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Energy Markets**

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Issue Paper Synopses

"Contributions of the Restructuring of the Electric Power Industry to the August 14, 2003 Blackout" by Jack Casazza, Frank Delea, and George Loehr, Power Engineers Supporting Truth

Jack Casazza, Frank Delea, and George Loehr argue that “deregulation and restructuring have had a devastating effect on the reliability of the North American power system and constitute the ultimate root cause of the August 14, 2003.” They offer a number of major findings to support this conclusion: 1) Industry focus has changed from coordination to competition with the major concern being profits rather than reliability; 2) Expenditures and manpower have been reduced; 3) The qualifications of senior managers in the industry and government have shifted away from working knowledge of the technical aspects of power system operation; 4) individual and institutional knowledge, including lessons learned from past blackouts, have been lost; 5) The increased number of players and extensive new regulations have vastly increased the complexity of decision making and operations; and 6) NERC has already watered down its reliability standards, and efforts are now underway to reduce them even further. In brief, people not markets are the key to reliability. Since the ultimate problem has not yet been addressed, the authors argue, the risk of a massive blackout is no lower today than it was in 2003 – despite the passage of the Energy Policy Act of 2005, which will do nothing to enhance reliability. In fact, power system reliability may be even more at risk in the future. They offer a series of recommendations to address the impacts on reliability resulting from these findings.

"The Blackout of 2003 and its Connection to Open Access" by José Delgado, American Transmission Company

Jose Delgado contends that “while moving toward open transmission access and market competition, the U.S. electricity industry allowed confusion to develop regarding actions necessary to maintain the reliability of the power grid and the entities responsible for those actions.” He observes that the introduction of competition into wholesale electricity markets upset a long-standing balance – known as the regulatory compact – between obligations and rights of utility companies and costs and benefits to electricity consumers. He observes that implementation of policies promoting competition created confusion regarding the answer to the question “who is responsible for reliability?” He offers eight

recommendations to help appropriately reallocate reliability costs and responsibilities among today's stakeholders.

"Competitive Electric Power Markets and Grid Reliability, something has changed over the past decade!" by Kellan Fluckiger, Alberta Department of Energy

Kellan Fluckiger reviews the fundamental changes that have taken place in the electricity industry. He describes the changed roles, responsibilities, and relationships among the stakeholders involved in supporting the electricity market and in ensuring reliability. He recommends increased future focus on three areas: 1) Developing consensus around the emerging electricity market framework; 2) Defining with clarity the role of the Independent System Operators in relation to oversight organizations, such as regulators, boards, and commissions; and 3) Addressing changing requirements for transmission and acknowledging the importance of ensuring that adequate transmission infrastructure is in place. He concludes "[T]ransmission is a small cost and well worth the investment to secure the significant benefits of an unconstrained market."

"Competitive Power Markets and Grid Reliability: Keeping the Promise" by David Goulding, Independent Electricity Market Operator

Dave Goulding observes that the electricity industry is now moving into its second significant transformation. During the first transformation, "governments and stakeholders rushed ahead with enthusiasm, and perhaps some naiveté, to build the first generation of electricity markets." In the second transformation, "we are assessing what we have learned, in a broad sense, and developing strategies to help markets transition to a more robustly competitive form." He offers lessons to guide this second transformation, organized around three major themes: 1) Carefully design markets; 2) Provide safeguards; and 3) Develop transitional mechanisms. He concludes with a short-list of priorities: Develop standards and infrastructure (including advanced technology), reduce seams, and increase harmonization among markets.

"Relationship between Competitive Power Markets and Grid Reliability PJM RTO Experience" by Phillip G. Harris, PJM Interconnection LLC

Phillip G. Harris states that PJM Interconnection believes "wholesale electric competition enhances, rather than compromises grid reliability." To those who

blame competition for deferred investment and expenditures by the industry, he responds that the factors that caused the August 14, 2003 blackout are the same factors that have caused other major blackouts in the U.S., many of which took place well before the advent of wholesale electricity competition in 1992. Harris describes the ways in which the grid has evolved through the addition of new technologies and the creation of new institutions to deal effectively with the emergence of competitive regional electricity markets. He suggests that large regional markets improve reliability by fostering coordinated regional planning and by making prices transparent across large geographic areas, which helps to harmonize the actions of market participants with system reliability needs.

