**Special Session on ISOs**
**Harvard Electricity Policy Group**
**The Benson Hotel**
**Portland, Oregon**
**April 9, 1998**

**Rapporteur's Summary**

*As a prelude to the likely promulgation of a Notice of Proposed Rulemaking on the subject, FERC has announced a conference on ISOs scheduled for April 15 and 16. The meeting is expected to cover a broad range of issues related to ISOs, including: What are ISOs?; the relationship between ISOs and reliability, transmission pricing, transmission planning, and market power; what authority does FERC have to require or to encourage formation of ISOs?; and the respective roles of federal and state governments as to ISOs.*

*This new phase of discussion at FERC should be a milestone in electricity restructuring.*

***Morning Session: Market Institutions and Operations***

*An ISO must perform certain functions and could perform others. Scheduling, energy balancing, real and reactive power dispatch, congestion management, ancillary service provision, real-time control, forward market coordination, settlement administration, and market monitoring are part of a growing list of activities that have long been considered and embraced or dismissed. The black box of system operations is being opened and rearranged. There are many moving parts, and the gears must not only turn, they must mesh for the system to operate and the market to function. The possible reconfigurations are being explored in various implementations and developing proposals. Extensive parallel activities across the nation have served both as laboratories for innovation and classrooms for learning. In looking ahead to the evolution of the design of ISOs, the opportunity presents itself to take stock of what works, what does not, and what might serve as a vision of best practice.*

**Speaker One**

PJM has been operating for a year as a

single independent board with the nation's first bid-based electricity market, first multi-state, multiple-jurisdiction transmission provider, and first large-scale retail choice program, working in six states with multiple generation units.

ISOs have four cornerstones, without which they are not effective and cannot get the job done. First is capability, not just technical capability but the ability to operate the grid in a rapidly changing environment. Second, the market won't wait, and you need to be able to look at things from a broad perspective, have the infomation available, and put things in place quickly. We try to get things from Committee and into commercial practice in 90 days or less. You have to have authority to maintain security. Finally, you need to be responsive; if you see structural or other design flaws that require change, you need to be able to do that quickly.

ISOs are small. PJM has less than 200 employees, no assets and operated last year for a little over 11 cents a megawatt hour. The transmission, generation and load assets in the PJM area are probably close to $100 billion. PJM deals with a lot of information on a real-time basis. Our historical database is now measured in the size of two terrabytes of data. We update that every five minutes and have marketers and others asking us if we could update it more frequently because there is data they would like to extract from that.

How well is it working? The PJM spot market grew well in 1997; by December it was about 40 percent of the market. From April through December, PJM scheduled about 60,000 transactions in the bilateral market and handled nearly 10,000 transmission service requests. It is an active, dynamic market. Since starting locational marginal pricing, there has been no decrease in the volume of bilateral or other transactions taking place.

Training is one of the things an ISO has to do in order to be effectual. PJM has found in its training that there is a significant age difference: People under 30 years of age grasp things without a problem, and people over 30 have more trouble. And when people who have gone through training go back to the shop, they are not sharing the knowledge. We are looking at how we can use the Internet to improve training. We are also finding that there is a lot of technology today that is more visually intuitive. So we are looking at multi-media and 3-D graphics to explain some of these concepts.

Where are we going? Although some people don't want to acknowledge it, the industry as we knew it is dead, and the biggest driver of change is going to be retail choice. Customers want to get involved, to deal directly, to do what they can using our website data and our information. They want to take ownership, to be active. The technology is here. We are looking more and more at Internet-based solutions. In our retail pilot, we put together a novel Internet-based program that worked. We are looking to expand that into capacity markets, probably in cellular service markets and other markets.

Besides reliability, the hurdles are what you do in real time and how you handle the volume. Real time is very important, because how you solve ancillary services problems goes to how you handle a large volume of information and how you do it in a real time networking environment. The four things that are going to lead us to innovative, creative solutions that we're not even thinking of today are computer power, telecommunications, personal networking, and smart metering. We are looking into a very innovative metering project with a non-utility generator that wanted to be able to do business directly with an ISO and not go through the transmission owner. This will be a pilot.

Things are changing irrevocably. There are unbundled electric services coupled with advances in technology, more computer-wise consumers and networking. In a couple of years, there will be a satellite network that can link people up regardless of where they are. At the end of this, I think we'll see totally rebundled services as companies look at how to maximize the value to their shareholders, and utilities probably won't even exist as we see them today. The ISO is in the middle of all of this, making transparent the information that makes it happen.

A challenge that we have as an industry is how to get transmission in the game. Some possibilities are available. There is talk about using distributed generation as a substation, as constraint control. Distributed generation is then a transmission asset, not a generation asset. There are many interesting FACTS (Flexible AC Transmission System) devices that could contribute to ancillary services and compete with generation ancillary services market. We need to find incentives for transmission companies to be formed on a large regional basis.

I was struck in Lester Thurow's book, *The Future Of Capitalism*, by his argument that wealth in the future will flow directly from innovation, not from perfecting the old infrastructure. We are also seeing the death of distance, with the technologies and the speed with which we can move data and voice. The death of distance allows us to solve problems of the future that we haven’t encountered before, and results in more dis-intermediation. Companies are looking at ways of moving the middleman out of the market. Transmission has to become a player.

**Speaker Two**

On January 15, nine transmission-owning entities filed with FERC to form the Midwest ISO, and the number now is 10. These entities cover about 125,000 square miles and have about 63,000 megawatts of installed generating capacity, so this is a large area. We

ended up with a success in having nine utilities voluntarily file.

