MARKET CONCENTRATION for AVAILABLE ECONOMIC CAPACITY CALCULATION TABLE

2000 Vintage Data	Number of Suppliers = 42			Number of Suppliers = 39		
	Maximum = 12.4%			Maximum 21.6%		
	HHI Calculation = 543.6			HHI Calculation = 942.7		
Utility Name	**Native Load Energy MWH**	**N L Energy % of Total**	**% Squared**	**Non-Requirements Wholesale Sales MWH**	**Non-Req. Whls Sales % of Total**	**% Squared**
Alliant West	2,018,094	0.7%	0.5	688,430	0.7%	0.5
Associated Electric Coop., Inc.	14,589,245	5.2%	26.7	4,016,813	4.2%	18.0
Basin Electric Power Coop	16,336,663	5.8%	33.5	12,450,877	13.1%	172.5
Black Hills Corp.	2,122,766	0.8%	0.6	684,378	0.7%	0.5
Colorado Springs Utilities	3,758,795	1.3%	1.8	113,588	0.1%	0.0
Columbia Water & Light Dept.	61,700	0.02%	0.0	8,282	0.0%	0.0
Cooperative Power Assoc.						
Dairyland Power Coop.	4,998,119	1.8%	3.1	677,069	0.7%	0.5
Empire District Electric Co.	2,700,657	1.0%	0.9	161,292	0.2%	0.0
Grand River Dam Authority	5,960,057	2.1%	4.5	479,492	0.5%	0.3
Great River Energy	10,109,464	3.6%	12.8	3,361,775	3.5%	12.6
Hutchinson Utilities Commission	113,748	0.04%	0.0	13,016	0.0%	0.0
IES Utilities, Inc.	9,964,231	3.5%	12.5	913,810	1.0%	0.9
Independence Power & Light Dept.	214,604	0.1%	0.0	31,821	0.0%	0.0
Interstate Power Co.	4,396,853	1.6%	2.4	592,375	0.6%	0.4
Kansas City Board of Public Utilities	2,574,410	0.9%	0.8			
Kansas City Power & Light Co.	14,951,919	5.3%	28.0	1,588,488	1.7%	2.8
Lincoln Electric System	1,285,629	0.5%	0.2	365,163	0.4%	0.1
Manitoba Hydro						
MidAmerican Energy Co.	20,807,804	7.4%	54.3	6,851,154	7.2%	52.2
Midwest Energy, Inc.	1,472	0.001%	0.0	59,464	0.1%	0.0
Minnesota Power & Light	6,938,196	2.5%	6.0	1,711,739	1.8%	3.3
Minnkota Power Coop., Inc.	1,663,033	0.6%	0.3	1,261,793	1.3%	1.8
Missouri Basin Municipal Power Agency						
Missouri Public Service						
Montana Dakota Utilities	2,331,188	0.8%	0.7	930,318	1.0%	1.0
Municipal Energy Agency of Nebraska	204,113	0.1%	0.0	429,069	0.5%	0.2
Muscatine Power & Water	1,359,113	0.5%	0.2	511,698	0.5%	0.3
Nebraska Public Power District	14,258,837	5.1%	25.5	8,534,269	9.0%	81.1
Northern States Power Co.	34,904,563	12.4%	152.9	6,500,442	6.9%	47.0
Northwestern Public Service Co.	1,566,537	0.6%	0.3	373,713	0.4%	0.2
Oklahoma Gas & Electric Co.	23,327,212	8.3%	68.3	256,358	0.3%	0.1
Oklahoma Municipal Power Authority	939,573	0.3%	0.1			
Omaha Public Power District	11,760,938	4.2%	17.4	4,135,753	4.4%	19.0
Otter Tail Power Co.	3,610,302	1.3%	1.6	1,494,241	1.6%	2.5
Pacificorp-East	11,007,517	3.9%	15.2	5,450,484	5.7%	33.1
Platte River Power Authority	3,239,346	1.1%	1.3	471,356	0.5%	0.2
PSC of Colorado - Eastern Colorado	21,641,254	7.7%	58.8	20,504,605	21.6%	467.9
Saskatchewan Power						
Southern Minnesota Municipal Power Agency	2,583,216	0.9%	0.8	273,485	0.3%	0.1
Southwestern Power Administration	3,761,778	1.3%	1.8			
Springfield City Utilities	2,945,747	1.0%	1.1	446,359	0.5%	0.2
St. Joseph Light & Power Co.	1,255,293	0.4%	0.2	135,017	0.1%	0.0
Sunflower Electric Power Corp., Inc.	2,643,717	0.9%	0.9	864,834	0.9%	0.8
United Power Assoc.						
WAPA Billings East (UM-East)	4,206,211	1.5%	2.2	1,497,055	1.6%	2.5
WAPA Billings West (UM-West)						
WAPA Montrose (UC/LM)	4,251,175	1.5%	2.3	3,422,013	3.6%	13.0
West Plains, Colorado						
West Plains, Kansas						
Western Farmers Electric Coop.	4,955,977	1.8%	3.1	2,533,489	2.7%	7.1
Western Resources, Inc.						
TOTAL	**282,321,066**		**543.6**	**94,795,377**		**942.7**

