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GOVERNMENT



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HARVARD ELECTRICITY POLICY GROUP SPECIAL SEMINAR

Public Policy for Mergers in a Time of Restructuring

Sheraton Crystal City
Arlington, Virginia
December 7, 1995

In response to the transition to a more competitive electricity market, a number of utilities have announced merger proposals over the past year. This development, which accompanies the upheavals caused by electric restructuring, has prompted new concern for antitrust and public oversight among regulators and policy makers. The traditional criteria and issues of consolidation regulation may need to be reviewed and revisited. The new characteristics of mergers and conditions of a changed market must be identified in order to assist regulators in their evaluation of future merger policies. The focus of this seminar was to clarify the extent to which there are any significant new and unique aspects of electric utility mergers in the era of competitive restructuring, and to develop the issues that must be considered in reviewing the policy framework.

Setting the Stage: Public Policy Issues and Criteria

Moderator:

How much does the change that's taking place in restructuring affect the public policy that government or regulators should take and the view they should take with regard to merger policy? The spectrum of answers range from the view that it is a non-issue to the notion that competition, restructuring, and open access may change the degree of interest and importance in mergers.

There are many problems that the managers face when companies merge. Internal management problems, cultural problems, how to get the organization to work together and capture the benefits that were anticipated. Those are very serious and very important issues. However, I would not characterize them as issues which fall, at least in the first instance, under the domain of public policy. They are certainly management problems of the first order but not public policy issues. What we want to focus on is what we should be looking at from the legal and regulatory perspective.

First Speaker:

I am going to briefly outline FERC's current merger policy and analysis, then I will discuss my view on the possibilities for future changes. FERC's role in approving mergers is set out in section 203 of the Federal Power Act. Under this section the Commission must approve a proposed merger if it will be consistent with

Commonwealth Factors from the Commonwealth Edison Co. and Central Illinois Electric and Gas Co. Merger:

1. Record indicates price is fair and reasonable to companies, their respective stockholders, and customers.
2. Accounting fairly presents results of merger transaction and accords with generally accepted accounting principles and requirements of Uniform System of Accounts.
3. In passing on merger, it is Commission's responsibility to consider effect thereof of state regulation of retail rate design.
4. Commission finds merger was not coerced by acquiring utility.
5. There is no showing that merger will have any adverse effect on any competition which may exist between electric power and other energy sources.
6. Record is clear that future Federal and state commission regulatory effectiveness will not be impaired as result of merger.

Source: 36 F.P.C. 927, December 2, 1966.

the public interest, according to the language the statute uses. In evaluating mergers the Commission has traditionally considered the six "*Commonwealth* factors." First, the effect on rate levels. Second, the proposed accounting treatment. Third, the

reasonableness of the purchase price. Fourth, whether the proposed merger involves coercion. Fifth, the effect the proposed merger may have on the existing competitive situation. And sixth, whether the proposed merger will impair effective regulation by FERC or by the appropriate state regulatory authorities. The primary factors in recent cases have been whether the merger would produce some cost savings and whether the merger would harm competition. The commission has found mergers to be consistent with the public interest when cost savings are likely and competitive harms were mitigated by tariffs offering transmission access. I don't believe our current analysis to be particularly rigorous.

There is little doubt that FERC's open access proposal has contributed to the increased activity in proposed mergers between vertically integrated utilities. Of course some of these are efforts to stay ahead of the competition by increasing market share and resources. Some companies are seeking mergers in effort to reduce their costs. Other utility executives are merging in anticipation of disaggregation or divestiture. The idea is to accrue generation, transmission and distribution resources of a sufficient size to survive and thrive in the disaggregated marketplace that utilities believe is coming.

Over the past several months it has become increasingly obvious that public interest is changing. Recently, the FERC commissioners testified before the Energy and Power Subcommittee of the House of Representatives. I was intrigued that not one member of Congress questioned the idea of wholesale access. In fact, the main thrust of the remarks from the members centered around retail competition and why the state

regulators hadn't moved more aggressively toward full customer choice. To me this is an indication of just how quickly the nature of public interest has evolved over the past few years. There's no question that the competitive model is the direction in which we are headed and, in fact, Congress may push us all in that direction sooner than we think.

