

HARVARD UNIVERSITY

JOHN F. KENNEDY SCHOOL OF GOVERNMENT

Harvard Electricity Policy
Group



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CONFERENCE SUMMARY

ISO Governance and Structure: A Continuing Exploration

The innovation of an independent system operator (ISO) offers promise as a solution for many of the difficult problems in providing open transmission access as part of the restructuring of the electricity market. There must be a system operator coordinating use of the transmission system. That this system operator should also be independent of the existing transmission owning utilities and other market participants is attractive in its simplicity in achieving equal treatment of all market entities. Hence, the easy-to-state but hard-to-enforce principle of comparability would be transformed into an easier to enforce principle of non-discrimination. The FERC has offered principles for an ISO, and other regulators have entered the discussion. However, the goals, criteria and options for the ISO are not settled. The tension is clear: the ISO should be independent but also responsive; stable but also flexible; limited but also substantial. The scope of responsibility, rules for operations and decisions on who should decide define an important agenda for a continuing discussion.

First Speaker:

In early 1971 the American Institute Certified Public Accountants (AICPA) appointed a group to study the establishment of accounting principles and to make recommendations for improving the process. That group proposed a full-time independent

standards board that would be free of private interests that might conflict with the public interest. It would devote undivided attention to its task, be full-time, and move expeditiously with urgent problems, and would supervise and monitor the research

needed for the work. A new organizational structure was proposed to facilitate participation by important groups in the standard setting task, and thereby result in a broader base of support and draw on a broader range of skills. Those reforms resulted in the Financial Accounting Standards Board (FASB) that was created in 1973 and still exists today.

FASB is an independent organization that determines generally accepted accounting principles, to which financial reporting must conform for all non-governmental entities. The standards are recognized as authoritative by the Securities and Exchange Commission and by the American Institute of Certified Public Accountants.

The FASB has no enforcement powers. Our mission is to try to establish and improve standards; we have a continuing responsibility for the standards that we issue. The Board's due process procedures are more demanding than those used by almost any other agency or organization.

The FASB's parent organization is the Financial Accounting Foundation (FAF) which also oversees the Governmental Accounting Standards Board that sets accounting standards for state and local governments. The duties of the Foundation are to select the members of the FASB, GASB and advisory councils, to fund their activities and to exercise general oversight to ensure that we are following the rules of procedure that we ourselves have established.

The annual operating costs of the FASB are roughly \$16 million. Our annual revenues are also about \$16 million, with \$11 million of those coming from subscriptions,

and \$5 million coming from contributions. The FAF has a reserve fund of about \$15 million to ensure continuation of operations in the event of unforeseen contingencies or prolonged downturn. A crucial element of the design of the organizational structure is a provision in the by-laws of the Foundation that expressly limits the authority, functions, powers and oversight responsibilities of the trustee so as to draw a very distinct line between the Foundation and the Financial Accounting Standards Board.

The FASB has seven members who serve full-time and are required to sever all connections with the firms or institutions they served prior to joining the Board. They have diverse backgrounds, are appointed to five-year terms, and are eligible for reappointment for one additional five year term. Members are also required to report quarterly on their personal investment and on any other personal activities. The members of the FASB are drawn from various areas of accounting. Currently, three members are from public accounting, two are from industry, one is a financial analyst, and one is an academic. However, the members do not represent those areas *per se*.

The Financial Accounting Standards Advisory Council, FASAC, consults with the FASB about technical issues on the Board's agenda. This particular group is charged with helping us set our priorities, talking about the extent to which we are on time and are doing the right types of things with the various projects that we deal with. The Council has 30 members who are broadly representative of preparers, auditors and users of financial information, and the Council meets quarterly with the Board.

The research and technical activity (RTA) staff includes about 40 accounting professionals and about 15 administrative staff. The RTA staff works with the Board and task forces, conducts research and analyzes comments received from the public. We maintain the literature on generally accepted accounting principles; over the years we have developed a software package called FARS (Financial Accounting Research System), that can be used to search that literature and to perform various analyses. We sponsor a separate emerging issues task force. We provide a technical inquiry service at no charge. We also provide various professional development activities around the country.

I'd like to conclude with three observations. First, the structure that was created in 1973 has worked well over the years. People generally give the structure in due process high marks. Second, that structure has been the focus of continuing study since 1976.

Third, the FASB continues to draw fire. From time to time, concerns have been expressed about how projects are added to the Board's agenda, the size and composition of the Board, the staff, the conceptual framework, the particulars of accounting standards. The FASB tries to fashion and orchestrate change in a world that really doesn't want change and often tries to resist change.

Finally, the paper that was prepared for this session identifies several tensions for ISOs that also apply to the FASB. In particular, that paper focuses on ISOs as being independent but responsive, stable but flexible, limited but substantial. The FASB is independent but its mission, precepts and

process require that it be responsive. In fact there are all types of forces in our society to force it to be responsive. The FASB process and conceptual framework are intended to provide stability but the Board is flexible in using that process and in interpreting that framework. Finally, the scope of the FASB activity is limited, but its standards have substantial and widespread effects. Statement 106 about forced retirement health care benefits resulted in entities recognizing billions of dollars of liabilities and the markets were able to not only process that new information but to do so in a very orderly fashion.

Second Speaker:

My starting point is that it's impossible to devise a perfect governance structure for an ISO, as in any government structure that we select will involve a compromise between two conflicting goals. There are two potential problems, neither of which can be eliminated completely with the governance structure. The first is the potential for gaming the system, motivated by conflicts of interest. Every market participant has a conflict of interest, and some degree of potential to game the system in order to further their interests and to undermine the broader interests and efficiency.

The second is agency problems due to high transaction costs, and collective action problems if you go with a large diverse board. Those problems are well documented in the existing literature on corporate governance.

My model uses a fairly minimalist ISO. To use the California structure as a baseline, my ISO would combine the functions of the California ISO and the California Power Exchange. It would not have any power to

make investment decisions or to make investments,

My version of an ISO has a couple of advantages in terms of choosing a governance structure. It minimizes the number of large discretionary decisions. Most of the decision making will be technical, based on relatively objective, verifiable phenomena. This ISO maximizes transparency because it will produce nodal prices that let everybody know exactly what is happening all of the time. Once a nodal pricing system is established, the parties who are economically disadvantaged by the existence of transmission constraints will easily identify and quantify their economic disadvantage. In turn, that will allow them to form coalitions that can form the basis for proposals to upgrade the grid and can provide the capital necessary to upgrade the grid to relieve a constraint.

My model reflects an intentional effort to create a strong management-weak board model -- exactly the opposite of what institutional investors are trying to get in corporate governance all over the country at the moment. The larger and the more diverse the board, the less capable individual board members are of gaming the system. Consistent with the strong management-weak board model; the chairman of the board is also the CEO. This is important, because with a large diverse group, the potential for the chair of the group to engage in strategic manipulation of the agenda, the sequence of the votes, et cetera, in order to become a de facto dictator is very powerful.

The agenda is controlled by the CEO, the internal management. Consistent with the model, management makes all decisions except investment decisions and hiring and firing of

the CEO. Those would be the only prerogatives of the board. Management would be instructed to further the single goal of efficiency. Management compensation would be based on conformance with that goal. The easiest way to govern this institution is to keep its assignment very simple and very narrow. All reports and records, except the bids that it receives of course, would be accessible to everyone, FERC, PUCs and the public, again consistent with maximum transparency as one of the goals.

There are some negative aspects. First and most obvious, there will be "gold plating" by management. I'm not concerned, however, because in my version, it's a very small organization. The second is a bigger problem: the risk of a bad CEO combined with a weak board. It becomes terribly important to choose a good CEO and fire a bad CEO if you get stuck with a bad one. Choosing a good CEO and then drafting a good incentive compensation contract applicable to the CEO and other senior members of management is key.

Third Speaker:

In many ways the introduction that was contained in the agenda really captures the best of times-worst of times issues that are facing the industry in this ISO debate. Given the inherent tensions between true independence and the liabilities that are associated with ownership, between stability and flexibility, between state and federal jurisdiction, and between the unique needs and circumstances of different regions of the country, it appears that hard and fast national standards for the governance and structures of ISOs are at best premature and may ultimately be totally unnecessary.

It is of overriding importance to independent power producers, competitive power suppliers, power marketers and power brokers that all ISOs conform to certain key principles. A successful ISO is one that provides assurance to all market participants that the transmission system is being operated independently, efficiently, fairly and in a non-discriminatory manner. Any system of governance which meets this standard is fine.

As a start, the ISO principles articulated by FERC in Order 888 provide an excellent basis for any discussion of ISO governance and structure. First, the governance of an ISO must be structured in a fair and non-discriminatory manner and to meet the goal of providing all market participants with assurance that the system is being operated fairly and equitably. It is possible to structure several different ISO governance models in a fair and non-discriminatory manner.

Regional differences may play a major role in what ultimately becomes an acceptable ISO, based, at least in part, on what degree of assurances are needed in a particular region to provide confidence to participants that the transmission system is being operated equitably and efficiently. On other issues, however, there's less margin for error. One issue on which we are absolutely clear, as is FERC in Order 888, is the fact that the ISO and its employees can have no financial interest in the economic performance of any power market participant. Similarly, there appears to be universal consensus that an ISO should operate a transmission system on a regional basis pursuant to FERC approved rules, procedures and tariffs and in accordance with NERC reliability standards and

guidelines.

We can probably all agree that proper incentives for incremental additions to the transmission grid will be critical. However, this depends on the needs of the market participants and on the standards set by regulators in the region where the ISO is being formed. In addition, the role of ISOs may very well change over time.

What matters to those on the front lines of the emerging competitive market is how the ISO will work in practice. Those of us taking part in this discussion have to be careful to avoid losing sight of the forest for the trees. No ISO proposal clearly shows market participants how the system is actually going to work and what it will cost to move power from Point A to Point B once the transmission system is controlled by an ISO. The bottom line remains that an ISO must provide assurance to all market participants that the transmission system is being operated fairly and efficiently, and, in the absence of any concrete proposals to assess, we can refer to the important principles spelled out by regulators including FERC and so on. The policy says an ISO should provide access and services at non-pancaked rates pursuant to a single unbundled grid-wide tariff that applies to all eligible users in a non-discriminatory manner.

These principles or goals, while important, can only form a framework within which to evaluate individual ISO proposals. On pricing as well as on other critical issues, industry participants must continue to meet, to discuss, to be flexible, to consider options and alternatives, to be creative and innovative, to evaluate specific proposals and to be mindful of the need to consider the competing interests

and concerns of all market participants. Well thought out proposals that carefully reflect and balance the needs and concerns of competing market participants will lead to ISOs which are successful both in obtaining the regulatory approvals needed for their operation and in enhancing the development of competitive markets in this country.

Even with a successful start, ISOs are likely to differ from region to region and to evolve over time. While some may call for ironclad national models for ISO governance duties, responsibilities, and pricing principles, within the framework of fairness and efficiency, there are many shapes an ISO might take. An unnecessary emphasis on cookie cutter uniformity and regularity may stifle the very creativity needed to develop this experiment with alternative structures and models.

Having said all of this, what would be helpful in assessing the appropriateness of a particular ISO proposal? Qualitatively, we need to see how it stacks up against the principles that have been articulated by FERC and other regulators in guidelines and orders that have been issued. But more importantly, quantitatively, we need to insist on fully detailed examples of how it is going to work. At the end of the day, an ISO must assure all market participants that the transmission system is being operated independently, efficiently, and fairly and without discrimination among industry participants. If it does that, how it does it is much less important.

Fourth Speaker:

In our particular case our objective was

to have the regional power pool utilize an ISO to support an efficient energy market. That is a very different emphasis than if the purpose of the ISO is to assure compliance with the minimum requirements of the FERC, which have to do with providing non-discriminatory transmission access and transmission services.