Exhibit II-2



3.6 Reasons for Size of Region Used for this Report

The reason that was applied to the definition of Region, defined from a trader's experience, is a realistic distance that power can be expected to be imported or exported from Nebraska without realizing substantial risks on transmission availability or costs. It was decided that anything with additional wheeling becomes a reliability risk and higher cost that would drive the generation price to non-competitive levels. Although there may be isolated cases where power from SERC or the Tennessee Valley Authority (TVA) may be able to be delivered reliably to Nebraska, it is highly unlikely that power from the southern United States would be delivered reliably to Nebraska ratepayers during the peak time of the summer and winter periods.

For the purposes of this report, the Region is considered to be the area which Nebraska utilities would either import or export electricity. Based on the experience of the marketing staffs from the respective Nebraska member utilities, the size of the Region was defined as described below.

3.6.1 Eastern Region

For the purposes of this report, the Region will be the same that was used in last year's report. This would include all members of MAPP, and all utilities that are directly interconnected with a MAPP utility can use the MAPP Schedule F Transmission Tariff. This would encompass utilities located in the western portion of MAIN, which are primarily located in Illinois, Indiana, Wisconsin and Michigan that have the ability to interconnect directly with MAPP. For purposes of this analysis, we would include utilities that were no more than one transmission system away from a MAPP member transmission utility prior to establishment of MISO.

The other systems included are the northern SPP Region, which includes those utilities that are interconnected in Northern Kansas, such as Western Resources, Kansas City (Kansas) BPU, UtiliCorp United, and Sunflower Electric and Mid-West Electric in Western Kansas. With regard to Missouri, this Region would include most of the Western Missouri utilities such as Kansas City Power & Light (KCP&L), UtiliCorp United, Missouri Public Service and St. Joseph Light & Power (SJLP). The last two listed are subsidiaries of UtiliCorp United. This area is shown as the first map in Exhibit II-3.

This year, an alternative Market Region was considered. This region would have included utilities that are currently members of the Midwest Independent System Operator (MISO) or utilities that are likely to become members. This would have included all of MAPP plus one transmission tier, which is essentially the same definition as last year with the qualification that the MAPP area shrunk and the transmission tier got much larger with the introduction of MISO. The area would have encompassed members of the TRANSlink Independent Transmission Company (See Issue #1) that will ostensibly become part of MISO. The region described above is shown as the second map in

Exhibit II-3. This encompasses members in the areas of MAPP, MAIN, Northern portions of SPP, Western portions of ECAR and far Northwestern portions of SERC. This new region was considered because, by definition, a Regional Transmission Organization (RTO) will function as a single market.

After careful consideration and discussion with members of the Issue #1 (Regional Transmission Organization) Committee, it was decided to use the same Market Region as defined last year. The logic being that the Midwest Independent System Operator (MISO) has not yet been completely formed, nor are all the protocols and rules completely developed. The result is that Nebraska utilities and MISO do not currently function as a single market and may not do so for the foreseeable future. Perhaps in the future when MISO is completely formed and mechanisms are in place to deal with a number of transmission issues, including some considerable transmission constraints, this will be a viable Market Region. The committee will monitor this development.