What have we learned? Getting consensus from large numbers of parties on a multi-state basis in a short period of time is simply not realistic. With the Midwest ISO, you have to step back and look at the vested interests of the people involved. Some participants were engaged in mergers, which was not public information. So some people didn't want to get agreement too early because they wanted to have a card held back to play with their constituencies--customers, state regulators, FERC or the SEC--as part of the chit to throw in to get the merger approved.

Regulatory requirements are another factor. With the number of states we were dealing with, there were quite different state regulatory requirements and expectations. Wisconsin's PSC and state legislature are activist in terms of transmission construction and planning and their desire for formation of an ISO. Illinois had deregulation legislation in flight. In states like Kentucky, the opposite was true--local prices were low, there wasn't much interest in retail access or deregulation. These regulators were at the table, either separately or as a part of their representative structure, and that had to be dealt with. Statutory requirements have to be recognized. Some states require their utilities to come before their PSC to get permission to join an ISO, while others do not.

In any large-scale process, there is a lot of give and take. There was a belief on the part of some of the people in the room that the negotiation positions of the participants weren't equal. Some felt that an ISO couldn't form without certain participants, so those participants thought they had a bigger chip on the table than others. Some believed that some participants could block the participation of other participants.

Some people at the table did not have clear authority from their Board of Directors or executive management to negotiate, and this was a problem at the end. We had regulatory participation, but in many cases the regulators felt they couldn't negotiate since they were often going to sit in judgment of what was being wrought when their jurisdictional utilities came to them for permission to execute agreements. So they tended to offer observations versus helping to move the process along. And there was an expectation, because of the other developing ISOs and the tight pools in the Northeast and in California, that there were certain frameworks of operating protocols, management structures, and so on that were expected. There was no downside for people who did not want to participate. So they could sit at the table and obstruct progress, asking for more detail.

These patterns are likely to be repeated elsewhere in voluntary, multi-state formations without a push from FERC. The push is what the filing companies have urged on FERC, to consider using authority, ostensibly under Section 202(a) of the Federal Power Act, to define the appropriate region that an ISO might exist in, so that there is just one for a geographical region.

One of the most difficult, contentious things the Midwest ISO dealt with was handling transmission access pricing and then distributing the resulting revenue. All of the participants had different tariffs or, in the case of non-jurisdictional entities, built-up transmission rates, ranging from as high as roughly $3.00 to as low as 50 or 60 cents per kilowatt month. High-cost utilities were concerned that they would not be able to recover their revenue requirements, while utilities that currently “overearn” were reluctant to lose extra revenues. Many of the participants had not been to their state regulators for a retail rate case in many years, and for some, there had been dramatic changes in transmission usage since they filed at the federal level. So there was some overearning going on that no one wanted to give up.

When we reached an impasse on revenue distribution, four of the entities got together privately with a neutral party to come up with a straw man for the bigger group that would break the logjam. This was successful, and we learned that with a group that big in a room, it would have made more sense to have upfront an executive negotiating committee to work through details and produce a summary position for the larger group to chew on.

Having learned all of this, what would we do if we had it to do all over again? First, participants must certify upfront that they have decisionmaking capability and disclose what level of decisionmaking capability that is. We need to know how far we can go with decisions in the room and not have them overruled by higher-ups.

Second, we would make further use of a neutral party that can act like a Henry Kissinger, making sure people don't dig into positions or have trouble backing away from, and drawing out from them, perhaps on a non-attributable basis, what they really need from the process and then helping the group through those issues where, if someone actually disclosed what they really thought, someone else might take advantage of it. Many of these companies were in litigation with each other in areas related to what we were talking about, so there was understandable concern in some cases about being totally open and honest.

Third, I would recommend taking a binding vote early on as to who is on board with significant issues and who isn't. We were trying to be ecumenical, and as a result had a lot of people remaining at the table who didn't want to see this work and in fact used some of the information garnered from the private sessions against the formation of the Midwest ISO.

Fourth, set a hard deadline. Fifth, consider--and this would require an upfront or tacit agreement with regulators--a carrot to induce formation, some ability for those who are the first movers to earn a little bit more. Sixth, provide some incentive in the pricing and revenue allocation structure so that those companies that are more efficient or are becoming more efficient keep some share of what they are saving.

Whether they last five or ten years, ISOs are probably a temporary or transitional structure between where we are today and true gridco/transco organizations, that is, for-profit, regional transmission companies. If participants think of ISOs as temporary or transitory, it might help them to better accept them.

Consider starting the negotiating process with a small group of people who really want to make things work, establish the structure, and then invite others in. Involve other stakeholders upfront. This reduces suspicion and having to reinvent the wheel every time another group comes in.

There are now enough ISOs running, proposed or far enough along in negotiation, that you can start with those structures and modify them. So start with what is established and use those pieces, some of which have already been approved by regulators. This saves a lot of time and hassle. For example, choose an all-stakeholder board or a board of independents, adjust the numbers, and take the language from an already-established ISO. Don't start from scratch.

**Speaker Three**

InDeGo is currently on hold. We are still actively talking to people and trying to re-form it. The uncertainties have to do with the views of the state and with Bonneville's participation. I am going to talk about what we have learned so far.

There are a number of areas in which there was agreement. We had gone with a two-level, not-for-profit governance structure with an independent board elected by the member classes. The member classes would then directly appoint members of a technical advisory board. The governing board would meet with the technical advisory board a certain number of times a year. The independent board would have a regulator present who was not a voting member. The regulators, if the majority of them disagreed with any one party, would veto them, and every member of the board would have to be agreed to by every member class. There was an arbitration arrangement to break the deadlock. So, the general structure was agreed to.