Because the ISO will not determine how the market is structured, it is a service organization in our view. Its role is to operate the system, as its name implies, and provide administrative accounting support for the market that has been designed. Among FERC's 11 principles, there is a suggestion that the ISO is a policy formulator and that it has to have the ability to resolve disputes. In our proposal, the ISO has no role in determining policy. We will have an independent, not for profit corporation, with an independent board of directors. The one caveat is that we intend to propose that perhaps two of the seven-member board would come from transmission owners for perhaps the first five years, just to provide some institutional memory. Clearly, they will not be in a position to determine the decisions of the board.

FERC principle number three describes how the ISO should provide open access. Our proposal, by contrast, suggests that transmission owners have to be the ones to provide open access. We do that by having the ISO be the administrator and the contact point for obtaining FERC-approved tariff services.

In addition, on item number eleven, there will be an alternative dispute resolution process to be used by participants in the market. Since the ISO will be an entity under

contract to provide certain services, to the extent that there are disagreements on that, then the ADR is available to deal with those.

_: In order to create a regional tariff, we have come to the conclusion at least in the Northwest that it requires some sort of pooling of transmission capacity to do that. How would you have a regional tariff if the ISO is not the author and filer?

Fourth Speaker: Transmission owners will file an agreement among themselves under which they will provide regional tariffs for regional service. In this case, as opposed to an ISO owning or leasing the facilities or transco, the transmission owners do agree to pool their transmission facilities to provide regional transmission services under tariffs that will be administered by the ISO. The ISO is then an agent for the transmission owner in providing tariff service.

GENERAL DISCUSSION

The FASB Model

_: The FASB model makes me think of the U.S. Supreme Court. There, members are appointed for their particular philosophical leanings, but then once they are appointed, they are independent. Would the FASB process be just as political?

_: It was not a very political process in the early years of its life, but the process has changed over time. Unlike the Court, the FASB is not a lifetime appointment. It is a five-year appointment, and the understanding in the past was that if a member continues to meet the criteria for appointment, then the reappointment is neither controversial nor political.

_: The question is about the definition of the word independence. Are FASB members independent in same sense as the Supreme Court after their appointment? Is it structured so that, for instance, they can honestly feel that their incomes are independent of their decisions?

_: The rules and procedures and bylaws are designed to try to insulate the individual board members. We are each paid the same salary, there are no individual distinctions made about our performance relative to salaries or relative to tenure, other than the overall evaluation that is made at the time of a reappointment. We're not allowed to do any consulting or any other writing for profit. Any honoraria is turned over to the foundation. All of our salaries come from the foundation, and we do not have any other sources.

The personal reporting we do every quarter is about our investments as well as about any other activities we might have. Those activities need to be cleared with the Foundation if there is a question about them. The system is designed to allow us to be independent.

Incorporating Interested Parties

_: Given that the market includes a lot of people with different vested interests, what happens when decisions are made by the ISO that make latent conflicts explicit? Ultimately, if they accumulate there could be a situation where the structure itself is threatened. How will this structure work with those types of demands?

_: As to the reliability question, one of the things that is going to be important for ISOs, particularly at the beginning, is to operate

under FERC-approved tariffs and NERC guidelines and standards. If the alternative dispute resolution process within the ISO's and regional transmission groups as a matter of first resort doesn't solve the conflicts from a particular industry participant's perspective, then there will be challenges before regulatory agencies, and ultimately the tougher decisions are going to be brought to FERC and in some instances to the state commissions as well.

_: We think it's very important that the ISO not be caught in the middle of these conflicts. We try to prevent that by having their behavior determined by the design of the market as established by contracts, and then later by established procedures that are known to everyone. If the market is well designed those kinds of problems will gradually sort themselves out with some setting of some precedents.

_: You indicate that all of the parties will have very big vested conflicts of interest, but it seems to me that you've put together a structure where you could have a powerful CEO, and if it's a "bad" CEO it doesn't seem to me like you've got sufficient checks and balances in place to remove that person.

Siting Issues

_: In neither of the last two models discussed is the ISO responsible for transmission additions. What incentives or changes are needed under current pricing to insure that there is sufficient incentive to build additions to transmission, in terms of being able to recover the costs and being able to use the facilities you actually build?

_: If we don't get transmission pricing right, there's no possibility we'll get transmission

investment decision making right. When you ask me what will happen with respect to transmission investment on the assumption that we don't get transmission pricing right, my only answer is, nothing good.

_: One of the services the ISO will provide is the regional transmission planning function. It will also perform planning studies and identify the specific engineering requirements associated with a request for transmission service that would require expansion of the system. In the event that a transmission addition is agreed upon, it's expected that the transmission owners would make the investment, and the participants would continue to have the section 211 authority at FERC to require the provision of the transmission service. We still envision, for some period of time at least, siting to be a state function.

_: If there's a specific addition that benefits one party who will continue to use the rest of the system, is change in pricing necessary?

We will look for economically driven pricing. I expect that the FERC's policy on flexibility with regard to pricing will permit us to structure the tariffs fairly.

_: If we get the answer right on transmission pricing it will be easy for people to identify if they are being disadvantaged by the existence of a constraint and quantify that disadvantage. If twenty or thirty have the same reaction, then it shouldn't be too hard for them to put together a coalition to support an investment in transmission expansion.

_: With respect to siting and construction of physical facilities, could we hear a little more

of an explanation from the panelists on what you think might be required from a state legislative standpoint, for example, for a state PUC that has, in the extreme case, a line originating in state A, terminating in state C, and traversing state B with no direct benefit. What might be required to make this process work?

—: Our company's experience is that the impediment to being able to build something that transmission owners and the market participants agree needs to be built is the resistance of the public to those types of facilities in almost every case where we have to build transmission. In our part of the country anyway, it's going to be difficult no matter how strong the industry support, and even the regulatory support, may be.

Traditionally, this has been perceived as a fairly simple from a political perspective. We have the ever-greedy, evil utility against the mothers who are trying to protect their children from leukemia, and we all know how those end. That's will change dramatically once the transmission prices are right.

Right now, transmission constraints exist in a lot of areas, and cost utilities, in the aggregate, billions of dollars. Nobody knows that, except a few industry insiders. If we get transmission pricing right, then the people who are paying an extra 30, 40, \$50 million a year because of the existence of a particular transmission constraint will self-identify. There will be a whole lot of politically powerful entities that will support an action to relieve constraints on a good. That change will occur, as long as we get transmission pricing right. Furthermore, we would get very different results in this new political environment if we did what I've always

thought we should do, and that is change transmission siting authority to the same as it is in the gas pipeline industry. There are probably hundreds of pipeline expansion projects that took place quite expeditiously during the 1985 to 1996 period, as a result of FERC's exclusive jurisdiction to approve them, that never would have happened under a to state approval processes.

ISO Incentives

—: In putting together an ISO structure, what we're talking about is formulating a constitution for the economic behavior of various economic agents in a given market, which is very similar to various models and things that have been proposed in the public choice field of economics. I think that the literature in that field probably has some pretty instructive models that might be helpful in this regard. Have you turned to that, at all, and is there anything that could help us?

Yes, and yes. We're fortunate in the sense that we are dealing with a problem that, generically, arises in virtually every important private and public decision making context in every part of the world, in all of history. The problem, at least from my perspective, is that while I'm reasonably literate in that literature, it still causes me to conclude that there is no perfect structure available in this context.

—: If an ISO functions perfectly, that is, if it functions efficiently and fairly, what incentive does a utility have to maintain ownership of transmission? If ownership has no privileges, why would anyone want to be an owner? And if an ISO functions perfectly, will it deprive ownership of privileges?

_: My expectation is that we will not be permitted to convey privilege with ownership. There will be those that lose interest in having investment in those types of assets, because to the extent that there's profit for the corporation, it will be related just to the equity capital in those investments. To some, that's a comfortable investment to have.

_: Will there be boards that consist of people who will do better than the so-called independent compensation committees on boards of other corporations? I can't see how that could happen.

_: This is a more manageable institutional role than, for example, that of General Motors. Even if you're skeptical that it can work in the large-scale context of the board of a General Motors, this entity is a lot smaller and more manageable in the literal sense of the word, than a big, complicated corporation.

_: There's another aspect of ISOs, which makes them perhaps tenuous, which is the separation of liability from control. The transmission owners retain liability, while turning over the operational control to somebody else.

There's two very specific problems in the transmission world. One is pancake rates, and the other is market power. At the very least, ISO provides a forum from which to address a resolution of those problems. It may ultimately be a very transitional entity, but this allows the industry a mechanism to address what are perceived to be the key problems, at least for now.

_: Exactly what reliability functions will be performed by the ISO as currently contemplated in PJM, and what reliability

functions will remain with the individual companies or with the market exchange? And how does that conform with the way FERC is beginning to rethink the whole question of control area definition and reliability?

: The ISO will, under contract, be providing the planning studies that look two plus years ahead, to identify whether the facilities that are going to be in place are necessary, in order to meet the forecast firm load requirements in the region very much as is done today. On a short-term basis, they will be responsible for what is called a uni-commitment process, whereby the self-schedule and units that are bid into the dispatch process are integrated in a day-ahead basis, and then the ISO has full authority to direct the operational facilities, both transmission and generation, as necessary to assure the short-term reliability of the grid.

_: One final question with regard to the minimalist model. What incentive does it have to perform and to drive the market, in other words, to find incremental engineering incentives to increase throughput of the transmission system, or to find opportunities to drive down maintenance costs?

_: I have some partial answers, but I'm not happy with any of the answers. For example, incentive compensation systems: the fact that third parties, certainly including market participants, would detect any shirking of duties, not to mention just professionalism and pride in doing your job, does tend to induce some people to do a decent job in circumstances where no carrot or stick is immediately applied to them.

The analogy sometimes is made with either a baseball game or a basketball game.

Were changing the rules of the game in some orderly fashion, so that people can make their adjustments, and markets can adjust. Our goal is to help the markets become informed and able to make those adjustments, making sure that all the other market participants are better off, that there's a lower cost of capital for everybody.

Governance

—: It struck me that many of us assume that the fundamental problem, with an ISO, but I haven't heard much discussion about the governance problem associated with trying to build one in the first place. That's the issue in California. The governance problem begins right beginning, and we have to solve it from the very beginning. That said, do any of the structures you're talking about need to apply at the very beginning?

We're concerned that the rulemaking process should involve all market participants in proportion to their involvement in the market place, and not just proportional to load or transmission ownership. It seems that the PJM model sets the rules with only the input of the current participants. How, then, do you avoid everything going to FERC because people haven't had enough of a say in the setting of the rules.

As I've participated and observed those discussions, there's been sufficient diversity of interest and concern that we're setting up a credible market structure. Once in front of FERC, it will be critiqued, reviewed and modified. After begins operation, then the market participants, through the administrative committee, will decide upon changes, and there will be processes for resolving problems

that arise, where changes are needed.

In New England, it wouldn't be just the transmission providers who would have a vote in the change of the structure of the regional tariff. The users would also have a vote in that change. Not merely the ability to advise or go argue at FERC. In PJM is it just the providers who have the vote to make changes?

—: It is critical to address these issues. But they need to be addressed on a regional basis, by the participants in each market. One of the constraints in California, in analyzing the proposal that's been made, is that the time frame under which they were operating regional required the filing at FERC of something that really isn't a complete proposal and doesn't allow for full assessment of all the implications of how it's going to work. In terms of the governance structure which is contained in the ISO, there was, by and large, a great deal of industry consensus. But it is incumbent on participants in the market to make their concerns known to regulators.

—: In California, we originally proposed that the independent system operator would perform both a dispatch function and a transmission facilitation function. Our final Order separated those into the power exchange in the independent system operator. I was wondering if the EGA panelist had a thought as to whether or not that is a better approach for dealing with the circumstances in my state?

—: I believe we did ^{sign} onto a letter that we sent to your Commission urging that result. If memory serves, the concern was that in the absence of separation, there was a greater potential for gaming the system and for abusing market power. We did support the

separation of the ISO from the power exchange and were glad to see that reflected in the December 20th Order.

_: If you assume that these two functions should be combined, does that pose any peculiar governance problems in the relationship between these two institutions? If so, that's been a topic that's not been addressed thus far.

