

**Bordeaux Energy Colloquium
At the AREVA SUMMIT
Spring – 2004**

Dialogues & Actions

Background:

The Spring 2004 Bordeaux Energy Colloquium was held at the AREVA Summit this year in Las Vegas. The theme of AREVA's summit was on grid infrastructure and investment. The participants consisted of a over 100 Senior executives from primarily the transmission sector and ranged from utility executives, industry executives, financial investors and energy regulators.

The mini-colloquium was held as a kick-off event for the summit and focused around one ten question survey (Appendix A). Results from the survey are summarized below.

Questionnaire Results:

The group dialogues and survey results were strongly in favor of the new regime of competitive energy markets over the old regime of regulated monopolies.

Old Regime

New Regime

Commodity
Free Market
Competition
No Rules

Public Service
Government
Monopolies
Regulation

No Intervention

There still remains a high degree of uncertainty at the regulatory level, which many participants felt is crippling investments in the sector particularly large infrastructure projects. This group of industry veterans more readily accepted that a period of volatility is inevitable as part of the regime change to competitive markets. The new hot topic of Corporate Governance and ensuing rules and regulations was added to the mix of uncertain factors that many felt will be a hindrance to progress in the upcoming years.

•Market Forces vs. Regulated Regime

- 86% Agree that Market Forces do a better job in determining prices for electric commodities
- 60% Disagree that competition will hurt reliability
- 70% Agree that competition encourages companies to focus on adequacy of supply and security of operations

•Investments in the Industry

- 86% Agree that uncertainty about rules and regulations has slowed investment to an alarming level
- Even mix as to Government’s role in focusing investors toward the necessary long term investments

•Pricing Issues

- 61% agree that states should NOT use retail price caps to shield consumers from pricing volatility
- 59% agree that pricing volatility is a necessary part of the transition to a market based structure that will eventually serve the long term interests of the customer

•Open Access

- 64% Agree that transmission and distribution systems need to be open to any buyer/seller on a non-discriminatory basis
- 20% of respondents did not answer this question

–•Sarbanes Oxley

- Even split between respondents as to the effectiveness of regulation to mitigate risk of market manipulation and provide more transparency
- Many side comments reported on this question

–•Workforce Issues

- 54% agreed that a retiring workforce in the industry could have an impact on the system operations in the next five years.

In conclusion, one of the roles of the Bordeaux Energy Colloquium is to identify which actions the industry will embark on given the hypothesis of a move toward a competitive marketplace. The following top ten list derives from the dialogues at the Colloquium but is in great part personal hypotheses. They are intended to be predictive in nature, taking a position to test its validity. These actions address some of the most pressing issues captured at this point of the market’s evolution. The resolution of key issues in the industry rests in successful implementation. These will be monitored over time to determine their efficacy.

Action Items to Watch:

Pricing Volatility: Clearly customers must be able to respond to pricing signals, particularly in times of high demand and scarce supply. Giving customers choice about an acceptable level of volatility through various pricing plans is a solution that works in either a regulated or competitive environment.

Phased in Retail Access: Larger industrial and commercial customers have more benefit and thus more incentive to actively engage in a competitive energy market. Phasing in retail competition from larger users to residential users over time allows for market mechanisms to be worked out over a smaller number of users.

Intelligent Grids: The real-time nature of electricity makes scheduling access to shared grids a daunting task. The use of real-time metering linked to central control systems allows for more responsive action, particularly in high use times.

Demand Reduction Bidding: Allowing Demand side management programs to bid reduced or avoided demand the same way generation bids into the market. Real time metering and smart control systems at customer sites will enable accurate reporting.

Less new Transmission, More Upgrades: It is becoming too costly and too difficult to build new transmission systems to meet increasing local demand and the intrastate wheeling of power. New technologies will be incorporated into existing grids to enhance the flow of power. The interconnection of central control systems with demand side programs will also open up significant transmission congestion.

Fewer peaking plants, more distributed resources: The build up of gas-fired combined cycle peaking plants will taper off. The few hours per year of critical peaking time and the inability to price that power at 'scarcity' rates will curb investments in central peaking plants. A move toward local control of small-scale distributed resources will be combined with the increased control schemes and real-time metering to create pockets of power closer to ends of the grid. Of course, this also has a positive side effect on opening more transmission space.

New Financing Vehicles: The investment community will have to change its perspective on 'old regime' financing of plant and infrastructure. Guaranteed 30 year returns are becoming a thing of the past. Like the housing markets incredible creativity with home financing, the investment community will begin to

offer new financing packages that spread around risk and offer variable rates.

Renewable Energy Credit Program: The continued support of renewable energy will require incentives within the market. The mandating of percentages by State government is one way to handle the problem. A second more market driven solution is to create a renewable trading program in a similar fashion as the emission trading. Percentages set by the state are then regulated primarily by market mechanisms that are allowed to trade credits as they see necessary.

Regional Regulatory Control: The physical reality of the interconnectedness of the power grids will force a shift from State legislative and PUC control to regional centers such as proposed by FERC's RTO's. State legislative and PUC control will focus more on public good programs such as lifeline and economic development programs.

More Federally mandated programs: Due to the scale of the recent blackouts, the federal government will once again play a strong role in energy policy. Mandating the construction of transmission lines, nuclear power plants and domestic oil and gas production, will fall under the domain of the feds. Whether FERC continues to be the enforcement agency will greatly depend on the issue of State rights.

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On the Path of Least Resistance ■