The general notion of a tariff and pricing structure was of just one tariff. We had also provided for the suspension of existing

contracts and issuance of firm rights so participants could honor their contracts to non-participants. Finally, there was no power exchange linked to the ISO proposal.

So where did we run into difficulty? What problems did we have to solve? The governance concern we ran into was the claim by two groups that there ought to be additional classes. We originally proposed to have a class of transmitting utilities, with a firm set of rules as to how many miles of transmission were required to be in that class. There were also the transmission-dependent utilities, which have some transmission but don't meet the cut-off. The retail class and a public interest group thought that they also ought to have direct participation. We agreed there should be a retail class, but wanted to put it off until we were up and running.

The issue of the public interest class raised another structural question: Who represents the public interest? The regulators who participate in the Western Regional Transmission Association have not been bashful about engaging in discussion. Do the regulators represent the public interest? Or do environmental groups?

Among tariff and pricing concerns, congestion cost receives a lot of discussion but is a small part of the problem. Most of the problem is with shifting embedded cost recovery. The fundamental question is whether immediate access to the low-cost system will work well enough, in the long run, to overcome the fear of the future price increases when some kind of phase-in occurs. People want a definitive answer that tells them exactly what the benefits are for the next 40 years. But there is no such thing. Could we make a less complicated system? I think so. We may have to go in the opposite direction later and put back some of the complexities.

On ancillary services and congestion clearing, the question is how deeply into the market the ISO should be allowed to go. Some people said that all the ISO could do is tell you whether you could or could not schedule things. Others of us proposed that the ISO accept all schedules. Some responded that that means the ISO is buying and selling energy, making it a marketer and putting it over the line. There was a substantial amount of division.

Finally, we haven't solved the loss issue. A proposal is needed that is consistent with the large physical size of the ISO.

What is over the horizon? First, will ISOs form without prescriptive authority from FERC? With PJM, New York, and California, there is state prescriptive authority. The Midwest ISO was voluntary, but there was some pressure pushing things ahead. We think that it isn't going to happen without some more pressure from FERC, at least in the InDeGo area. Or pressure from DOE on the PMAs--some kind of a triggering event. I think once you get up and running and get a critical group together, others will come in simply out of self-defense.

Second, if the objective of the ISO is independence in decisions about the delivery system from marketing activities, what is its role? What should its role be? Should it be a service provider? Should it be a quasi-regulator? I choose service provider. I think to make the ISO a regulator is to have it decide whether people are worthy of obtaining transmission service, to make it both the service provider and the regulator.

Is there going to be a change in ownership? If ownership is eventually going to shift to gridcos or transcos, then if the ISO is more than a service provider, would anybody allow the asset owner to be a regulator? I don't think so. You wouldn't want the railroads regulating any of their tariff provisions. I think it is better to have FERC regulate the ISO and have the ISO be a provider of information.

I don't think we will see an ownership shift in the short run. Most companies need the cash flow that comes from the transmission system. Maintenance requirements are small once transmission is up and running. So transmission is producing cash that is helping people make the transition to a unregulated market. They cannot afford to spin that off unless they get a premium for it. If they got a premium, would FERC allow them to recover the acquisition adjustment? I don't think so.

That's not been the practice.

In the long run, it is possible. It depends on the role assigned to the ISO. If the ISO's role is as a service provider, then when the ownership shift takes place, functions can be grafted on. Or there is the four-function model used in Australia, where the operator stays separate but there is a gridco or transmission investor. The for-profit transco is probably a better long-term model.

**Speaker Four**

I would like to make some observations from the perspective of a power marketer. Based on our experience, we don't advocate stakeholder boards. One of the problems with them is that often if there are 20 or more people on the board, a small handful will tend to dominate the conversation, then the rest of the group follows along. That could also happen on an independent board, but if the people are properly selected, it is less likely to be a danger.
In contrast to the California ISO and ERCOT boards, we like the structure of the PJM board. They have an efficient process with an independent board and a professional staff providing support on technical issues, so they can make changes expeditiously. The board acts quickly on recommendations by the PJM staff.

On the issue of market monitoring, our subsidiaries were recently questioned by one of the ISOs regarding its bid price for ancillary services, although the price was significantly under that offered by other sellers. We don't view that as the purpose of the ISO. They should be facilitators and, of course, they can be reporters. There is a need for them to provide statistical information, but those should be transactional types of information. They should not delve too heavily into the commodity side of the business.

There is significant overlap of the functions that FERC expects of ISOs and that NERC expects of security coordinators. Virtually all of the proposals for ISOs incorporate responsibilities that already belong to NERC's regional reliability organizations. This ambiguity will ultimately create confusion and add costs for the industry. The proposal for the recast NAERO (North American Electrical Reliability Organization) somewhat parallels the development of ISOs and creates a unique opportunity to pursue a good end result. ISOs and the regional reliability organizations must be conceptually and functionally reconciled, and sooner rather than later.

Both the Secretary of Energy's Advisory Task Force and NERC's Electric Reliability Panel have recommended a self-regulating reliability organization (SRRO). This is desirable because of an SRRO's international nature, allowing it to satisfy the jurisdictional requirements of the U.S., Canada and Mexico. Additionally, there is not a high degree of technical expertise at the regulatory agencies. With proper governance, most of the difficult technical, and possibly eventually commercial, issues could be resolved through the SRRO's processes.