_: It seems clear to me that dispatch and transmission are one function. I don't see any purpose to having two putatively independent institutions performing what has to be a single integrated function, if the grid's going to perform as we'd like it to perform. With respect to the potential for gaming the system, it's clear that having two institutions with very murky boundaries performing what is clearly a single integrated function maximizes the potential for gaming the system, minimizes the transparency and accountability. It's a dreadful mistake.

Regional ISOs

_: We discussed the ISO as an independent system operator, but it's an isolated system operator, and we need to address interregional system operators. How do you view the governance systems as a way of building ties between ISOs, between these regional areas? Some sort of super ISO, or something else?

_: One of the solutions to that has been a proposal that we only have three ISOs in the country, the Eastern United States, the Western United States, and ERCOT. You'd see a system that's sort of like the way control areas interconnect today.

_: The first item to focus on is how large is the region which is subject to common economic dispatch. It seems to me that you need to think about it in terms of whether the interface is principally for reliability purposes or operational reliability, or is the interface for economic efficiency. Today we handle operational reliability quite effectively. If the economic dispatches are structured in ways that provide the ability for interchange on both a day-ahead and short-term scheduling basis between power pools or control areas, then the economic integration can take place without any superstructure at this point, at least until we get a lot larger markets than we have today.

_: Are you suggesting that there would be two separate tariffs? One would be sort of the ISO regional tariff that would govern regional transactions, and then you would have a separate tariff for each of the individual companies that would govern local transactions? How are you going to do that? Are you going to sub-functionalize transmission? How will you coordinate scheduling and dispatch amongst the two tariffs?

On an operational basis, there's no distinction. I added on as a footnote that when we looked at providing regional transmission services, our judgement was that there are three parts to getting to the customer's meter. You have the regional bulk transmission system, which generally we think of as 230 KV and above. You have what is more local transmission that's delivering from that bulk system down to the distribution system. And then you have the distribution system. We expect there will be some need to have transmission service that's only really utilizing local facilities to have a tariff that's

available from the individual transmission owner, as opposed to having those facilities which really aren't part of the regional network rolled into or incorporated into the pricing for use of the bulk system.

Moderator:

I'm not going to spend a lot of time trying to integrate all of this, but I do return you to the preamble, which, I remind you, notes that this is not a discretionary topic. It's not that we can decide to have a system operator or not. We're going to have a system operator, we have system operators now. What we're facing up to is the governance questions.

Afternoon Session: Evaluating the Prospects for Federal Legislation in the Electricity Industry

In the past year, a number of initiatives have been proposed in Congress which address restructuring in the electricity industry. The scope of these bills range from focussed attempts to repeal PUHCA to comprehensive plans which include everything from retail competition to energy efficiency programs. Although these bills may not be adopted in an election year, they launch a new phase in the process of electricity restructuring. Indeed, recent Congressional activity concerning the electricity issue raises several questions: What should be the focus of Congress in the restructuring debate? What would be the impact of comprehensive federal legislation? Are the issues well enough defined for legislative remedy?

Moderator:

One of the most extraordinary things in the recent history of these issues is the very significant shift in point of view about the use of the federal government. Indeed, the election of 1994, as many rightfully assumed, was about the "new federalism," meaning less federal government intervention into lives and marketplaces, reserving that right for the states. Increasingly, there is a division between that sort of goal and the old federalism, which was designed to intervene on the federal level in order to protect interstate commerce and to make sure that states are not limiting commerce for their own benefit.

First Speaker:

There have been a number of interesting signs of change on this issue of comprehensive legislation over the last 18 months. Not only have there been some very bold statements in the House by several leading Republicans, in particular Tom Bliley and Dan Schaeffer, but also one of the more interesting indicators has been a reshuffling of interests in the electric utility industry. It is an appropriate sign of the maturity of this set of issues that we are now seeing a number of

electric utilities speaking very positively about the need for comprehensive reform.

When we spoke a year and half ago our premise at that time was that we didn't have a market unless we had many buyers, many sellers, arm's-length transactions, and ease of entry. Now there is a general consensus that we need to do something about the market power. Congressman Markey called it demonopolization.

First and foremost, the independents and the utilities are on common ground in wanting to see past commitments honored in any legislation. We talk about a national standard of competition which we assume means full customer choice. The role of the Congress might be to help provide some tools that enable states to achieve full customer choice. Then we talk about this umbrella issue of protection against utility market power. We think that many utilities, during the transition at least, will still dominate generating assets and have control of related transmission assets, and that therefore it is important to address the market power issue.

We had proposed that divestiture was probably the best way to assure that market power issues had been resolved and to reduce the need for regulatory scrutiny and oversight.

We've also talked about environmental comparability as part of the whole market power equation. In many ways, the fact that the environmental issue has been handled as a large fracas between EPA and FERC detracts from one of the real issues: that there is a potential for competition in environmental issues to be a win-win situation, but in order to do that, the lack of comparability in environmental controls between old plants and new plants needs to be addressed. We haven't quite figured out how to do that but we think it needs to be addressed in a way that does not hold competition hostage, which was the track that we were all on with the kind of brinkmanship that was seen between EPA and the FERC.

Second Speaker:

FERC has been invited by the Senate and the House to explain our actions on electricity, to see how FERC fits in to this idea of comprehensive legislation, and to see whether what FERC has done is enough or if more needs to be done. FERC cannot order retail access, but we have taken the position that we have jurisdiction when unbundled retail access is provided. A key part of Order 888 is to move to a *pro forma* tariff regime to ensure that common terms and conditions of service are present. Such a regime would allow for differences particularly in individual states with retail access.

We have said that we would give deference to states as long as services are consistent with FERC policies. These words sometimes invite a fear of a chaotic approach, but I would say that Order 888 provides or allows for individual state actions and a competitive marketplace will demand a certain

states cause a balkanization of the industry? Could state actions that differ greatly produce incompatible electric markets? I don't believe so. We included a strong reciprocity condition in Order 888, but some may think that is a stretch. The focus is now on the operational and technical process, the issues, the structure: for example, the ISO as we discussed this morning, reordering power pools and so forth. , The focus is on the competitive effect of our merger policy, market concentration issues, and so on. If Congress were to take on other issues, I see the need to deal with some of the other structural issues such as PUHCA and PURPA, which also place limits on FERC. Since PUHCA has its own problems with access to books and records and PURPA features mandatory purchase obligations, these may also be considered incompatible with full competition.

Third Speaker:

My company does believe that strong federal legislation is needed now. We believe that a competitive generation market is important for the economy of this company and that market is regional and national in scope. Truly competitive markets require not only many sellers, but many buyers which is why we favor the introduction of retail access as quickly as possible. We think there is a real problem with state experimentation in allowing various different market structures to evolve over the next 10 to 15 years, which is what will happen without federal legislation. We also don't believe it is politically tolerable for electricity to follow the examples set in telecommunication and natural gas, where after a decade, residential and small business customers are still not getting the benefits of most of the competitive changes that have

occurred in those industries.

Given all that, we need to give all customers access to all suppliers in a comprehensive federal approach. We would like to see a removal of the barriers to competition and guarantee a level playing field while ensuring adequate environmental protection.

First of all, we think that Congress should remove states' authority to regulate generation, both financially and in terms of need. Not all state commissions have the authority to determine need, but most of them do, and that really hinders ease of entry into the market place. Second, Congress needs to clarify federal and state jurisdiction over transmission and distribution assets. I didn't count how many state commissions filed with FERC after Order 888 telling FERC they wanted a re-hearing because they didn't think they had the authority to make some of the asset allocation decisions the Order implied, but that needs to be resolved much sooner rather than later. FERC needs very clear authority over all transmission pricing even for retail rates, and obviously that's an issue that not all state commissions believe FERC has today.

Third, Congress needs to establish guidelines and a time frame for retail access, within some defined limits that will give the state some flexibility but also a specific time line. One of the guidelines would be to not allow phase-in by customer class again as was done in gas and telecommunications. What we are seeing today in the various states are large customers who have political power and business power getting better deals than smaller customers who don't have any ability to do that. All customers should be allowed

to benefit at the same time. In addition, stranded costs should be dealt with by the states. However, there should be some guidelines that enacted by Congress, since there are ways in which stranded costs could be assigned by the states that would be anti-competitive. We also would like to see in federal legislation the concept of no distribution bypass, to minimize the concept of municipalization. Those are just a few of the guidelines we would like to include. Our preference is some kind of a three to five year time frame within which all the states would have to have developed these kinds of policies.

Fourth, Congress should immediately repeal PUHCA and PURPA - they are anti-competitive. They restrict significant players from participating in the market place. However, it makes some sense to have Congress ensure that there are federal standards on the ability of state commissions to do audits. Fifth, the EPA mandate should be clarified. We agree with those who are concerned that open access could have a negative impact on the environment. We are supportive of clarification to make sure that EPA does indeed have the ability to regulate ozone production and so on, because we don't think that FERC, as an economic regulator, should be given the authority in the area of environmental regulation. Finally, to the extent that there are public ownership subsidies, there should be a level playing field. We would like to see an examination of both the subsidies that power authorities and other public ownership have versus those that IOU's have to make sure that neither one of those get a competitive advantage because of those subsidies.

There are just a few things that we

don't think Congress or the federal legislation should do. There shouldn't be a federal mandate for total retail stranded costs recovery as it should be left to the states. There shouldn't be a mandate that socio-economic programs or promotions for renewable energy should be federally mandated. States can make a decision on this, as they have in the past. Federal legislation should not mandate a specific corporate structure which means we don't think Congress should mandate things like divestiture, and we also don't think Congress should mandate market structure and that is things like PUHCA versus market development on its own initiative.

Fourth Speaker:

I have been thinking about what the indicators might be of when legislation or legislative effort is ripe. We've had an awful lot of legislation developed in the House that didn't result in the enactment of bills. The House is not a very smoothly functioning organization, and that clouds our ability to predict how well things will move or what will move. I might also say, obviously, that it is very unlikely that a comprehensive bill will be enacted this year. That's not a surprise to any of you. But thinking towards next year, let me suggest a few indicia of when legislative efforts might be ripe.

First, legislation must have a clear purpose and there are two ways you can approach it broadly. One, you can think about fixing a problem. That helps a lot because you know what you are doing and you can focus on just talking about how to get there. The other type of purpose that we often see is the simple desire to improve the world and that may color a lot of the

discussion we are hearing now in the House, which is not just about remedial problem-solving but rather about aiming toward something people think is better.

The second indicator is that it should be a federal purpose. Not every problem out there needs Congressional action or is susceptible to it. Not everything out there fits immediately into our ability to act. Not every problem needs to come to the Congress and Washington. Some of them are better dealt with at the state level or in business without us necessarily rewriting basic statutes. That is one of the questions that would have to be clearly answered before Congress could enact a new law.

Third, you need a comprehensive proposal. We may be about to get one in the House. Senator Johnson originally put out a very comprehensive piece of legislation in the Senate. The reason you need one is to know where people are going and to give them something to shoot at. One of the nice things about the Energy Policy Act was that we had at least a couple of really good proposals. It usually takes some time for a proposal to really sink in before you start even thinking about what you are going to do to it.

Finally, you need a coalition. You have to get the votes. It's really a matter of getting some sense that this is right for a number of people and that the pieces fit together in a positive way for business and for people out there. This worked very well for the EAct. A lot of ground work had been done, and we were tackling wholesale competition. The purposes were relatively clear. We wanted to make sure that we had a clean transmission system that prohibited discrimination, and in which it was easy to get

on the wires. FERC had to refine that. There are all kinds of ramifications to it but the bones of it were finite and you could talk about it and then you could talk about the goals you had. The statute itself is really short, but its purposes were very clear. The timing was also right. We had a couple of proposals in both the House and Senate, and finally we had coalitions that backed them and came up with their own proposals and had endless days and weeks and months of negotiating among themselves before they put a proposal on the table. That clears out a lot of underbrush for Congress, when some of the work can be done in arenas where it doesn't hurt anybody's ego or legislative prospects.