**"Reliability Risks During the Transition to Competitive Electricity Markets"
by John P. Hughes, The Electricity Consumers Resource Council**

John Hughes organizes his thoughts around two basic premises of ELCON: "competition and reliability are mutually beneficial to the extent that a reliable grid is necessary to support competitive wholesale markets," and "the potential innovation and product differentiation made possible by true competition can only enhance reliability." He expresses concern that grid reliability may be at risk during the transition to competition because adequate market and regulatory safeguards are not yet fully in place. He offers several examples of opportunistic and anti-competitive behavior that he submits pose significant risks to reliability and, as a result, may be eroding public support for competitive electricity markets. Recognizing the reliability and market-power-abuse provisions in the recently enacted U.S. energy legislation as an important first step, he recommends six additional actions by U.S. Congress, the Federal Energy Regulatory Commission (FERC), and/or states to further address these concerns.

"Ensuring a Reliable North American Electric System in a Competitive Marketplace" by David R. Nevius and Ellen P. Vancko, North American Electric Reliability Council

David Nevius and Ellen Vancko maintain that "if [North American Electric Reliability Council] NERC reliability rules are adhered to, the transmission system can be operated reliably regardless of the demands placed upon it." Their paper reviews the changes NERC has undergone in responding and adapting to restructuring and the introduction of competition in the electricity industry, starting with early recognition of the need for legislation to make reliability rules mandatory and enforceable. They describe NERC's activities in anticipation of this legislation and outline the steps and features of the transition that will result from the recent passage of the legislation.

"Managing Relationships Between Electric Power Industry Restructuring and Grid Reliability" by Robert J. Thomas, Cornell University

Robert Thomas, in considering whether moving to a restructured environment must fundamentally degrade the reliability of the bulk power system, observes that “reliability costs money and the questions are: how much are consumers willing to pay for reliability, and how will payment be extracted?” He notes that the situation is complicated by the recognition that aspects of reliability are a “public good,” and, while “efficient markets can be created for private goods... regulation is necessary for efficient use of a public good.” He reviews three industry trends that are causes for concern: 1) Increased organizational complexity (which increases the likelihood of bad decisions, especially regarding real-time reliability management); 2) Mid- and longer-term negative impact on innovation from dramatic reductions in research and development spending by the industry; and 3) The looming crisis in manpower as the industry workforce (including academics) ages and potential new entrants seek higher-paying work in other fields. He offers four recommendations to address the immediate challenges posed by these trends.

"Alberta Electric Industry Restructuring, Implications for Reliability" by Scott Thon, AltaLink

Scott Thon discusses the restructuring of the Alberta electricity market, focusing on the implications for power system reliability. He describes four areas of concern: 1) Transmission investment and construction have lagged behind generation investment and development; 2) There is increased complexity and, because of under-investment in transmission, there are heightened risks in real-time operations; 3) Several longer-term reliability issues need to be addressed, including the importance of transmission construction as a means to eliminate congestion, the need for proactive transmission planning, and the inappropriateness of relying on request-for-proposal processes to develop transmission projects; and 4) Clear roles and responsibilities must be defined among implementing agencies. He concludes by listing six key elements that should be considered to ensure that industry restructuring does not negatively impact reliability.

"Sinister Synergies: How Competition for Unregulated Profit Causes Blackouts" by John Wilson, Ontario Electricity Coalition

John Wilson maintains that “...higher costs and the need for greater profits have pushed deregulated power producers to cut costs drastically and to invest where high, short-term returns are more likely rather than focusing on reasonable long-term returns with reasonable cost savings and reliability.” He notes that experts, analysis, and performance demonstrate that although deregulation works well in some areas, electricity is not one of them. He describes significant problems that have resulted from deregulated electricity systems, including reduced reliability focus, insufficient resources, increased complexity, inadequate planning and coordination, reduced transparency, on-the-fly implementation of deregulated systems, and harmful conflicting interests. He recommends that “we put any further deregulation initiatives on hold until we have a better and more detailed understanding of how deregulation is really affecting our electricity system” and that we proceed with a detailed and thorough study of the effects of deregulation on electricity system reliability that is independent of government and energy interests.