All participants should have oversight. I think ISOs will likely be in the best position to administer transactions, monitor activities and perform the necessary reliability functions. So it would be logical for ISOs to also be responsible for development of regional reliability standards.

I agree that it will be at least five years for transcos or gridcos. At that point, we should transform NAERO and the regional reliability organizations. It will be reasonable to create a continental self-regulating electricity organization to facilitate the oversight of reliability standards development and ISOs. I hope we won't feel compelled to sustain both ISOs and regional reliability organizations. Again, that is a strain on industry resources, and there is a redundant functionality there.

The most important feature of future ISOs is that they must have economic incentives to provide excellent service and promote competition. The non-profit ISO that does not have real commercial and operational control of the transmission system, including full responsibility for through put, cost recovery and congestion management, will likely result in a diminution of competition and a reduction of services. A for-profit corporation, perhaps in the form of a regional transco, may not be

realistic in the early years of restructuring, but this is likely where the industry needs to end up.

In the meantime, I would suggest that personnel compensation incentives be liberally applied to the ISOs that demonstrate superior performance. If we don't end up with competitive transmission services, then we've missed the target.

**Discussion**

Comment: Order 888 has incentives to be efficient. But the current model on the table is the old cost of service model which doesn't serve us well anymore. So if we want to have these incentives, we need to start a conversation about what kind of ISOs to have and to start benchmarking these incentives.

On the issue of the quasi-regulator function, I think that these were attempts by FERC to decentralize regulation to a degree. The concept of a stakeholder board is not much more than the settlement process at FERC moved to the local area and with some rules of participation. It was the same with market monitoring--an attempt to give some local context to the monitoring process. Market monitoring was assigned to the ISO because it was easy; it could just as easily be an independent entity funded through the ISO. Market monitoring will be important for a while, and probably means they will from time to time check on people they don't need to, especially in the early days.

Question: What enabled the success of the ISOs that have been formed, such as Midwest? This goes to the question of voluntary versus mandatory.

Response: The participants in the Midwest ISO were driven either by the individual desire to expand the marketplace because they thought they had lower costs or surplus generation to sell, or by a local regulatory need, or by concern about reliability of the network. There was a longer-term vision of where the industry structure will end up five to ten years from now and this as a first step in that direction. I don't know that FERC has to be able to order them, but there has to be some sort of concern about the worst happening in order to get people to move ahead.

Question: How did the Midwest ISO overcome the difficulty of low-cost states being concerned about losing money, Kentucky in particular?

Response: First, the two dominant utilities had a merger in process, which helped. Second, the petition filed had a reasonably long transition period of six years with rates that were zonal but non-pancaked.

Question: How does doing business in a place where there is an ISO versus a place with an ISO that is virtually formed but incomplete affect the market and what you do in your day-to-day operations?

Response: There are two camps. Some would just as soon never see an ISO form. They are primarily concerned that consolidating the transmission grid into much larger chunks will significantly reduce competition for transmission services. On the other hand, there are those that are aware that ISOs are a practical solution to concerns about market power and to improving access to information about the status and capacity of the transmission system. The larger the ISO, the better. We would like to see a distinct overlap between ISO and reliability regions. We believe that will be more functional in the future.

Question: In New England, non-ISO members are complaining that they can't sell into the ISO. Do you see any movement towards developing protocols between the ISOs that will resolve issues of inter-ISO dealings?

Response: Unequivocally yes. With large regional ISOs, weaknesses are internalized, and there are free-flowing ties. Issues like available transmission capacity and transmission line loading relief that are giving people difficulty currently will nearly vanish because they are internalized within the ISO with a single set of rules that everyone can see.

Response: We discussed how we would put in place a reciprocity and access fee. We also are starting discussions between several regional

transmission associations. So there would be a sort of interconnection organization that handles both commercial and reliability issues and help to get around those inter-ISO questions.

Question: What about the situation where there is no regional or federal siting authority, and you are back in the situation of the intervening states wondering what is in it for them?

Response: We haven't solved all the problems. PJM now has in place a regional transmission planning model in which the ISO does the regional transmission planning and transmission owners are obligated to make good faith efforts to build and finance according to the regional transmission plan. The regional transmission plan involves all of the states. We hope that the end result is a large regional buy-in.

Response: There is a growing expectation by state regulators of rights and obligations in terms of siting. There is also some recognition of a possible need for a regional regulatory structure. There is talk of a need for that because of the potential occurrence someday of a construction project that benefits states A and C but not B, where the construction is taking place.

Response: The issue in the West may be somewhat different because there, we can't build anything without asking federal permission due to the number of agencies that have a say. There has also been a realization that in the West, co-operation among the states is needed to get things done. We will be releasing a Western Interconnection plan subscribed to by all regional transmission groups and the Western Security Coordinating Committee so that everyone can see the various plans and interests. I am not particularly supportive of federal oversight of the siting process. We have seen the results of federal gas siting, where the Washington decisionmaker compelled a given right of way rather than bending to some local need. An ISO makes regional co-operation easier by putting in place pricing reform that puts prices on the value of expansion instead of simply the opinion of planning engineers.

Question: The Midwest ISO filing raised the question of single control versus multiple control area ISOs. Would it be possible for a company to join an ISO with a single control area but not become part of the control area, for example, participate in the reliability assurance arrangement?

Response: We believe you have to be a single control area. Otherwise, the problem is not being solved. The other question to ask is why someone would want to retain that function.