I leave you with some thoughts of what will be the toughest things for Congress to deal with. It is amazing how people who are generally against activism on the part of the federal government become extremely activist when they are in charge and it is also ironic how people who have defended states rights forever suddenly put qualifiers on protecting the states. As a new member of a minority staff, I readily admit that it depends on whether you are in charge or not.

Five points will form the focus of Congressional effort in this. The first is state/federal jurisdiction and/or preemption. Second, stranded investment. Third, market power issues. A fourth tough nut to crack is the environment. Finally, I do worry about how we make sure that whatever we do in Congress fits with what FERC is doing. The last thing FERC needs as it is trying to move forward on wholesale competition is for us to do something that doesn't fit and that is more complicated than we have appreciated. I can't say exactly how these questions will arise but we have got to keep our eye on all of

them.

Fifth Speaker:

These issues we're concerned about won't be on the radar screen of Senators and members of the House until the issue reaches a critical mass. Unless these guys have a lot of feedback from constituents essentially saying "this thing is broken and we really need to have it fixed," I don't know that we will have a bill or a concept ripe for enactment.

Another problem is the variation in electricity prices between the states. In the states with very low electricity prices, members don't have any reason to spend their time thinking about these kinds of issues if it's not important to their constituents. Also, a lot of people are on the Energy and Natural Resources committee because of the natural resources end of the jurisdiction. They're there for grazing issues, timber issues, mining issues, and electricity is low on their agenda of things to do, although it is within their jurisdiction. That said, one key variable is going to be the spin game that takes place within the next couple of years. The forces that want retail competition need to go forward and grab mom-and-pop America by the throat and say, you saw this happen in the telecom bill, you saw it happening in health care, and here's why it's important in electricity. If that sort of a campaign is waged, then it may float back up to members.

The other relevant thing will be the experience of the process over the next few years. Will there be successes? Will there be failures? Will states go forward, the ones that are studying it? Will they just decide that it's better to put it off? What may happen this

summer with respect to blackouts? Maybe we in this room don't necessarily think that's related to competition issues, but it may affect the way things get played out on the Hill.

Another crucial aspect of how this thing is going to play out is the role of public power. Particularly on our committee, the members have a lot of interest in the future of electric cooperatives and the issue of whether retail access is going to benefit small consumers as opposed to large consumers.

Sixth Speaker:

The notion of comprehensive legislation tends to send chills up my spine because so often it runs into a great deal of problems. Comprehensive means that everybody's sacred cows are available. It's far easier to legislate, to do a good job, to know what you're doing, to complete the process when you address issues on a single basis.

In 1983, we tried to comprehensively legislate the decontrolling of natural gas. Now, normally, legislation takes one business meeting, maybe two, or on a rare occasion three. For this project the energy committee spent 29 business meetings doing a comprehensive decontrol bill. After 29 business meetings we were reported out by a vote of 11 to 9. The chairman of the committee filed a dissenting view. We took it to the floor and we got a total of 29 votes in favor of it. There are a series of issues which can and ought to be dealt with in order to make the market incrementally more competitive. PURPA and PUHCA are clearly two of them.

One of the interesting side issues of comprehensive legislation is the question of

jurisdiction. A comprehensive bill in the Senate or House could end up in a whole bunch of committees' jurisdiction. For this reason, comprehensive bills are fairly difficult and exciting pieces of work. Now the Energy Policy Act in '92 had lots of pieces, but it was not a comprehensive bill in the sense that it did not deal with a single broad issue, electricity, in a comprehensive way. The House tried to make the bill comprehensive, but the Senate was less than thrilled with the House approach, and the compromise was a fairly narrow bill.

The previous speaker correctly noted that the bulk of the members of the Senate Energy Committee come from Western states and are interested in public lands issues. A comprehensive bill raises some really thorny issues. Do we want to pre-empt the states? What about stranded investment, reliability, environmental issues? For example, take the environmental issue. The Committee has Senators that are in coal states, and senators that are in natural gas states, and people who like nuclear power, and we have people who hate nuclear power. So there's always another dimension of this issue that gets played out under the surface which makes comprehensive legislation all that more difficult.

Moderator:

The one thing that is very important when you're talking about Congress is that we tend to talk about its influence in terms of actual legislation, something that would become law. It's my impression, however, that *the perception* of what Congress might do is also a very influential thing. State regulators seem to have gotten a view over the past few years that the federal government

might well intervene in a way they would not have done before, and that may well impact on state regulatory decision making. Certainly FERC is politically sensitive to whether or not they are likely to be overturned on Capitol Hill. I would argue that one of the reasons for the success of the current commission in carrying out their decisions so far is that they have not roused up enormous hostility, which is quite easy to do.

The other observation about Congress is that things change rapidly. Natural gas deregulation was passed just one year after one of the representatives made a speech about how gas would only be deregulated over his dead body. On the other hand, the Senate failed in very complex efforts to get contract carriage. We demonstrated that we could create chaos because every interest was represented, but the real result was at FERC, that the commission could move ahead without opposition.

GENERAL DISCUSSION

Retail Choice

___: If you assume that customers will get their power from multiple suppliers, if there's going to be total price competition at the consumer level, where customers will simply want to shop for power based upon price and perhaps even service offerings with a bundle of different services, what further need would there be to have a regulatory mechanism even

The concern is that somehow the

regulated entity would subsidize the unregulated entity; but there is no market for the regulated entity other than the market that the regulator tries to impose on it. When we said we wanted all customers to have choice, we also indicated it should be a phased-in. We know that the first day that you offer customer choice, a majority of customers will not feel comfortable choosing because it's just not something that they're used to doing. For an extended period of time the regulated distribution utility will have to be there to offer bundled services for those customers who want them. Again, there's this concern that the small customer won't be adequately served. We're saying that at the end of that five years, if there haven't been enough competitors developed to adequately serve that market, it should continue to be regulated.

_: Would you still have states responsible for overseeing mergers and acquisitions under current state law, for those states that have authority to pass on mergers and acquisitions?

_: Again, we don't have a problem with continued state oversight of mergers of pieces of the regulated utility. In the future, if all you're really looking at are transmission or distribution utilities, it's a different story, but if there are mergers that are going to come up between regulated entities, we think states should have a right to oversee them.

-- How do you square that then with this a merger or acquisition would go forward?

—: We separate the notion of choice from the distribution utility. The customers are choosing who they buy their electricity from while their distribution utility is still going to be a franchise. You can have total customer choice and still have the regulated franchise areas which the state has authority over, so I don't see them as being inconsistent.

Where does the regulation stop?

The regulation stops before the meter.

In other words, the use of the wires is regulated but the electrons are not?

Right, similar to long distance phone service today.

Regional Issues

—: The importance of the electric services industry and the degree to which current developments have destabilized old assumptions creates a climate in which there are some significant opportunities. I would like to think of them in terms of federalism. It is ironic that we are discussing the question of whether there should be comprehensive federal legislation to resolve the future of this industry in the very near term when I don't think you could pass such a proposition in this room.

Now given that we, the people who have been thinking about this the longest and presumably the most seriously, by no means in agreement, let alone details, the notion of trying to take something before the 535 Americans who happen to have the privilege of serving in the Congress of the United States borders on the ridiculous. It is also strange that the call for federal legislation has as one of its major components the repeal, apparently

grounds of dysfunction, of rather recently enacted federal legislation. We are told that we should repeal PUHCA and we should repeal PURPA and then there is the whole issue of Congress taking a look at what happened with public power and trying to fit it into this area. What could Congress do?

In listening to the panelists, I tried to count the number of times the word "regional" was used. I came up with 14. The industry is essentially regional, and yet we don't have a clue about regional governance in this country. Wouldn't it be a nice idea to address some of this century's problems while the century is still with us, and to decide what we are going to do in terms of allowing regional governance institutions to come into existence. In governing, we pretend that everything is an issue to be decided on either the state or the federal level, and, moreover, that the political boundaries of the nation are also the physical boundaries of everything that goes on in the nation. The plea that the industry continues to make is, "let us form the dynamic that is natural to the physics of the industry."

It seems to me that the regional nature of electricity as it exists in the wires gives us as Americans one clean important form in which we could discuss whether or not we could develop regional institutions of governance, whether on the basis of the state compact or through the Congress of the United States creating institutions at the regional level. History warns us of the price for the chilling impact upon regionalism that was cast by the series of unfortunate instances that began with the Whiskey Rebellion and ended with the Civil War.

One of the ironies of our limited experience in the commerce community with

interstate compacts is that people love them only as long as they are distinctly better than the alternative. But they don't much care for them otherwise. We have actually been asked to pre-empt regional compacts and help split them up. People tend to fall back on the state-federal role if they find they are not winning in the regions.

_: In the first year of my company, we put together a comprehensive proposal and presented it at a number of conferences, many of which were for regulators promoting the concept of regional regulation. I kept being told that it will never happen. I was finally convinced by a panel of Midwest regulators from different states. Electricity is one of many things that is used as an economic development tool and when states view each other as adversaries, it is not very practical to try to develop regional strategies. We would still be open to it, but it just doesn't seem like the politics are there.

The Federal/State Relationship

_: Do you envision the states continuing to play a role, with whatever residual authority they have or may adopt, in overseeing the multi-state activities of holding companies in the absence of PUHCA?

_: Yes, they would. We will continue to regulate whoever it is that owns the regulated part of the business.

_: In an environment of total retail customer choice, what further justification would there need to be to have continued oversight, even at the state level, of the multi-state utility for diversification purposes, assuming that all classes of customers have full customer choice?

_: There are still affiliate interest concerns that will be around for a long time as long as we have holding companies that are going to be involved in related businesses. We're currently working with our state commission to better define what activities are appropriate in the regulated or distribution utility versus the unregulated retail business. So, we believe that for an extended period of time, it's appropriate that the commission still retain powers of oversight.

_: I want to respond generally to some of the negative polemic about federal roles that I hear. There is an important choreography that goes on between the federal, state, regulatory, and legislative bodies. I often use the analogy that we are participating in this improvisational dance band and it is a little hard to know which section is going to take center stage. But that image puts forward the concept of resonance between what happens with the states and what happens with the feds and what happens in the congressional or state legislative forum, so this debate that we are having in the congressional arena is extraordinarily helpful as well as influential to state regulators and state legislators.

_: Not all of the debate is over deregulation or streamlining regulation. It's largely a matter of different regulation, presumably to work better. The question is what is best for the consumer, both residential and industrial, and we believe that deregulation and streamlining regulation are the answers. If we can't streamline regulation or deregulate, then our preference is to have the states do it.

_: What would be the possibility of saying to any electric utility that waives its state action protection, that is, that says "I unambiguously submit myself to antitrust action," good, you're

not regulated in any part of your business. Assume that we have perfect transmission pricing. Assume that somewhere lurking in the utility industry is somebody willing to compete and that this fictitious utility executive says OK, I'll take my chances with an availability and the heck with all you people. Leave me alone from now on. And we could get that law passed. Wouldn't that work?

: As I understand it, Senator Johnston's bill calls for essentially preempting the states on retail stranded asset recovery. He sees some compelling need for a national standard in regard to that. What's the problem that he sees that requires preempting the states on retail stranded assets in order for it to be solved?

_: This isn't preemption. I would prefer to call it, as he does, a federal backstop. The bill gives utilities the right to go to FERC recover past costs that were prudently incurred. So to the extent that a state gives 75-80% stranded costs, the utility has the right under the bill to then "appeal that decision" to FERC to get the remainder, subject to a proceeding at FERC. That's what the bill contemplates. The Senator's fear is not that state regulators will do the wrong thing or mess things up, it's that their interests are related to their state. His fear is that state regulators will make a political calculation. They will realize that they can make a political calculation of taking money out of equity and lowering rates to the detriment of out-of-state shareholders. Second, that you may have what he refers to as a "race to the bottom," in which one state may attempt to out do other states with respect to how low can you go on stranded costs recovery.

_: That argument is clear to me. We've got a long history of how state regulation works and if there's evidence of the race to the bottom, I haven't seen it. What in the world is there in the current market that leads one to think that states are arbitrarily going to lower rates in order to get economic development, but deny stranded cost recovery simply to get an advantage over their neighbors? Where's the evidence for that, and who's making those claims?