3.6.2 Western Region

The size of the Region on the Western Interconnect was considered to be everything inside of WAPA's Rocky Mountain Region control area, which is headquartered in Loveland, Colorado. This region includes all of the panhandle of Nebraska (everything west of Sidney, Nebraska), including Scottsbluff, Gering, Mitchell, Morrill, Kimball, Lyman and many of the rural electric distributors, such as Chimney Rock PPD and Wyrulec Electric, which are served by Tri-State G&T; select areas of western Colorado, including the Craig Station (near Craig and Hayden, CO), and the Four-Corners region of New Mexico; the Mona region in eastern Utah, which is interconnected with many Utah municipal utilities as well as Pacificorp. Additionally, the Pacificorp transmission system, which is primarily western Montana, western Wyoming, western Utah, and all of Idaho, Washington and Oregon, is located within one transmission path of WAPA.

Exhibit II-3

Map 1 – MAPP and Utilities directly interconnected with MAPP before MISO

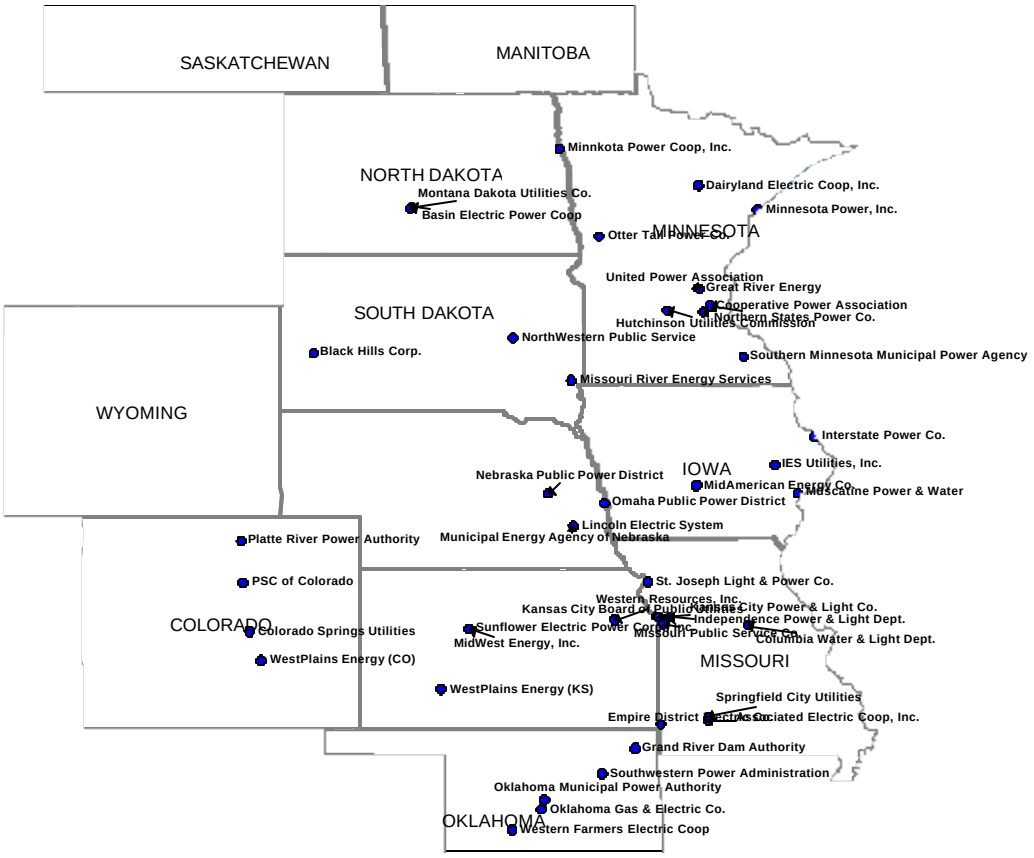
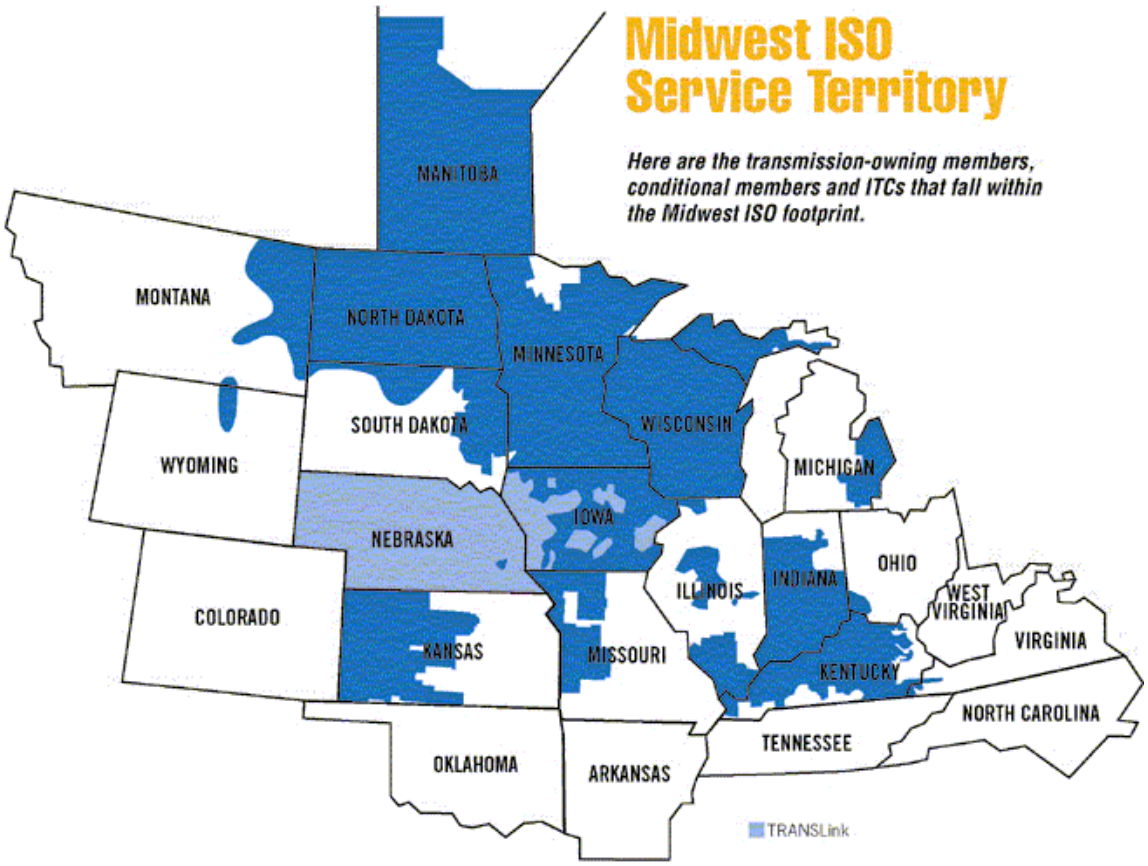