Response: There are really two different kinds of control areas. When talking about control of the transmission grid, the ISO has to act as a single transmission control area. It has to have instantaneous information about everything going on inside the ISO and the ability to order things done. A model is the air traffic control system, where the pilots must obey the rules. On the other hand, balancing generation against load, especially in a large multi-state ISO that didn't grow up with regulatory rules and the states to accommodate the various cost shiftings and cost allocations that occur, is probably a complication that will cause non-power pool ISOs not to evolve. There are too many control areas today in the United States--roughly 170. There should probably be several dozen. And no one has yet done empirical research on increasing risk when there are very large generation control areas.

Question: What do you think the magnitude increase of the transactions and load switching is going to be from current suppliers to new suppliers? In terms of current ISO structures and technology, will moving to another level be required to accommodate that?

Response: In our retail pilot, for 300,000 plus customers, the number of transactions increased a thousand a month. You have to design your systems, processes, and methods to be able to handle the volume risk.

Response: The scale of transactions is already scaled up greatly. You have to ask yourself, in terms of a retail direct access market, whether every grocery store will make an individual energy trace. Probably not. So there is an aggregation function. The volume will go up,

but the ISO makes it that much easier because of free-flowing ties.

Question: If ISOs will not happen without FERC action, what kind of FERC action do you think will be necessary? What kind of FERC regulation or oversight?

Response: We are engaging in transmission service, and FERC has exerted full jurisdiction over transmission service. So when an ISO forms and submits a tariff, that tariff is regulated by FERC as to terms, conditions, and price. There is an adjustment because the service to serve retail load is under that tariff as well, so to some degree there is a shift in jurisdiction. That is where I see FERC regulating.

Response: Another issue is the balance of power. PJM has an independent board, but it is elected by the membership and they believe they are there to serve the membership in accordance with agreement. That is one check. The other check is the regulatory backstop, which is where FERC comes in. If this all works out well, I think FERC could be encouraged to have lighthanded regulation.

Response: The Midwest ISO expects to be federally regulated, with FERC having jurisdiction over the terms and conditions of its charter, its activities and the tariff it administers.

Question: Is the lack of restructuring in some InDeGo states inhibiting the commitment to an ISO? There seems to be a Catch-22 in which, without state restructuring, we are not going to have an ISO, but do we have to have an ISO to have direct access? Or does the ISO contribute tremendous benefits with the increase of transactions just in the bulk power market?

Response: Both Idaho and Washington have these concerns. Some states have split personalities in which the energy offices will largely see this as a positive way to go forward with the market but the regulatory agency is more cautious because of the potential cost shift between customers. I think there is a concern by some that if you form the ISO, there is a slippery slope to direct access. There is potentially a Catch-22, but I don't know another way to deal with it.

Comment: It certainly is a slippery slope to higher prices or rates in states that now have low-cost transmission.

Response: It may mean higher transmission rates over time, but whether it is higher total energy rates is an interesting question because of whether there is enough benefit produced by system expansion. If you have an ISO, does the market price rise in the Northwest? Yet those states also get more for their surpluses, which lowers the cost of the service in those states. It is a double-edged sword.

Response: The other question is what the benefits will be of the bigger market. When we broke up the telephone companies, nobody had cellular service, call waiting, and all those other services that are now available. Breaking up the monopoly and allowing more latitude changed the market substantially. Is there enough benefit to the open market to afford the potential risk of some short losses or price rise in the short term?

Question: Can you have direct access without an ISO?

Response: Yes, but there would need to be some rules with regard to how the existing ownership rights or the transfer capability rights of the incumbent are dealt with and how other parties who pick up load get a part of those rights so that in fact they can bring in resources from the outside to serve those loads.

Question: If transcos, gridcos, and ISOs are transitional, what would FERC have to do differently in the next year or two in terms of developing the rules, the pricing, the access, etcetera?

Response: ISO participation could be predicated on the basis of the incentives that might exist if one were to turn the operation of their transmission system over to a third party.

Response: I agree. There have been a lot of comments made by FERC that once you have your embedded cost rates, it will entertain any

incentive performance-based ratemaking proposals or non-conforming rates. So having a functional ISO in place would be the leg up to begin to get these set up. The question is how willing FERC is to go with the kind of incentive ratemaking necessary for that to be a viable, competitive business. Another question is, Why couldn't DOE form a transmission company from all of the transmission lines of the PMAs and then privatize it? Some have suggested that DOE already has the authority to do this.

Response: If we want to see a separation of transmission and generation ownership evolve, we need to make it easy for transmission-only or wire company-only entities to form. If, for example, part of the quid pro quo for companies to invest in these is to get out of the ISO environment so that they completely have control of their asset, we should think about making it easy for that to happen at the federal level. I am concerned that the longer that transition takes, the more likely it is tht the ISO environment will become the new bureaucracy to be dealt with.

Response: That is why I am concerned about giving too many regulatory duties to the ISO--it may make it more difficult for the transition and the asset transfers to take place. It is a question of whether there are incentives, not just what FERC can do, but as a matter of national policy.

In regard to the PMAs, one of the structural formats we discussed for an ISO prior to moving ahead with InDeGo was the possibility of a federal corporation being formed, something like a Conrail or Amtrak, with certain shares held by the federal government and if others spun their assets off, those shares would be publicly traded. Later, the government's shares could be privatized.