_: There aren't that many states who have actually looked at the issue yet.

_: If one follows the logic in Order 888, if the state makes a call about what kind of access regime they will have at the retail level, then the state ought to deal with the consequences. FERC is saying the same thing for itself vis-a-vis the wholesale market. You're saying this bill calls for preemption of this question of retail access and so therefore it ought to deal with the stranded assets. Isn't the need to mandate on the national level retail access simply a way of nationalizing the question of stranded assets and taking it away from the states?

_: The two states that have addressed stranded cost recovery have gone with something less than full stranded cost recovery. They haven't been many, but both New Hampshire and Massachusetts have Orders in the 50-70% range for stranded cost recovery.

_: That's exactly the point - isn't this really an effort to make sure that there's a full 100% recovery of stranded assets rather than a determination?

_: I'm troubled by the fact that Senator

Johnston's bill gives a utility the right to seek appeal of a state PUC determination on stranded costs. However you characterize it, if the FERC is able to review a state commission determination either as an appellate body or perhaps even *de novo*, you have preemption. It will render the state commission proceeding either virtually meaningless or simply a dress rehearsal for the real battle which is in the federal forum.

Furthermore, this phenomenon of the race to the bottom is a chimera. I don't know where this comes from. I haven't talked to any state regulator who says that they would purposely require the out of state shareholders to absorb those uneconomic costs so that their state can compete on economic development terms with another state that already has begun to slash its rates. If there's a race at all it may well be a race to the top, because many state commissions are fearful that Wall Street might class their utilities in a negative light and downgrade their credit quality. That would be something that would be perceived as affecting economic development potential in their respective states.

_: There area lot of utilities that would be more than happy to negotiate and discuss with NARUC where those decisions should be reviewed. It doesn't necessarily have to be the FERC.

_: Under S1526, if the state gives full recovery of prudent, legitimate, and mitigated costs, then there's absolutely no preemption at all. Your discretion to call previously incurred costs prudent or imprudent is the only thing being challenged. This bill says that as a matter of national interest, we don't think that the transition should suffer by that sort of state litigation.

No state commissioner I've talked with has said that they want to revisit prudence. Furthermore, state commissions may well engage in a very well-reasoned, serious, deliberate effort to allow the utility to recover 100% of legitimate verifiable stranded costs., but the utility may have a different assessment of what is included in that 100%. My fear is that, if they knew that the secondary forum was dispositive, they might tend to regard the state commission as non-binding.

At the state level, activity has been going on for four and a half years now. The discussion of federal legislation has had one effect, which has been to slow the enthusiasm of state regulators. Why should they get dragged down this road if at some juncture the Congress of the United States is going to step in and just legislate the whole thing. Asking people, including the stakeholders, to carry out this tremendous restructuring effort on the theory that at any given point in time it might all have been for naught is going to have an extraordinarily debilitating affect on the speed with which this matter is seriously discussed.

We should observe what's occurring at the state level before we prescribe a federal fix that may not be the right fix. There are 46 states or so who are looking at lease structure, looking at market structure issues. Some are going to act soon. I would just continue to make the plea that we allow that process to work on the state level. I have heard the idea now of giving states a deadline for action, and maybe that's preferable, but it's very difficult to sit back and observe the erosion of our efforts at FERC to have a cooperative and collaborative mechanism with the state.

Antitrust Issues

—: Suppose a utility, a large utility, was now deregulated and simply said, "I am charging a very high price for the use of my wires." Would that be a violation of the antitrust law?

If it had very substantial market power somebody could act against it. Whether the case would win or not, is uncertain. There are burdens on you to behave in a different way if you have that extensive market power. But this is the approach that got us a competitive economy everywhere except where we didn't apply it like the electric industry. We talk about deregulation here and somebody comes up with an 800 page order. I say to myself, this is deregulation? Adam Smith wrote less than that. It seems to me that we ought to explore the possibility of extending the reach of competition.

Every other industry that has gone through the process of de-regulation has ended up with some entrants dropping out, significant consolidations, and then the emergence of niche players to fill gaps left by the hugely consolidated entities. What do you see emerging in the electricity industry?

—: On the one hand every time an RFP is put out we see extraordinary ratio of response. Someone needs 100 megawatts, they'll get anywhere from 10 to 20 or even more offerings of that increment. There is a lot to choose from, which has helped to educate us all that generation can be competitive. Are there consolidations in the industry? Yes. On the other hand, if you're leading to a question about horizontal market power, great minds disagree about how many participants makes the market. That is a big question mark.

respect to the suggestion about whether we ought to throw out regulation entirely and give

utilities the ^{option} of subjecting themselves to antitrust laws, I have one question. Is it really good policy to take something that most concede now remains a natural monopoly or pretty close to it, transmission and distribution, and say we're not going to regulate that in a traditional fashion?

: The answer to that goes to the fact that with Order 888 what we're trying to achieve, I guess, is a seamless web of open access. We have what we call functional unbundling. The idea is to have that network available as we have attempted to have in telecommunication.

—: If this legislation doesn't happen over the next five years a lot of the advantages that people are seeking will have worked out in the market. But stranded investment is half a matter of hedging what happens in the next five years. People will look at legislative language and think, gosh, am I better off letting it evolve or seeing this law come into play?

The Importance of Consumers

Earlier speakers reminded us about the difficulties of doing comprehensive federal legislation, however, I take exception to a thought that was expressed earlier that if those of us in this room can't agree how can we expect Congress to agree. There's a group that's missing from our discussions here today that is a real driving imperative in this debate and it cannot be ignored, and that is consumers. There is a strong perception by a number of large customers that the system is broken. That the disparity between electricity prices within a state and within regions of the country represents a serious problem. They are strongly committed to raising that issue at

every turn. That imperative is not going to dissipate and that it has to be reckoned with when we think about the likely prospects of legislation.

At the latest hearing on the House side there was a speaker on behalf of one May Department Store, who participated in a retail competition program offered by CILCO and saved -- one department store -- \$40,000 a year. Orange and Rockland had to postpone a retail competition program because they thought six customers out of the eligible 60-something would bid into it, and 50-something bid into it, and they didn't have the mechanism to accommodate that many. The huge controversy around the interim CTC shows the imperative the customers are feeling to get prices down. Not in five or seven or ten year transition periods but right now. And that's going to play a major role in informing the debate.

To get where people want to be and to have competitive markets is going to require some federal legislation. There are some things that states cannot do by themselves. If you believe that the issue should be left to the states, it appears at this point unlikely that the states are prepared to do what needs to be done in the time frame that's going to be required. EGA recently completed a survey of state legislators on issues of restructuring and attitudes towards restructuring. Of 35 states that responded, 19 had some sort of legislation pending. The vast majority of that was simply to study the issues. People are simply not going to wait for that process to unfold. The driving force on the Hill may be a group that is in fact is not reflected in this discussion or in this debate today. We need to know that doesn't mean they're not going to be playing a major role.

—: When you said one group was missing, I thought you were going to say residential consumers. The industrial consumers are not missing. I would observe or predict that the day that residential consumer groups come out foursquare for something, the members of Congress are going to be responsive. But when it is one constituent group versus another or when it's one industry segment versus another industry segment, what do we do? The politics are very tough. When residential consumers become motivated, that is probably going to be when the tide turns.

—: Restructuring is already happening - is there a role for legislation in either improving the efficiency of the restructuring when dealing with equity or fairness problems? Is there something that can be added to the process that's already going on in the marketplace? There seems to be a consensus around now in terms of defining jurisdictional boundaries and things like that to avoid the waste of time and resources involved in litigating those issues. The further you want to go in terms of promoting efficiency, the more and more equity issues pop up.

: There's been a very strong sense today that this issue is not yet right. There's a big education effort that has to go on in many places, including the Hill, and people have to think about these issues more to articulate what might be done. Is it possible to take fairly targeted activities and imagine a process in which you got the positive and not the negative results?

—: It is, and if you went to the various interest groups, the lists of the absolute must-dos and the list of the absolute must-not-dos are going to vary widely. It is possible that there may be some of these that there's a

consensus on but sometimes it seems that the only thing everyone can agree on is that something needs to be done. Certain issues are ripe for action. Legislators certainly need to understand what's going on, why it's going on, and why it's in their interest and their constituents' interest to do something.

Everything we've heard today would suggest that inaction seems a likely outcome. But I vividly remember some times when everybody thought that the common consensus was we would never do transmission access. That took only a year to change. The one thing that's been clear over the last four years is the radical change in people's attitudes within the industry itself. So you cannot count on any player being in the same place next year because they redefine their self-interest as they see what everybody else is doing.

As for educating the legislature, vast majority of members of the House and Senate will never understand what's involved. Instead what they're being told is: look, we're going to make money out of this. Competition works. It's harder and harder to make the argument for not changing, when they've been through the pattern in other industries and the sky didn't fall.

That's one of the reasons why Senator Johnston wanted to do this bill, to say there are large customer benefits here. There are great benefits to setting out the rules in advance so people can make business decisions based on those rules. There is a national interest in these economic benefits, not just state interests. I understand the concept of regionalism, and believe it is a good one. However, to hear you folks talk about it there would be no role for the federal government at all.

Third Session -- Capacity Reservation Open Access Transmission Tariffs: Key to the Future

"The proposed capacity reservation open access transmission tariff, if adopted, would replace the open access transmission tariff required by the Commission ... " With this modest preamble, the FERC announced the purpose of its new inquiry that goes directly to the crux of the debate about market structure and operations. Recognizing the complications caused by network interactions, the proposed transmission access system would leap beyond the limitations of the contract-path model to provide comparable transmission service consistent with the actual operations of the system. The point is "point-to-point, ' and the challenge is to make the broad outlines of point-to-point capacity reservations and trading for all transmission uses a practical alternative for the electricity industry.

Moderator:

This whole adventure of restructuring is characterized by the persistent presence of two myths. The first myth is the question of direct access. If I were to give a final exam and ask everyone to fill out on a piece of paper their definition of the term direct access and we were to compare the definitions, we would be startled by the degree to which we have yet to come to a common understanding of that which we now drop as a term of casual reference. The second murky area is this question of the use of the transmission grid and that's what we're here to discuss this morning.

First Speaker:

You are all aware that on the day that the Commission issued Orders 888 and 889 we also issued a brand new proposal, to replace our point-to-point tariffs with a so-called capacity reservation tariff. The *pro forma* tariff embodied in our final rule requires a transmission provider to offer both network and point-to-point service. However, as we worked on Order 888, we began increasingly to question whether FERC's goals of comparability would be better served by having only one kind of service instead of two

and we decided, at least preliminarily, that there ought to just be one kind of service. The fundamental reason is that having two kinds of service instead of just one creates the inherent possibility of discrimination between the two kinds of service, and that type of discrimination is very difficult to police because you're always comparing apples to oranges. Network customers get and pay for the capacity they actually use, while point-to-point customers get and pay for capacity they reserve.

Having reached the conclusion that having one type of service would be better, we considered whether the appropriate model should be load-based or reservation-based. We decided that the reservation-based model appears to be more appropriate. Specifically, we decided that a service akin to our flexible point-to-point service would be best, because it could accommodate both types of customers. Under our proposal, all firm transmission service would be reserved and all reserved service would be firm. The customer would reserve the right to put into the grid and take out from the grid specific amounts of power at particular points of delivery and receipt. These points would not have to be paired up; they could be used in any combination. So the service could be used for

either a point-to-point type of service or in a network manner. The customer's capacity reservation would be the higher of either the sum of its reservations at all points of receipt or the sum of its reservations at all points of delivery. The customer could rearrange or modify its firm reservation so long as firm transmission was available and the customer did not exceed its capacity reservation.