As the number of proposed mergers increases, how should FERC address new applications? Is FERC's policy simply to reward merger applicants for their past imprudence in not pursuing cost reductions achievable through other means? In other words, should the merged company be given credit for achieving the competitive benefits of open access if all public utilities have open access? What should the role of transmission constraints be in FERC's merger analysis?

How should FERC's merger policy respond to competition and the evolving public interest? There are three very broad options for FERC. The first choice for FERC would be to continue with its traditional analysis. A second broad option would be to retain the basic framework that we use for analysis but tweak it to take account for evolving public interests. A third general approach would be to scrap the old analysis entirely and move more toward a traditional anti-trust analysis based on generation dominance.

Finally, the FERC should consider a two track merger policy. If the Commission can be clear about what the standards are, companies that want to merge can plan their transactions accordingly. Those who are clearly in compliance can be put on a fast track. Those that aren't can use the traditional track which may take a couple of years.

One thing I am fairly clear about and that is that the public interest has changed over the past few years. The *Commonwealth* factors have atrophied and simply aren't relevant any more. As the industry becomes more competitive, perhaps FERC's analysis should move in the direction of a more focused anti-trust analysis used for mergers in unregulated industries. In other words, maybe FERC should just scrap all of the old standards that were used and start anew, focusing more on anti-trust standards.

Second Speaker

Mergers in the post-NOPR world have to be looked at in a manner that's consistent with the unbundling that FERC is willing to implement. This requires that each proposed merger between two vertically integrated investor owned utilities has to be analyzed as if it were a proposed merger between three different firms: a transco, a disco and a genco. The manner in which this is done may be consistent with the past methods of operations but obviously quite inconsistent with the way in which the market will perform in the future.

If it is looked at in this way, the proposed consolidation of transmission assets should be looked on very positively, whether the optimal number of transmission firms in the United States is six, eight or twelve. The current number of 100-plus firms is ridiculous as it simply increases transactions cost for everyone. It is a very messy environment that's costly and inefficient. So the more consolidation in this area, the better.

Proposed merging in the distribution or disco area should be viewed favorably as well. As with transmission, there is no likely prospect of structurally based competition so there is no

market harm attributable to the consolidation of distribution assets. Some savings may even result from this activity. To the extent that competition can be brought to the retail level, it will be through state utility commissions, so these consolidations should really be deferred to the relevant state commissions.

The real problems with mergers lie in the consolidation of generating assets. Small firms should be of little concern, however, most of the mergers currently under consideration are firms that already hold a considerable amount of generating capacity. The starting point for analyzing these should be the Department of Justice (DOJ) guidelines, with considerable emphasis given to the Herfindahl-Hirschmann Index (HHI). Of course, you can't calculate the HHI unless the geographic scope of the market is established. In turn, the identification of transmission constraints is an essential step in determining the geographic scope of the market. Right now we don't know a lot about how transmission capacity constraints of varying temporal and geographical scopes are going to effect market performance. Although we know there is the potential for problems attributable to transmission capacity constraints, we don't know a lot about the dimensions of those problems.

Here, I draw a contrast with the gas industry. When FERC went through the restructuring exercises in gas, the initial effect was to create a bunch of isolated regional and local markets but that effect was really quite transitory. Within a few years there was a continental gas market in terms of the geographic scope of the market. This was attributable to two principal things: the expansion of storage capacity and changes in storage methodology had eliminated nearly all of the potentially adverse effect of transmission constraints in the

pipeline grid.

It is unlikely that this will happen in the electricity industry. First, the regulatory barriers are far greater for extending or installing a transmission line in the electricity than they were for the gas industry. Second, in contrast with the gas industry, transmission capacity constraints in the electricity grid may well increase over time with the load flow growth and change which may occur as a result of competition.

In addition, I am skeptical that there are any cost savings to be gained from the consolidation of firms in order to own a lot of generating capacity. Potentially there are large economies of scope and coordination that achievable through consolidation of generating assets. As the literature describing those potential economies has documented from the outset, however, all of those economies are available without mergers simply by moving to a new market. Similarly, there is a lot of talk of savings in administrative and operational costs. I wouldn't count any of those savings as a benefit for a merger for two reasons: We're likely to get virtually all of them from the move to a competitive market anyway; and, to the extent that there are potential savings available in areas relevant to the wholesale generation side, I don't see why they aren't achievable consistent with retaining appropriate market structure

I have several proposals for the analysis of these mergers in the near future. I urge that the smallest plausible market be used in the calculation of the HHI in its application to utility mergers. We should resolve all doubts about the effects of transmission capacity constraints, assuming that they will be effective constraints on the geographic scope

of the market. Next, we should disapprove the genco portion of any proposed merger if the HHI's meet the DOJ guidelines. I think the best thing FERC could do is allow market based rates in wholesale markets in virtually all circumstances.