***Afternoon Session: ISO Governance, Regulatory Jurisdiction, Oversight, and Other Legal Issues***

*While there is a common policy denominator driving the creation of ISOs, namely the competitively neutral operation of bottleneck facilities, policy alone is not driving the nature and shape of the institutions being created. Is such diversity desirable, appropriate, or even workable, given the ever widening geographic scope of trading in electricity? Does FERC or any other regulatory authority have the power to order the creation of an ISO or to dictate its structure? If regulatory agencies lack direct powers over ISOs, what power do they possess in conditioning other matters (e.g., mergers or tariff approvals) that provide them with the ability to accomplish indirectly those things over which they may lack direct power? Setting aside the specifics of existing statutes, as a policy matter, what regulatory powers should there be to allow for the appropriate level of oversight of bottleneck facilities? How far can voluntarism in ISOs be trusted? What is the appropriate role for state regulators? What is the appropriate role for federal regulators? How should the two levels of regulation interface with one another?*

**Speaker One**

FERC has listed various possible authorities for action compelling participation in ISOs. The first is Section 202(a) of the Federal Power Act, which empowers FERC to divide the country into regional districts for the voluntary interconnection and coordination of facilities for the generation, transmission and sale of the electric energy. There could be a generic finding under Section 203, the provision under which FERC approves mergers, that participation in an ISO is necessary to any finding that a proposed merger is consistent with public interest or with FERC's authority to remedy undue discrimination under Sections 205 and 206 of the Act, which are the rate-setting provisions.

Most proponents of ISO participation make reference to 202(a), which

additionally says that it should be the duty of FERC to promote and encourage interconnection and coordination within and between each district. One utility in the Midwest ISO has argued that 202a) provides FERC with authority to prevent the creation of multiple ISOs within ISO boundaries defined

by the FERC and to encourage participation in a single ISO acceptable to FERC within such boundaries to enhance reliability and economic results.

Nevertheless, proponents of mandatory ISO participation generally stop short of claiming that 202 authorizes FERC to require a public utility to join an ISO. This hesitation is, no doubt, due to the nettlesome word 'voluntary' in the text of the statute. The Senate report that accompanied the promulgation of Parts Two and Three of the Federal Power Act stated that within each of the districts to be created under Section 202, FERC is directed to secure such interconnection and coordination by voluntary action as far as practicable. This voluntary scheme has been recognized by the courts. In the *Central Iowa* case in 1979, the court noted that Congress had concluded that regional coordination was in the public interest, but the court nevertheless found that given the expressly voluntary nature of coordination under 202, FERC could not have mandated adoption of a power pool agreement.

Nor does Section 202 establish a broad directive requiring FERC to promote competition. The drafters, in 1935, wanted to ensure that expensive duplication of facilities, such as had occurred as a result of regulation of the railroad industry, would not be repeated in the electric utility industry.

The Energy Policy Act of 1992 did authorize FERC to order transmission access upon application by individual eligible users of the transmission system and established the concept of exempt wholesale generators. Thus, it did generally have the effect of promoting competition. However, neither the text nor the very limited legislative history of the Act contains any intent by Congress to authorize FERC to fundamentally restructure the electric industry.

There have been a number of recent merger cases in which ISOs have been prominent in discussion by FERC. The most recent was the Louisville and Kentucky Utilities merger. In that merger application, there was no provision for ISO participation as a mitigation measure. Nevertheless, FERC seized on the applicants' status as signatories to the Midwest ISO in finding that the competitive effects of the merger were consistent with public interests. The Commission said its approval of the merger was based on continued participation in the ISO.

Despite these recent decisions, several issues remain regarding the scope of FERC's authority to impose ISO conditions on merger approval. FERC has consistently held that it will remedy only specific harms resulting from a proposed merger and that an affected entity must establish a connection. It is not clear that an application could be denied on the sole ground that the merger applicants refused to participate in an appropriate ISO. But ordinarily the problem is one of generation market power and not transmission market power, and FERC has found in one case after another that 888-type wheeling is adequate to address transmission problems.

FERC has suggested that it may attempt to avoid case-by-case analysis by declaring generically that participation in an ISO is necessary to finding that a merger is consistent with the public interest. It did this once before, in the acquisition of El Paso Electric. FERC concluded that, given the national interests in establishing a competitive market, the critical importance of comparable transmission service and the ongoing fundamental changes occurring in the industry, it would be a detriment to the national interest to allow mergers that do not offer comparable transmission access, absent other compelling public interest factors that would outweigh these interests. The suggestion contained in the ISO inquiry is that the words 'comparable transmission services' in the El Paso order could be replaced with the term 'ISO'. However, it remains to be seen whether FERC can generically find that a particular activity is necessary to find that a merger is consistent with the public interests.

Some argue that mandatory ISO participation is a logical and necessary extension of the purposes underlying 888. One group argues that, based on Section 206, FERC can require public utilities to provide service under an ISO tariff and to cede operational control of their facilities to the ISO.

There are two responses to these arguments. First accepting as given that FERC's analysis of its legal authority in 888 is correct, FERC may nevertheless find it difficult to conclude as a matter of law that a utility's decision not to join an ISO is unduly discriminatory. Second, FERC's arguments regarding its legal authority to remedy undue discrimination on a generic basis and under 888 contain flaws. In 888, FERC explained that its traditional discrimination analysis focused on whether factual differences justified different rates or terms for similarly situated customers. But it shifted to a new comparability rationale where it looked at whether or not the utility was offering others the same use of its transmission system that it made itself. And based on those comparability standards, it required all utilities to adopt identical nondiscriminatory open access transmission terms.

To a point, the open access regime instituted by FERC is consistent with the notion of comparability. Ostensibly, FERC was not mandating new services but was generally mandating equal access to existing services. This logic does not extend to a situation where a utility decides not to join or form an ISO. Under the comparability standard, the relevant question is whether the provider is treating itself and other transmission users in a similar manner. If a proprietor decides not to hand control over its facilities to a third party, that action is not discriminatory. The provider is not keeping for itself some special use or privilege of the transmission system.