Exhibit II-3 (continued)

Map 2 – MISO service territory including TRANSlink Utilities

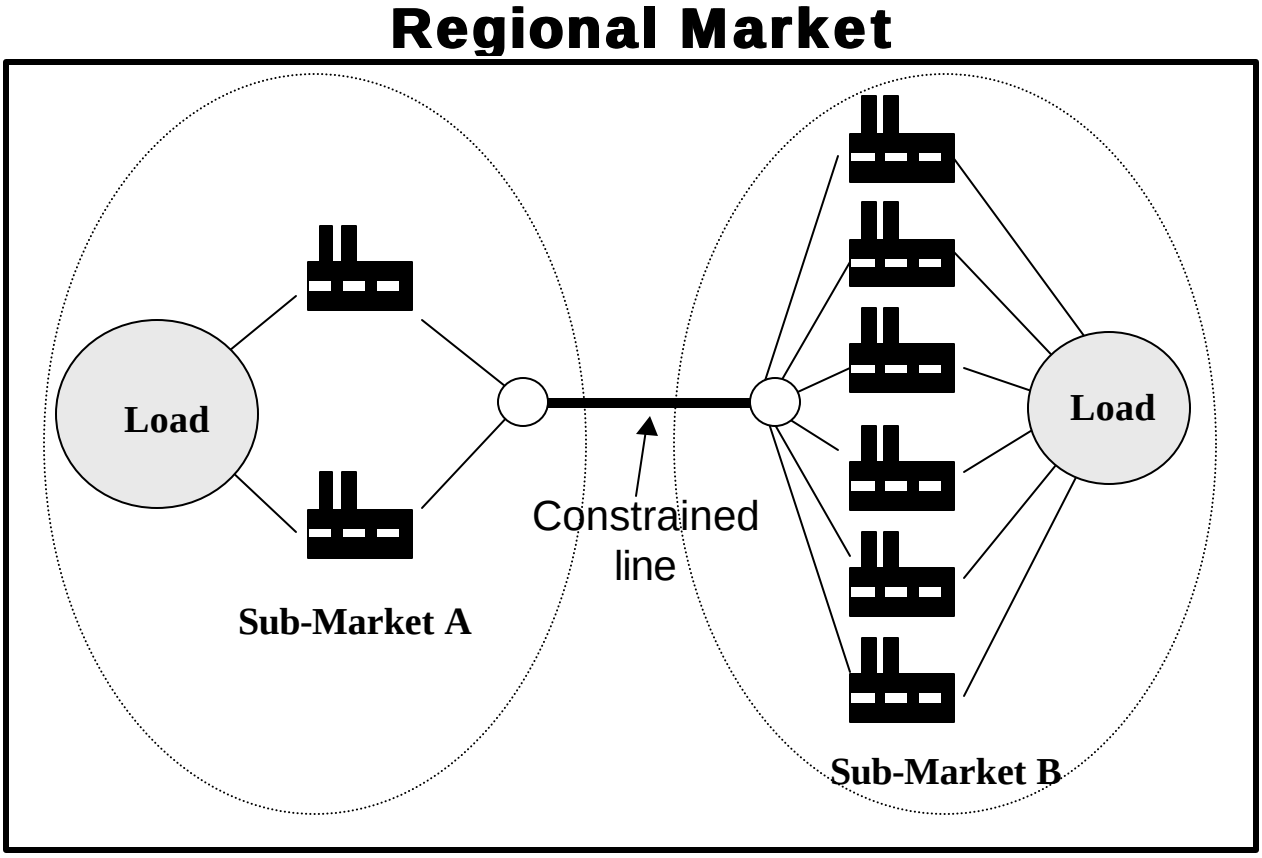


4.0 New FERC Methods for Assessing Market Power

4.1 Reasons for Instituting New Methods

FERC began to consider alternatives to the "hub and spoke" method because of concerns that transmission constraints can create pockets of market power. This was brought to the attention of FERC by many parties who intervened in FERC dockets attesting to market power created by constraints. The traditional "hub and spoke" analysis does not consider the effects of limited transmission when defining market share. According to FERC, "Hub and spoke worked reasonably well for almost a decade when the markets were essentially vertical monopolies trading on the margin, and retail loads were only partially exposed to the market. Since that time, markets have changed and expanded. Because markets are fundamentally different from years ago, the hub and spoke may no longer be a sufficient test for granting market-base rates." An implicit assumption in the "hub and spoke" analysis is that market power derived from transmission will not be an issue if the utility in question has filed an open access tariff. Transmission constraints have been shown to cause market power for generators by subdividing a large market area into two or more sub-markets during times of high transmission usage. For example, Exhibit II-4 shows a simplified, hypothetical market with eight generators serving total customer load (represented by the shaded circles). Assuming none of the eight generators has more than 20% market share, this would be a viable market. However, a constraint on a major transmission line will bifurcate the market into two sub-regions, A and B. The two generators left serving the lions share of load in Sub-Market A can exercise market power by withholding generation. Experience from California and other areas have provided strong evidence that this can indeed happen. Even though the constraints may last for a limited period of time, they generally coincide with periods of high wholesale prices. Therefore, the effect of these short periods of market power can be dramatic.

Exhibit II-4



4.1.1 New Tests of Market Power

4.1.1.1 Modified "Hub and Spoke" Test

One test FERC has used to assess market power caused by transmission constraints is a variation of the traditional "hub and spoke" test. This test is similar to the analysis shown in Exhibit II-1, except that it calculates utility market shares for non-requirement wholesale power during peak periods as opposed to the entire year. During peak periods, some utilities may not be able to sell wholesale power because of transmission constraints raising the market shares for the utilities unaffected by transmission constraints. Therefore, a traditional "hub and spoke" test may show a relatively unconcentrated market, whereas, the same test during peak periods may show a concentrated market. Conducting this analysis requires data that may not be publicly available, notably the wholesale sales and available capacity for each utility during the peak time period.