Of course, this flexibility might be limited when the grid is operating at or close to capacity. To avoid this problem, the customer could either subscribe in advance to enough capacity to give it the desired flexibility or it could decide to take nonfirm service on an as-available basis. The customer could also reassign its reservation subject to the kinds of limits specified in the open access rule. A customer could use its capacity reservation to deliver or receive any kind of power product such as firm or nonfirm power. All nominations or requests for capacity reservation would be evaluated using the same standard. A request or nomination for a capacity reservation would be accepted if the transmission provider determines that it can be reliably accommodated without infringing on other firm reservations.

Transmission providers would also offer nonfirm service. Nonfirm service could be provided from transmission capacity not scheduled by customers with reservations or from capacity that is not previously reserved. What are some of the advantages of this approach? First, the CRT would make the calculation of available transmission capacity more transparent and thus more consistent with the requirement that market participants know how much transmission is available for their use. To make this calculation, a utility must estimate how much capacity it has and

how much it needs for its network load before it can estimate the available remaining capacity. It's easy to subtract out point-to-point service reservations, but there is no amount of capacity explicitly reserved for network customers. The CRT tariff would correct this problem by requiring the utility and other network customers to post as a nomination and reservation the amount of capacity they claim to need for network load.

Secondly, the CRT would also allow the development of a more vigorous secondary market for transmission capacity. This is a key factor. We stated in our open access NOPR and final rule that network service under our *pro forma* tariff was inherently not amenable to reassignment. Capacity reservation service, however, would not suffer from this disadvantage and would be reassignable.

Third, the CRT would also allow for better price signals than load-based pricing under a network approach. Under load-based pricing, transmission customers pay in proportion to usage even if their forecast of their transmission needs is way off. There's little or no cost penalty for inaccurately forecasting their transmission needs. Under the CRT approach, the customer pays based on the capacity it nominates and reserves and thus has a strong incentive to forecast its transmission needs accurately and economically.

Fourth, the CRT approach also does not depend on the contract path fiction or even the calculation of transaction-specific actual path flows. Instead the CRT requires a customer to specify only the points of delivery and receipt and need not pair these points up

transaction by transaction.

Fifth, it is our hope that a reservation model will be a better basis for accommodating innovations and pricing reforms. Two separate services may be an obstacle to innovation. The CRT puts all transmission users on the same footing and will remove this obstacle.

What are the disadvantages? First, one might be the timing of the proposal, coming just as the industry is implementing the more familiar concepts of network and point-to-point service. The industry is expending a lot of time and effort to implement our *pro forma* tariff and devise oasis computer systems based on these concepts. Some may argue that it is simply too soon to conclude that we need a new and improved model for transmission service before the ink is even dry on the kinds of services that we just ordered. That is a fair argument. But if the capacity reservation idea is really a better approach, why wait?

Second, another argument some may make is that it is not FERC's role to require utilities to nominate and reserve transmission service on behalf of their retail load. We tried to be sensitive to this concern when we worked on the CRT. We specifically do not propose requiring utilities to take service under the CRT for their bundled retail load. So the rates, terms and conditions of retail service would continue to be set by state commissions and utilities would be free to nominate and reserve as much service as they or their state regulators deemed appropriate for retail service.

Third, some may also argue that the CRT approach would preclude some of the more innovative proposals being considered in

the industry for transmission usage and pricing. In fact, our intent was to allow more innovation. In the CRT proposal itself we said, "this NOPR among other things indicates that the commission is not committed to traditional tariff design." We believe that the proposed CRT concept would provide a flexible base on which industry participants can build a variety of innovative tariff designs. We expect the CRT concept to be more compatible with various ISO and power pool pricing proposals than the traditional open access final rule tariff. And we asked three related questions on this point. Would the CRT requirement by the commission facilitate or hinder any of the industry's current restructuring efforts? Would a CRT facilitate or hinder any of the innovative transmission pricing approaches now being considered by the industry? Would it accommodate flow-based pricing that does not depend on a contract path? Obviously, we asked these questions because we did not intend for the CRT to discourage any innovations. Our fundamental goal in proposing the CRT was to eliminate the potential for discrimination inherent in offering two different kinds of service. We were motivated by the desire for comparability.

Second Speaker:

The CRT proposal is extremely thought provoking and far-reaching, but because this little document was released on the same day as the 700 or 800 page Order 888, it hasn't received sufficient attention yet.

The CRT packs in some tremendously provocative ideas for the longer run. This proposal or some variant of it, in the long run, is going to be a lot more significant in some ways than Order 888 itself in bringing about a truly efficient form of competition in the

electric industry.

The focus of 888, of course, was to bring about a regime of comparability and non-discrimination as well as open access. Comparability and open access are two sides of the restructuring triangle. The third side of the triangle is to advance more innovative tariff designs that will lead to more economically efficient pricing of power around the grid. The final Order went so far as to provide for a standard common denominator tariff, but left it to the utilities to pursue more innovative tariff designs from this point.

The NOPR suggests or establishes several principles that would advance competition. It promotes a single definition of transmission which does effectively address concerns about discrimination. It would enable us to completely and definitively unbundle generation from transmission, a problem that is bedeviling our efforts in Massachusetts. There are particular generators at particular points on the grid that operate in support of the transmission system, and it certainly complicates our efforts to implement our principle of full and fair competition and generation when we have to make accommodations for a handful of very strategically located generators on the system right now. The CRT approach may help us to draw that line, to place an appropriate value on the transmission component and the generation component.

It's our view in Massachusetts that in order to have a truly competitive market, we cannot continue the notion of native load preference. If we have an open system, ultimately it will be to the greatest benefit of all recipients of service, but most importantly it would advance much more innovative and

economically efficient transmission tariffs so that the combined bulk generation and transmission systems, when viewed together on an integrated basis, would produce least-cost results.

I see in the issues surrounding the transition a problem like the kind Russia is experiencing right now in moving from a centralized system to a democratic regime, and I see a possibility of backlash. To the extent that the new system creates winners and losers, would it be just politically difficult to implement?

The NOPR takes pains to emphasize that FERC does not intend to take away states' jurisdiction over cost allocations in bundled retail sales. My concern is that states will not retain the flexibility to regulate whatever portions of the transmission system remain under their jurisdiction to the extent that customers continue to receive a bundled retail service in their states. Unbundling and the development of locational pricing is going to increase the pressure for states to geographically de-average the rates that they charge to their customers, which may be a politically difficult complication of this proposal. It would highlight those portions of the grid that are inadequately served, where the cost of transmission is high, and lead to pressure to require the customers in those areas to pay the cost. That may be an appropriate and objectively rational outcome, but it is going to be a politically difficult outcome.

Now, the proposal does invite commentators to present possible alternatives. One approach that has struck me in the recent past, which has been advanced by certain parties, is the notion of a regional transmission

company that operates under a revenue cap. Here you have one entity that's providing transmission service -- it could be coextensive with the independent systems operator and the revenue cap would be based on the embedded costs plus the opportunity cost of that entity, or the congestion costs that have been experienced over the past year, or perhaps an average of the past three years. If that is established as the revenue cap for the transco, it will have an incentive itself to go out and pursue contracts or pursue expansions that will reduce those congestion costs and those opportunity costs. This model is in line with the idea of having one central entity providing planning on behalf of everyone, and that may be appropriate as an interim step on the way toward a truly open and competitive market.

Turning decisions about transmission planning over to the users isn't such a good idea if the users really don't have an adequate understanding of the entire integrated system. It sort of reminds me of the parable of the blind men groping the elephant trying to figure out what it is. Would it make more sense, at least in the short term, to recognize the elephant is an elephant, it's one thing? The transmission system is one entity and it may at least for now have natural monopoly aspects and need to be regulated as such. On the other hand, in the longer term the notion that the transmission system is not necessarily a natural monopoly and that the planning of transmission could be a truly competitive function is a major breakthrough of this proposal.

Third Speaker:

The fundamental problem here is how to deal with this use of the transmission grid,

and how to do so in a way that will be consistent with a competitive market in the parts that can be competitive. I share the view that this CRT NOPR is critical. We have to get the transmission system and the rules and the pricing right. The British got it wrong. The Norwegians got it slightly better, but now they have problems because they didn't fully confront these difficult issues. The Chileans are starting to adopt something like this because they ran into the same set of problems. We must confront these problems, and it's much easier to do it now than it is going to be to do it later.

The Commission has come forward with this point-to-point capacity reservation system and I've provided you with an outline of the points that they made. Underlying this is a notion of physical transmission rights. In other words, you get this point-to-point transmission right and then you may use some of it or part of it or all of it; meanwhile, we're comparing your use to the right, and people are trading these rights and reconfiguring these rights, and somehow it all matches the use of the system. It's an easy way to think about the problem. When you're talking about what will happen in the year, the month, and the week before we actually come to turn on the light switch and deliver the power, that's a perfectly fine way to think about it and talk about it. But when you get down to the last day or hour, with the loads changing as fast as they do, when you introduce the notion that you will have people queuing up some place to have trades of these capacity rights, that physical transaction notion for the final short-term dispatch starts to break down.

That does not mean this is a bad idea, because embedded in the CRT is limitless trading, participants may trade all they want

and then if they use more or less, it can be exchanged at the opportunity cost prices. This implies that the CRT can be thought of as more than simply a financial instrument. Under the CRT rules that have been laid out in this document, if you carry the implications through to actually doing this, what you will conclude is that the two actions become functionally and financially equivalent.

I will elaborate on a couple points that were mentioned earlier. First is this definition of the basic service concept as point-to-point service. The important part of this definition is that it takes us to a more sophisticated way to think about capacity and transmission networks. The point-to-point method that's embedded in this definition goes past the flaws of contract path and gets out of that problem by not explicitly talking about the flows. The flows are implicit, and the question of what's the available transmission capacity gets changed from "how many megawatts can I move in this transmission grid?" to "is this set of capacity reservations simultaneously feasible?" The simultaneous feasibility test that's embedded as one of the components of the CRT description is a resolution of how to think about this problem of what's the capacity of the network. That's a big breakthrough conceptually.

When CRTs are employed they will be matched up with actual use. The problem we will have is that actual use is constantly changing, so people will want to change these things all the time. However, this physical perspective of matching use to rights is not the only way to look at it, and that's what I want to talk about. When you start thinking about the trading implications of what the commission proposes.

Two kinds of trading are discussed in the NOPR. The first is where I have a right, a capacity reservation, let's say from point A to B, and John wants the capacity reservations from point A to B, and I trade with John and I sell him in a secondary market some of the rights from A to B. That's simple, it's a good idea; we ought to have this secondary market. There's another kind that's talked about in this CRT though, that is much more difficult and much more important because it's the more interesting part of the problem. It's not that John wants to get his 100 megawatts from A to B; rather, he wants to get something from C to D and he wants to trade my right to go to A to B for his right to go to C to D, and because of the interactions in the network, it might turn out that I can give up my 100 megawatts and he can get 132 from C to D. Those exchange ratios would be changing all the time, and it will be necessary to do that reconfiguration to take advantage of the short term opportunities in the system. That's where the loop flow problem rears its head. We want people to do these trades, we want them to do these modifications, but the only way they can do those trades and modifications is to have them coordinated by the independent system operator.

The best way to do it is to have some kind of auctioning mechanism, where the trading takes place between the independent system operator, and some criterion, like market-clearing prices, for those trades to take place, so that people pay the opportunity cost for the exchange associated with these trades. Happily, the CRT says you can do that too. It says opportunity cost pricing will be embedded in the system, and people who don't use all their capacity can be paid the opportunity cost. People who use more will pay the opportunity cost, and that opportunity

cost pricing principle sets up a criterion for resolving what will be an inherent and unavoidable problem of the interaction of these trades.

Everybody will want to trade in very complicated ways. If they want to do just simple ones they can handle it themselves, but if they want to do the more complicated ones, of necessity the process must be coordinated through the system operator, and when the system operator is doing that they have to have some criterion for allowing trades, because often it won't be possible to do them all simultaneously. If you can do them all, that's easy. If you can't do them all simultaneously, you have to make a choice and the opportunity cost pricing sets the criterion for making the choice. Assume we have opportunity cost pricing, we have these capacity reservations that are allocated initially somehow, and now people want to do trading on the short term, over the day or the hour. The value of the transmission is not independent of the value of the energy, and when that system operates, it looks a great deal like economic bidding.