An order requiring a utility to join an ISO would be imposing on utilities FERC's view of the ideal, robbing the utility of its opportunity to make its own business decisions. By taking away the utility's ability to initiate its own services, FERC undercuts the statutory scheme, in which the utilities are to decide in the first instance how to conduct their business and FERC is to review their decision for reasonableness.

In Order 888, FERC relied heavily on the DC Circuit's decision in *Associated Gas Distributors*, in which the court upheld FERC's authority under the Natural Gas Act to require interstate pipelines that voluntarily sought blanket transportation certificates pursuant to Natural Gas Act Section 7 to commit to a nondiscriminatory open access condition. Thus, the exercise of FERC's authority to eradicate undue discrimination was predicated on voluntary actions by the affected pipelines.

In 888, FERC looked at several major court decisions that addressed its general lack of authority to order mandatory wheeling under the pre-1978 provisions of the statute. These decisions established that FERC may not directly or indirectly order a public utility to wheel or transmit energy for another entity under Sections 205 or 206 of the Act. *AGD* did not overrule these decisions. The court found in one of these cases that the legislative history of the Federal Power Act makes clear that the Congress did not intend FERC to have power to compel wheeling.

The ultimate question is whether any of this matters. In recent years, FERC has been a lawless agency that has time and again exceeded its statutory authority to pursue what it believes to be laudable objectives. So, assuming that any attempt to challenge the jurisdiction of FERC will be futile, what to do?

One utility argues that 202(a) does authorize FERC to divide the country into reliability districts. The principal purposes of ISOs should be to assure that a transmission owner with an interest in the market does not manipulate switching or loading of transmission lines or generating facilities that affect transmission loadings, and to ensure that the scope of each ISO is large enough to encompass as wide a market area as existing transmission limitations make possible.

One of FERC's most important efforts is the study entitled *Power Pooling in the United States,* published in December, 1981. This study offered a complete understanding of the manner in which the electric industry had evolved and how it was operating. A similar effort would be warranted to determine the optimal scope of coverage of ISO organizations and ultimately of the private transmission companies that are likely to succeed to the ISO management role. Public

policy would be furthered if FERC were to seek the funds needed to conduct such a study rather than simply reacting to the arguments of competing forces in the battle for restructuring.

**Speaker Two**

The first of five main interests of the PUC is protecting the local environment. States will jealously protect their siting authority for transmission lines. This is particularly true in the West because transmission lines are very obtrusive in the Western landscape. And transmission corridors often use up useful space in an environment and degrade landscapes and property values.

The PUC ensures that the public interest is evaluated in a least-cost, integrated resource planning process with respect to new transmission additions, particularly making sure that alternatives are considered that offer adequate amounts of conservation.

Distributed generation is increasingly of interest to us, both with respect to the fact that it tends to be least-cost in terms of generation facilities, and also more recently, particularly in the West, where the network is constrained by the long distances and long North-South transmissions by the need for tremendous voltage support. Distributed generation would contribute to greater grid reliability by placing generation closer to load.

A final environmental factor is transmission pricing that does not disadvantage renewables. The Northwest Power Planning Council charges the Northwest region with a high priority for conservation and renewable resource development, so perhaps more than in other parts of the country, these public interests are put before us constantly by intervenor groups and by our own statutory responsibilities.

The second interest of the PUC is in promoting economic efficiency. Numerous commissions in the Northwest supported a declaration of independence to support voluntary membership in ISOs. As to whether states can require ISO membership, I think the answer is no at this point. Mandatory membership raises cost issues and concern over the inequities between utilities and whether the benefits are a reasonable tradeoff against the increase in transmission cost.

We have participated in ISO development to promote the financial neutrality of the ISO board. We believe that some sort of non-voting representation should exist, involving state commissioners and public interest representatives along with customers and other stakeholders.

The third interest is in maintaining fair and reasonable rates and ensuring that the industry structure is in the public interest. Direct access appears risky to a lot of Pacific Northwest interests. We are looking at a portfolio approach that provides for the default supplier to be a kind of safety net for those who don't want to change and in which the utility itself sets up a menu of choices with respect to direct access. This has attracted a great deal of interest from consumer groups and others. The positive aspect of direct access is interest in renewables or a green choice.

It is of course the charge of the PUC to protect end-use consumers from cost shifts and to take into account current marketing structures and systems. In the Pacific Northwest, they have worked quite well. It has been disappointing, however, that InDeGo participants have not gotten past some of the short-range thinking to look at the long-range advantages, the commonalities, and the efficiencies that can be garnered from an ISO.

The fourth interest of the PUC is ensuring local system reliability. One of the greatest concerns is whether a competitive market will properly signal incentives to build reliability infrastructure. We have worked recently on the possibilities for performance-based ratemaking with very firm penalties for poor service quality. In the Enron merger, we specified penalties for poor service quality, borrowing a page from the telephone industry, particularly the case of problems caused by US West's cost-cutting and re-engineering. And we see a role for the PUC in monitoring service quality using public processes.

The Western PUCs in general do not believe that there should be a one-size-fits-all reliability standard organization in North America. There are tremendous differences between the Eastern and Western grids. Ideally, there should be a an area like that of the WSCC (Western States Coordinating Committee), with responsibility for reliability, operating the grid and planning for grid enhancements. The higher standards can perhaps be set in smaller areas, depending on whether that particular situation affects only that smaller area and does not have externalities extending to the larger area. This is not a parochial view, but one that works better and that most industry observers have agreed with.