4.1.1.2 Electricity Market Models

FERC has started to employ electricity market simulations to assess market power in electric markets. This is especially true for merger analysis. These simulations attempt to model both the price determination (bid-auction) of wholesale and the electricity flows in the regional market. The advantage of using such a simulation is that it captures some of the nuances and gaming that can occur in electric markets. For example, a simulation may demonstrate that a company can run one generating plant at a loss but create a transmission constraint that will create market power for another generating plant that will more than compensate for the loss. The disadvantages of such models are that they are time-consuming and costly to run, and they are somewhat subjective in the sense that the test does not deliver a "number" like the HHI index. The technical group considered employing such a model for both Issue #2 and Issue #4. It was decided that the cost was prohibitive.

4.1.1.3 Supply Margin Assessment

On November 20, 2001 FERC issued a new order entitled "ORDER ON TRIENNIAL MARKET POWER UPDATES AND ANNOUNCING NEW, INTERIM GENERATION MARKET POWER SCREEN AND MITIGATION POLICY (Docket No. ER96-2495-015, et al). The order introduced a new test for market power called the "Supply Margin Assessment" laid out mitigation measures for companies failing the test, and found a number of companies not in compliance with the order. The Supply Margin Assessment is designed to test for market power within a utility control area. A control area is defined as the area transcribed by an individual utility's transmission system in which the utility has responsibility of balancing supply and demand of electricity and maintaining the stability of the system. FERC has stated that a utility has market power if the utility's generation capacity in the control area is greater than the Supply Margin in the control area. The Supply Margin is defined as the total generation in excess of the peak load (reserve margin) in the area plus the total transmission capacity interconnected to the area. If a utility fails this test, FERC will judge the utility as having market power, unless the utility joins a Regional Transmission Organization (RTO). If the utility joins an RTO they are absolved of having market power by FERC. Ostensibly, this is because an RTO will have market monitoring capabilities and transmission congestion management protocols that will mitigate market power within the RTO. If a utility refuses to join an RTO, FERC has set out a number of mitigation measures including revoking the utilities ability to charge market-based rates for wholesale market transactions, as well as requiring that an independent third party operates the utility's open access, real-time information system. With this order, FERC has migrated from the 'hub and spoke' method where it was relatively difficult to demonstrate market power to the Supply Margin Assessment where virtually every vertically integrated utility in the country will fail the test unless they join an RTO. In this regard, the order seemed designed to "encourage" all utilities to join RTO's. In a dissent to the order, FERC commissioner, Linda K. Breathitt stated, "If forming RTO's is the goal here, then we should be straightforward about that and do a rulemaking to mandate them, going through the front door and not the back door." This FERC ruling has interesting consequences for the Conditions Certain of LB901. If one applies the FERC logic then Issue #1, "Nebraska being part of an RTO" and Issue #2 "Whether or not a viable wholesale market exists in a region which includes Nebraska" merges into one. In other words if Condition #1 is satisfied, Condition #2, by definition, will also be satisfied. If the TRANSLink ITC is accepted as part of the Midwest Independent System Operator (MISO), then the entire Eastern Region of Nebraska will be part of one RTO. By FERC's definition, this entire region, which includes Nebraska, will therefore be free from market power.

5.0 Findings

5.1 Current Wholesale Market

5.1.1 Eastern Region

5.1.1.1 Number and Size of Sellers

There are currently 39 utilities in the market region identified in this report, with the largest single seller representing around 21% of the market as shown in Exhibit II-1. It is not unreasonable to conclude that since there are almost double the amount of buyers & sellers expected for an unconcentrated market and the highest percentage of off-system energy is around the 20% threshold, then the multitude of other buyers & sellers significantly contributes to the dilution of the market power effects of largest sellers.