The trading of the transmission capacity reservations coordinated through the system operator at opportunity cost prices turns out to be, mathematically, functionally equivalent to economic dispatch. When you put these ideas together, you find that there's another way to look at it, and the other way to look at it is what I've called in the past transmission congestion contracts. You can think about capacity reservation as meaning whoever owns a certain capacity reservation can move power from A to B without paying congestion costs. They can also buy and sell reservations at the opportunity cost, which is the difference in the congestion cost. That's

the economic dispatch story. You can calculate it as net, in which I take your actual use and subtract it from your capacity reservation, and then you pay for that at opportunity cost. Or, I could do it gross, which is, you pay for use and I pay you for the transmission congestion contract, and you add them up. The two ways of adding it up are functionally and financially equivalent.

These transmission congestion contracts turn out to be the same thing as tradeable capacity reservations and opportunity cost pricing. Because over a day, if you don't use all of your capacity reservation, you get paid for it; or if you use more, you get charged for it. And so it's a settlements process. People will figure this out after about two minutes, and then they'll say, why do I have to go down there and constantly trade this thing all day long if the energy bidding and the economic dispatch are going to take care of this automatically. The settlement of these transmission congestion contracts is a much simpler task to implement, because the system operator doesn't have to keep checking them all simultaneously. He only has to worry about the problem of the economic dispatch, which he has to worry about anyhow, for a lot of other reasons, and so the capacity reservation tariff, with these provisions as I see them, will end up as the same thing as the transmission congestion contracts, which is a completely feasible and doable system.

When you put the package together, you find out that it solves an a lot of the problems that we have been discussing in this country and around the world. These problems are occurring everywhere. The Norwegians and the Swedes have just noticed this, now that they've put the two markets

together, and they're trying to decide exactly how to deal with it. I told them to read the CRT NOPR, because the CRT concept, if you adapt it to this pool-based dispatch and economic dispatch with locational marginal cost pricing, the CRT NOPR and the transmission congestion contract are just mirror images of each other. One has a physical perspective, one has a financial perspective. I find the financial perspective easier to think about and easier to implement. If you find the physical one easier to think about, you can think about it that way, since they turn out to be the same thing.

We must cross this bridge. If we don't cross this bridge, we will have one problem after another in implementing competition in this market, because if we don't define property rights in a way that's sensible, and we don't get the prices right for the actual use of the system, we will constantly have regulatory fixes on top of regulatory fixes on top of regulatory fixes to compensate for all the misincentives that we're giving everybody at the same time we give them lots of choice to go exploit those misincentives. We need to solve this problem. It's not a bridge too far, although it's a little bit of a walk.

Fourth Speaker:

So much of this discussion really depends on the regional backgrounds of the debaters. In states like Texas and California, it's so much simpler than other parts of the country like New England, New York, and PJM, that have infrastructures that are already something like a poolco with a kind of ISO that is used to trading and clearing.

Our company serves a part of the country that is controlled by five state

regulators. We're in the Southwest Power Pool with eight state jurisdictions that control the entities there, a normal-sized pool, in terms of pools in the country. We have 40 or 50 entities who are members, running the gauntlet from the IOUs to the book marketers and the transmission TDUs, and it's an environment that has been bilateral for years and years. To envision that part of the country going to a California poolco is a daunting thought. There are large parts of the country that will, for the foreseeable future, be operating under an evolving bilateral environment with an evolving ISO that stops short of being the clearinghouse for bidding arrangements. This ISO will merely be the traffic cop for bilaterals getting on the system which leads to the continuation of many of the problems the industry has faced and that the previous speaker has pointed out in his paper here today.

Having said that, we think the CRT is a very modest improvement in the 888 environment. Our company sits here today with a dozen or more very active players in our system, trading hourly and daily across our system, using the 888 rules of engagement. On a slow day we probably get 25 calls resulting in 10 or 15 transactions, on a very busy day 100 calls resulting in 50 to 100 transactions, operating within a regime that simply allows that to occur, and so we see a vibrant market in the hourly, daily, monthly marketplace today in our system. It's important to recognize whether a given area of the country has a very robust transmission system existing or whether there are lots of constraints, perhaps as in the northeast of PJM. We have a robust transmission system and almost all of the activity can be done most of the time using interruptible service. If we had more constraints, that would put it in a

much different light.

So with regard to the CRT, we see the fundamental change as requiring us and potentially our network customers to commit to capacity in advance in terms of delivery points and points of receipt as opposed to today where we measure what we really took and use that as the basis for calculating our rates vis-a-vis other customers' rates. It won't be particularly difficult thing for us to do. It is a modestly positive step in advance of 888. It does two important things for us. One, it appears as though it would allow for the concept of headroom to take effect for the utilities and for the network customers. When one named the points of receipt and points of delivery, one would have the opportunity to transmit, under the rights that were calculated in that regard, to all of the points of delivery, as opposed to today where the network customers and the host utility would have to pay a second price for all system sales. That's an absolute leveling of the playing field as we read it. Second, it also would appear that it would put all of the players on an equal footing with regard to redispatch. Today the burden again is on the network customers and the utility to redispatch, and it appears that the new approach would have to put the traditional point-to-point players on a similar commitment to redispatch as well.

The CRT NOPR alludes to making it more simple to plan the system. The planning would be the same as it is now because folks would still nominate points of receipt and points of delivery. The transmission owner and the system operator would still have to do traditional planning studies to avoid constructing system that was not economically viable. Available transmission capacity is also a very difficult concept because the system is

constantly changing. This system would not change the difficulty of informing people whether or not they had available capacity on a particular day. In fact, I remain skeptical as to the value of (available transmission capacity) ATC being published on-line or in real time. We find that most players in the marketplace simply call the scheduler and ask if they can do the transaction, and get a yes or no answer.

It remains unclear how flow based pricing is better advanced under this system than under the 888 regime. One of the things that initially occurred to us is that if we have to nominate both delivery points before the fact and how much capacity we want as well as points of receipt, we would wind up nominating more capacity needs on that basis than on the basis of an after-the-fact calculation based upon what our actual loads were. One of the things we're going to have to think through is the interrelationship between this firm capacity and interruptible transmission. It occurred to us very quickly that transmission in certain parts of our system is such that we wouldn't have to nominate firm capacity at certain points of receipt and points of delivery, and we could wind up in a situation where we would ask for firm transmission points of receipt and points of delivery at half to three quarters of what our needs were and relying on interruptible for the remainder. We would effectively have firm transmission for those points because of the nature of the system and where the loads and generation were and the transmission that exists. How that would play out in a rate making environment we just haven't thought through.

GENERAL DISCUSSION

I have two questions. First, is there a manual to describe the process by which a transmission engineer or an ISO would evaluate feasibility for inclusion in a FERC transmission tariff filing? Second, when you talk about a feasible A to B transaction, I assume that means it's feasible for generation at A to serve load at B, 100 megawatts say, but in practice does that mean the same thing as the transmission customer who calls up and says I want to schedule 100 megawatts from A to B, expecting that there will be specific performance of the delivery of those 100 megawatts during the hours of the schedule?

: For the manual question, let's set aside the distinction between what I call forward contracts and option contracts, or obligations and options, the terminology in the CRT. There are some complications when you deal with the option case but if you deal with the obligation version of these things, then it's a very standard calculation.

The second part is the question of what is meant by feasibility. What I am referring to is simultaneous feasibility given those transactions and nothing else. If we use the system in this way, as defined by the point to point capacity reservation tariffs, and we had the grid we have, would it be feasible? Would it meet the various contingency constraint conditions and so forth? If the answer is yes then it's that meets my definition of simultaneous feasibility. You can't analyze one transaction and say is this transaction by itself feasible; you have to analyze it in the context of all the others. That's where the simultaneous part of the feasibility applies.

That doesn't mean that you will do that transaction on the specified day. If you think about it from a physical perspective, one of the

options available on that day is to use these CRTs exactly. If someone has load which differs from their CRT, and they want to have that load satisfied, you can imagine as a thought experiment that they begin haggling with people to exchange CRTs to enable them to match their load. You could then trade all of these things until everyone had CRTs that physically match the actual load and the actual dispatch. It will be difficult to implement that process and the transaction costs associated are tremendous. The point of my paper is that the end result of that process is exactly the same thing as if you had an economic dispatch and you just paid people the money that they had for their original CRT reservation.

—: I understand that people would receive opportunity cost payments. However, why this does this involve a system operator? Why is it not just a bilateral transaction? Second, if thus, how does the sum total of the opportunity cost payments, if they turn out to be a lot because there is a net shortage of capacity, get translated into incentives to expand capacity?

Those are two separable questions. In answer to the first one, remember the example I went through, where we're trading A to B and C to D? For example, we would like to do this transaction where I give up 100 and he gets 135 and then you want to do a transaction where you give up 200 from E to F and another guy wants to get 142 from G to H. It turns out that those trades are not simultaneously possible. One of them may be, the other may be, some subset of them may be, but they don't break down so you can do them independently. Somebody needs look at all of them at the same time and decide which ones we are going to do? That someone is the

system operator, because the system operator is the only person who has the information to say you can't do them all simultaneously.

The system operator can also present the 47 different ways a transaction could occur. All different kinds of computations and permutations might be possible but the only one who has the information about that is the system operator, because of the loop flows. Now, what criteria should the system operator use in making the choice that it's one transaction and not the other that will take place? Opportunity cost pricing is the competitive market criterion that provides a non-discriminatory mechanism that is also consistent with competition. The transactions can get very complicated in the physical sense, however, it turns out to be equivalent to bidding into the economic dispatch for the energy and then taking the net transactions after the fact.

The answer to the second question is that the incentives are on the people who are paying these opportunity cost prices who don't want to. When it gets to be more expensive in the secondary market to buy these rights than it is to build transmission to expand the system, they have an incentive to walk in and knock on the door and say build transmission and I will pay for it. There will have to be some rules. You cannot have a situation where somebody can say no, I just won't build because I don't want you to get into the market. That barrier has to be eliminated, but the incentive, which is the answer to your question, comes from not collecting the future congestion rents.

Incentives

_: If these people who are paying the

opportunity cost prices want capacity built and if they're precluded from using a third party to do that for some reason, then you would put a requirement on the system operator to build capacity at some point when the opportunity cost pressures mount?

— : It doesn't have to be the system operator, it could be the existing transmission owning utilities under section 211. As I understand it, that requirement is already there and it's a very important part of the process.

_: I believe that failure to implement CRT's early on will create more entitlements that will be much more difficult to untie later. If you wait until the existing system settles in, it means it allows entitlements to settle in, and then there are very strong vested interests. People should be on notice that whatever entitlements they receive from this implementation shouldn't be viewed as long-term entitlements, because we are proposing to take them away essentially at some point in time.

The second point is that no matter how hard you try, you can't avoid the economies of scale in building the grid. You can't really create total property rights; you have to have this independent system operator in order to manage the thing.

_: While the CRT wisely gets rid of the traditional contract path fiction, it still seems to keep in place a less egregious fiction, but still a fiction nevertheless, that we indeed have a contract system in that rather than a specific contract path from point A through utility B to specific point C, you're now utility A to utility B to utility C, while utility D, which was not on that contract system, still gets some loop flows. How can that problem be resolved?

— : I don't see this, the CRT proposal, as inconsistent with the fixes for the loop flow problem. In fact, our economists believe that it will facilitate fixing the loop flow problem. Do you not?

_ : What you're telling me is that the way we read it is essentially correct, it is still a contract, system to system model? As opposed to a specific transmission line path?

_ : Yes. Participants don't reserve a path under this model, they receive points of receipt and points of delivery.

_ : If opportunity costs can be recovered in a secondary market, can they also be recovered in a primary market? If they can be, it's a natural incentive. Is it true, as we read the NOPR, that opportunity costs cannot be recovered in the primary sale of the capacity right?