The Western PUCs do endorse some sort of mandatory compliance with the reliability enforcer. And of course an ISO is less critical without direct access. But there will not be good reliability without a fully functioning ISO.

NOTE: DUE TO COMPLICATIONS WITH THE RECORDING OF THE THIRD AND FOURTH SPEAKERS AND THE DISCUSSION FOLLOWING, THE SUMMARY OF THESE IS VERY ABBREVIATED.

**Speaker Three**

The Federal Power Act is an old piece of legislation that has nothing to do with competition. The broader policy issue is that the job of agencies is to administer laws, not to make them. An arrogance starts to develop on the part of an agency once it decides that a statute is a hindrance in regard to what it wants to do.

Where is the line? It depends on your point of view. To argue whether FERC had authority for Order 888 is a waste of time, as it probably is to debate whether it has authority to order ISOs. Other countries did it the opposite way--decided they wanted competition, then put the structures in place. Our way is less efficient.

What is the appropriate geographic scope for ISOs? This question would vex FERC. We are not just creating ISOs, but markets as well. There are different market rules coming out of different ISOs.

There is a lot of money to be made in transcos, and they should happen fairly quickly. I wouldn't assume that utilities will spin off their assets. Several utilities also can get together and each take part. The Holding Company Act is an issue; are there ways around it? Would FERC be comfortable with transcos owned by vertically integrated companies? They could be wrapped around new ISOs.

Other issues include the difficulty there will be in negotiating between employees and management, and with multiple states, there will need to be approval by each one. I expect to see some transcos in the next few years.

**Speaker Four**

The Federal Power Act contains broad standards given to FERC. If you read about the background of the law, the model is one of a regulatory system capable of evolving over time. I have no trouble seeing the path FERC will take, although there are obstacles.

Under Section 202(a), FERC has clear authority to draw a map. Section 203, dealing with mergers, is the most secure of FERC's authority, since it is a public interest standard. Section 203 doesn't give FERC boundless authority, since there has to be a nexus. The *Sierra Mobile* line of cases goes to the limits on FERC. These could be significant in regard to ISOs. This is useful where there is an existing ISO and someone else wants to come in.

In regard to Sections 205 and 206, the question would be whether "undue discretion" can be properly redefined. Under Section 208, the question is whether the requisite findings of "undue discrimination" can be made. There are also practical dilemmas in terms of the work that needs to be done in accomplishing the transition, questions of how you order people into contractual relationships, cost-shifting, etcetera. This process is evolutionary.

**Discussion**

Question: Where is the line? Where should it be?

Response: It is a slippery slope. FERC doesn't have authority in terms of black-letter law to compel formation of ISOs. But since it has authority as a matter of public policy, no one is likely to contest its taking action.

Response: There is no tactical reason. FERC took over a year to issue Order 888. There was a lot of consensus.

Question: Is a comparison with other countries relevant? They started with state-owned systems.

Response: Maybe not, but the proper way to do this is with legislation. Otherwise, we may end up with a patchwork.

Comment: There is an irony in FERC taking a prescriptive role while shielding itself from judicial review. What FERC is doing on rehearing is effectively precluding judicial review.

Response: This is not FERC's conscious policy, even if that occasionally is the effect.

Question: What are the second-level issues that ISOs will have to address?

Response: First, how to make retail access work. Second, the transmission construction process.

Response: Planning, issues of regional coordination. Environmental questions will continue to play a local role, but they will need to be addressed with a regional approach.

Question: If we make ISOs voluntary, what about members leaving when they don't see any more rewards? Should we worry about this if FERC doesn't mandate them?

Response: Go back to FERC.

Response: What does it mean if people want to leave? A regulatory quid pro quo will not by itself be a sustaining incentive. We need to think about why they would want to join.

Question: What about Section 202(a), requiring the "greatest possible economy," in compelling ISO formation?

Response: Achieving the greatest possible economy is their duty. Economies are part of the calculus. It includes relative supply costs and transmission limitations.

Response: I don't necessarily see a connection between 202(a) and compelling participation. 202(a) is a guidepost, but doesn't give clear guidance.

Comment: FERC has more evidence to do ISOs now than it had to do Order 888 then. Reading stuff from 1935 isn't the right approach. The idea that FERC could draw the appropriate boundaries is questionable—they grow organically. In regard to Federal Power Act authority, look at section 311 of the Natural Gas Policy Act.

Question: Why is it appropriate to continue to honor already-existing contracts? Doesn't this complicate ISOs?

Response: Maybe it isn't. But there is a tradition at FERC of honoring business expectations. These decisions will probably be made on a case-by-case basis. Look at how fits with the overall structure.

Response: FERC hasn't been consistent about this.

Question: The Wisconsin Commission has said it wants a statewide ISO. Wisconsin has standards, so some intervenors say Wisconsin Electric shouldn't be allowed to join the Midwest ISO. How does this relate to what FERC does?

Response: This is transmission service, so FERC's position is that it is FERC-jurisdictional. But FERC is looking to avoid conflicts with the states. I would be surprised if FERC considered Wisconsin to be an appropriately-sized region for an ISO.

Comment: The bulk of transmission revenues are still derived from retail rates. How do we approach the revenue issue? It has gone

almost unaddressed.

Question: Could an applicant ask for an ISO under Section 211?

Response: Section 211 is supposed to be directed to individual requirements for transmission. Congress considered a provision that would have required a tariff to be adopted, but rejected this. This would be a stretch; it was not Congress' intent for 211 to be used in this way. But it is an interesting and creative argument.