5.1.1.2 Market Information

The market information that is used in the MAPP region is typically tracked on a daily basis from the sales and purchase information provided by area traders to regional and national news organizations, such as Reuters and Bloomberg. This data is reported in publications such as the 'Electric Power Daily' and BTU Daily. Other information used to track market information and market prices in the region is the Commonwealth Edison Hub, which is starting to become a fairly recognized trading point in the region. These are generally deliveries that are made to the Chicago metro region to serve electrical load. This trading point is named for the former Commonwealth Edison System that is now known as Exelon.

The Entergy price index is for a financially firm (includes Firm Liquidated Damages or FLD) energy product provided five days per week (Monday–Friday), 16 hours per day available at the Entergy transmission system, which covers part of Arkansas, Mississippi, Louisiana, and Texas. The Cinergy price, also FLD, is available under similar conditions at the Cinergy transmission system, which covers Central and South Indiana, Southwest Ohio, and North Kentucky.

5.1.1.3 Sustainability

The Eastern Region's wholesale market appears to be sustainable at current practice and market prices that either meet or exceed the expectations of those people who are trading in the marketplace. One concern is the issue of market power, since there are a small number of selling or purchasing entities in the Region. This may cause problems with the Group's definition from an available capacity standpoint and regarding an equitable balance between buyers and sellers.

5.1.2 Western Region

5.1.2.1 Number and Size of Sellers

The number and size of the sellers is significantly different in the Western Interconnect than they are in the Eastern Interconnect. As compared to the East, the West has fewer sellers and, therefore, greater market concentration. These include such parties as Public Service of Colorado (PSCo), Pacificorp and Pinnacle West, which was the former Arizona Public Service. In addition, there are many start-up marketers for subsidiaries of investor-owned utilities in the West. This includes Southern Companies' spin-off called Mirant, Idaho Power's spin-off called IdaCorp, and British Columbia Hydro's marketing arm called PowerEx. Many large marketers and investor-owned utilities from the far West continue to be very large players in the Region, such as Avista Energy and the Pacificorp marketing arm.

5.1.2.2 Market Information

In a typical year, the market information available from the Western Interconnect is similar to the data supplied in the Eastern Interconnect. In the past 12 months, the media has actively documented the hurdles faced by the Western Interconnect in their effort to meet load and capacity requirements, including the black-outs and very high purchase power costs that have occurred in California.

5.1.2.3 Sustainability

The Western Region's recent wholesale market does not appear to be sustainable considering current wholesale power market prices. Much of the higher prices and volatility has to do with a lack of available generating and transmission resources in the west.

6.0 Conclusion

6.1 Status of Viable Wholesale Market in the Eastern Region

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 access to either deliver into Nebraska loads or export from Nebraska generation, depending on system loading conditions. The market does appear to be viable since the number of buyers and sellers are adequate. Currently, transmission access is primarily available through the MAPP Schedule F Transmission Tariff that applies transmission reservation up to, but not exceeding, two years in duration. Anything beyond two years in duration must use the individual transmission provider's tariff approval, which may require some additional transmission studies by each party involved. However, any MAPP member tariff can also be used for service one year or longer. The presumption that the region will be served by the Midwest Independent System Operator, 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. FERC's new "Supply Margin Assessment" order has, in fact, stated that, with utilities joining the RTO, there will be no market power as FERC defines it.

It is not unreasonable to conclude that, since there are almost double the amount of buyers & sellers expected for an unconcentrated market, and the highest percentages of off-system energy is approximately 20% out of these remaining buyers & sellers, then the multitude of other buyers & sellers significantly contributes to the dilution of any market power effects.

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

If one applies the FERC logic then Issue #1, "Nebraska being part of an RTO" and Issue #2 "Whether or not a viable wholesale market exists in a region which includes Nebraska" merges into one. In other words if Condition #1 is satisfied, Condition #2, by definition, will also be satisfied. If the TRANSLink ITC is accepted as part of the Midwest Independent System Operator (MISO), then the entire Eastern Region of Nebraska will be part of one RTO. By FERC's definition, this entire region, which includes Nebraska, will therefore be free from market power.

6.2 Status of Viable Wholesale Market in the Western Region

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

There could be considerable economic implications to Nebraska utilities if large coal-fired generation units are unavailable, de-rated or off-line to western Nebraska utility members, which includes primarily MEAN which serves most of the municipals in western Nebraska, and Tri-State G&T in Westminster, Colorado, which serves all of the rural electrics in the panhandle of Nebraska.