_ : Right. Our existing pricing policy at least suggests that it's a possibility that opportunity cost pricing could be appropriate in the first sale of firm transmission service. Maybe there would be, in a CRT-type world, an improvement upon that notion but at least in principle it should be possible.

This is a model of transmission pricing with a subscriber line charge which incorporates all the fixed costs of the grid plus usage costs. In essence, the usage cost would be the opportunity cost, and the subscriber line charge fixed cost would be all the fixed cost which would include current revenue requirements. Would that sort of pricing be allowed in the primary market?

The CRT is intended to be consistent with

a variety of different pricing mechanisms. We don't rule out anything. Some pricing mechanisms might fail for their own reasons but they wouldn't fail because they're inconsistent with the CRT.

Opportunity cost pricing, in conjunction with the CRT, is meant to send the right price signals for expansion of the transmission grid. Nonetheless, expanding the transmission grid is very difficult and in some parts of the country nearly impossible, despite section 211 authority and the must-build provision in the FERC tariffs. Siting authority lies with the states, but even if state siting authorities are sympathetic the NIMBY problem can creep up. If because of these political pressures, expansion of the grid is nearly impossible, is the CRT with opportunity cost pricing still the way to go for purposes of achieving optimal allocative efficiency?

_ : They are completely compatible. It costs something to expand the grid, however, there is no reason, in principle, why reservations and the opportunity cost pricing wouldn't be as attractive for allocative efficiency reasons. If the grid can be expanded, then it will be; if not, then an opportunity cost will be paid nevertheless because that's what it's really costing everybody for whatever transaction you're undertaking. Regulators don't have to come to an opinion about whether or not it's easy to expand or hard to expand at this particular location because the answer is the same with regard to CRTs and opportunity cost pricing.

Under today's rules, with the fragmented ownership of the grid, the incentive to build when there is a request is ambiguous.

*Allocation of **Distribution Rights***

Shifting from efficiency to political economy, has any thought been given to utilizing initial distribution of rights to overcome political problems? It could be used to minimize political opposition.

_: The allocation of rights already exists in some ways, to the extent that customers today receive geographically averaged rates even when some of them live in load pockets that are very expensive to serve and others live in uncongested areas. With so many changes taking place simultaneously, shifting these rights and starting to assign imposed de-averaged rates upon customers simultaneously might just politically overwhelm the effort. At the same time we need to recognize that we are already in that fix, to the extent that customers today receive service at prices that don't begin to compensate for what it costs to serve them.

_: There are ways to do the initial allocation so that it's essentially just a redistribution of wealth.

_: To have that flow through certain obligations must continue. That is, if in fact customers have received the advantage of average pricing, rights could be allocated which allow customers to achieve average pricing. However, obligations on service are continued, you will not have average pricing. If you want to make the transition to the competitive market, one way to define a fair transition is to set up the ownership of these capacity reservations or transmission congestion contracts, mandating that under

certain base case conditions, you would end up in the same position you were before. Now those reservations may or may not be sold, and pretty soon everything will be re-allocated in all kinds of ways.

_: It's the "we" in this case that is a little bit ambiguous, because the rights presumably are being allocated to a particular utility, while on the other hand, the party that is currently benefitting from the situation is a particular load group.

: Restricted generation that is relatively high-cost available to serve a particular load can be a real problem as well as a hypothetical problem. You wouldn't expect to find that cost to be above the cost of improving the transmission system; otherwise, even under average pricing, the utility has the incentive to improve the transmission system and reduce the average cost. Because of the integrated planning process that utilities have used, you really only get a severe case if you can't build transmission and locate generation close to load.

_: Consider the Boston area, where you have Cambridge Electric and Boston Edison and yet also other pockets of different companies' service, where there are quite different rates delivered to customers. Customers wonder why they have to pay a different rate. Would it not be just as politically acceptable to add this in as one more thing that is happening to get prices right in the near term as part of the transition to competition? I would suggest we are not at average prices today.

_: I see the point that clearly we are not average across service territories. Were we to implement the kinds of reforms that have been talked about here in New England such as

cultivating a competitive generation market where the price of supply would tend to equilibrate, but where there would still be distinctions in the distribution rates of the various service territories. I see the merit in what you are talking about, that we could get everything done at once; but it would add a real level of complexity and confusion to start to talk about de-averaging distribution rates at this point. On the other hand, if we don't do it now and we end up having to do it later, it could be even more painful.

Transparency

In the opportunity cost pricing portion of the CRT, what is the opportunity cost that is revealed? For example, does a bilateral contract or transaction being dispatched over this system have to reveal its generation-related opportunity cost or not?

They should be allowed to if they choose to and they should not be compelled to if they don't want to. It is a very important distinction. In this debate, it is often implied that they will be *required* to reveal their costs, but that's not the proposal. The proposal is to be *allowed* to reveal. Those who don't like this transparent spot market say that if A wants to bid in to something in order to change his generation dispatch, he should be prevented from doing so because I don't want him to do it. You should let A decide for

himself whether or not he wants to reveal information about how much he is willing to back off in his bilateral transaction. If he is not willing to back off, he doesn't have to. But if he is willing and wants to offer a bid, let him do it and take advantage of it for the benefit of the whole system.

_: The first problem I see with the CRT NOPR is that there is no connection between these points of delivery and points of receipt and anything about the network. If you just have this set of reservations, your load drops to 50 percent, but you may not sell anything because it might be something you cannot re-dispatch. Can you really have a viable secondary market if it is not identified with something in the network? Second, with regard to the reservations and TCCs, it would seem to me that the concept of TCCs would fit better if it were tied to constrained paths. In other words, why not give the market participants more information about feasibility so they can have more independence of action. Having said that, I want to point out that the model that I have advanced is not link-based. It's in between link-based and the point-to-point network. People have a difficult time surrendering their future to some new agency that is supposedly benign just because it was created that way.

_: It is very important to see if you can answer the following question: with respect to the contract between A and B, how much of it is it using this particular line or interface? That is not an answer that can be provided in a meaningful way that can be used operationally for day-to-day control of the system. Is it possible to ask the question is this collection of contracts and capacity reservations simultaneously feasible? Yes, that is relatively transparent. We're not relying on the bizarre. This is something that can be audited; people can check it and find out whether or not what they are doing makes sense.

Should you give people as much information as you can? Well the answer is yes. You should let them trade all the things

that you want them to trade. The critical thing at that last dispatch, its operation must be considered very carefully because if it is wrong, people will take advantage of it.

FERC Jurisdiction

_: One of the panelists maintained that it was appropriate for retail and wholesale transition jurisdiction to be at the FERC. Why not simply remove transmission from retail rate base and be done with it, rather than keeping it in two places? Second, are the existing retail customers getting compensation for the transfer for their services? Third, why are we bothering to distinguish at all between bundled and unbundled transmission services? Is that a distinction that means anything any more?

_: Companies are beginning to unbundle their existing cost-of-service structure into generation, transmission, and distribution. The generation component, ultimately, would be strictly market-based, following a transition period when we envision allowing for the stranded cost recovery mechanism. But the transmission component would reflect transmission costs pursuant to FERC charts of account. The difficulty of removing transmission from retail rate base is certainly not insurmountable.

In terms of what compensation should be made to retail rate payers for having borne the residual requirement all these years, we are looking to put in place a system that is efficient and makes sense on a going forward basis. Part of the rationale for our having acknowledged the appropriateness of FERC's order on unbundled transmission is that it seems to us to be the construct that make sense. If we were to start from scratch today and build the world without past history, I

don't think we would have configured it the same way. We want to establish a construct for the future that makes the most sense and is the most efficient. With regard to transmission, it would be my personal preference to see one consistent format for transmission pricing that would apply around the region, rather than having each state go at it, then possibly come up with different and conflicting results. Thus, there is a transition issue to work through. I am not sure whether it is directly tied in with the generation-related stranded cost issue.

Finally, although the FERC can suggest in the NOPR that it is not asserting jurisdiction over bundled transmission, I do expect that the NOPR, if implemented as written, would have the effect of preventing states from having a free hand in doing the kind of cost allocations that have been done in the past. It would have the effect of forcing us toward more de-averaged locational pricing in any allocations that we were to do. From our standpoint in Massachusetts, it is a somewhat academic issue because we propose to do away with bundled service, but not all states are on the same time frame. My intention was to acknowledge that for those states that plan to continue to have bundled service under their jurisdiction, it is a potential chafe point and those states are likely to comment on it.

_: The Federal Power Act gives FERC jurisdiction overall transmission of electric energy and interstate commerce. We decided that as a matter of law. Does it make sense as a matter of policy? I guess we could debate that. It is a very reasonable legal conclusion. However, we are in a jurisdictional quagmire that is created by a 60-year old law that didn't anticipate competition. We have tried not to

be chauvinistic about it, but we feel like we need to meet our obligation to assert our legal jurisdiction. Beyond that, we are hoping that we can defer to state recommendations on a variety of issues.

CRTs and Customer Choice

_: Could the CRT be seen as an impediment to ultimate customer choice? How might the CRT work under that scenario?

The CRT is compatible with customer choice. Customers have to get access to the quantity and they have to get access to the price and now the question is what do we have to do to give retail customers access to the wholesale quantities in the electricity market? Nothing. Because they have already have it. When they flip a switch, the power comes on. The only thing that is left is providing access to the price where they are. Last week, Ontario's Macdonald Commission changed the rate structure so that the retail customer sees the wholesale price at his location. The consumer can now start writing contracts with many suppliers against that price reference, and if the supplier is not located at the customers destination, then the supplier gets a CRT from the supplier's location to the

customer's destination. It's a rate design where the customer has access to the wholesale price at his location, and the generators can deal with the CRT complexity.

_: I foresee customers in very low-density areas winding up with a much higher cost for transmission. Our traditional rate making on this has been an average cost basis for transmission, and now we are moving into locational costs which will significantly disadvantage those low-density areas.

It's perhaps less a problem in low-density areas and more of a problem in highly congested areas that will encounter transmission constraints. The coast of New England from Boston up to the New Hampshire border is one such area. I can see the CRT resulting in a need for higher transmission prices to send a signal to customers in this region that there is a need for additional generation or additional transmission; but it is more likely that the result will be higher prices for customers who are in rural areas that are low density but nevertheless uncongested.

_: That might occur in constrained areas, but there may be other ways of doing this. Other constituencies may want to contribute or subsidize the east for other reasons.

_: That responsibility should not be imposed on the ISO and the FERC tariff. The solution is to charge the locational opportunity cost prices instead. If somebody wants to do something different, that is their choice, but don't make that part of the overall national or regional system.

_: It should be part of the ISO's obligation. These should be factored in to congestion costs into the revenue requirement of the ISO. Then it is the ISO's responsibility to figure out what are the sources of inefficiency in the system, and it will have an incentive to eliminate those sources of congestion.

_: What about economic development rates and low-income rates and so on?

Those would not be part of the ISO. We certainly propose here in Massachusetts that those be part of a general access charge applied to all customers, essentially through a

form of taxation.

The idea of entitlements and wealth redistribution can be separated. The whole idea is that we think we can make the benefits pie for society bigger and in that sense, over time, all the prices should be coming down. This is not a zero-sum game in that you are not always taking away from somebody to give to something else.

_: In trying to tie together the conversations of this session, I have picked up on yesterday's discussion about the governance structure, which is basically what we will ask the ISO to do. That inevitably led into the question of whether the ISO is will be limited to dealing with transmission or reliability issues and not dealing with dispatch, and we had this bifurcated discussion of whether a bifurcated ISO makes sense and whether in fact you could have a limited ISO.

As I understand it, FERC is saying that they want this trading system that applies to physical transmission rights and then what someone else is saying is that you can have that up to a point, but after that it no longer works because you can't have enough trades occurring in that last small amount of time to have efficiency. Therefore, you have to have a coordinator, and that leads us right back into the ISO. So if we go back and look at FERC's criteria for what an acceptable ISO looks like under a CRT mechanism, the answer is that there is a criterion missing, that the ISO needs to be responsible for that very short-term economic dispatch or you cannot make the CRT trading system work in the very short term. It seems to me that is the key to sorting it all out.