Third Speaker:

The FERC's merger policy should be changed. We can divide this change into two different categories. One category would be substance. The first speaker already addressed the several options on policy substance that might be changed. The other area that needs to be addressed is the approval process for mergers. The twelve to twenty-four month waiting time is simply too long and too expensive.

The first speaker listed three paths for FERC, with one option being no change. This argument implies that the commission's policy is static, that it has not changed in the 40 or 30 years since the issues were identified. To the contrary, I think the Commission's policy has been constantly evolving over the last 20 or 30 years as the industry has developed. It is a living, breathing policy. The Commission's mission over the last several years has been to introduce changes incrementally and gradually. We should remember that FERC's policies are not rigid and frozen. The second option he mentioned is tweaking existing policy. This has been the historical method of adaptation. The third option is the way to go.

Most of the factors listed by our first speaker have atrophied. They are simply not applied any more. It has been a while since the Commission has looked at whether the parties pay too much or if the merger was coerced. As for the traditional accounting standard, the Commission can always require that company

books be understandable, regardless of whether there is a pending merger. The standard concerning the merger's effect on regulation has primarily been an analysis of whether there is a transfer of jurisdiction over certain functions from one regulated to another. Although a transfer from state regulator to federal regulators may result, the Commission has historically concluded this doesn't necessarily lead to a jurisdictional gap.

The fifth *Commonwealth* factor is the merger's effect on rates. In this analysis, the Commission tries to project merger savings into the future for ten years, year by year. That process requires a lot of assumptions about the future of the world and future operations. After a great deal of work, the Commission and the staff develop projections. My experience is that the final analysis is not very rewarding. It is nearly impossible to arrive at a merger savings number which is close to the actual result. As we move to a more competitive world this number becomes less important. It is not relevant whether we produce cost savings or not because if it turns out the transaction costs exceed the projected benefit, the utility can't pass those higher costs on to customers. In the short run the Commission should ignore this analysis if the emerging companies are willing to let their customers shop around. In the long run the Commission should eliminate it altogether if it allows customers full retail access.

FERC should conduct a rule making to establish new, contemporary guidelines and procedures. The FERC needs to define what the relevant product markets are. It needs to establish its primary concerns such as short term or installed energy capacity markets. A rule making will establish these guidelines, and

in doing so will eliminate all the unnecessary information which currently bogs down the decision process. While I am hesitant to recommend a lengthy rule making, in the long run the rule making will be the most productive.

A rule making will take some time, in the interim, the FERC will have to continue to consider applications. They should move forward with these application. If their current policies are not appropriate, they should do what they've always done - change those policies in the context of that particular case. The Commission has always had the power to refine and revise its policies within the context of a particular case.

The previous speaker pointed out that there are real synergies in transmission and distribution. He questioned whether there are real synergies when you combine generation, and he argued that transmission and distribution synergies are irrelevant. On the contrary, the generation synergies are probably not irrelevant for this reason. FERC isn't going to be presented with an application to merge just generation, transmission or distribution facilities - applications are going to contain each of these synergies. What should FERC do? In an easy case scenario application of the DOJ methodology will clearly identify significant problems with generation concentration. The harder case would be when the DOJ analysis shows low levels of concentration and the results are fairly positive but there are a few spot problems. These spot problems can be either temporal problems where things look very gray at certain times of the year, or they can be locational problems caused by transmission constraints. Rather than deny the merger, as the previous speaker suggested, FERC should come up with a

targeted recommendation for a targeted problem. It should use a scalpel not a sledgehammer. This would allow FERC to retain its jurisdiction when it is in doubt about a merger. Then, if it turns out that FERC identified the wrong market problems, it has retained the power to enforce a remedy (such as generation divestiture) to fix that problem further down the road.

Fourth Speaker:

The previous speakers pointed out that public policy has really changed. While I agree that the industry is moving in this direction, it's incorrect to say that public policy has undergone a real transformation. A robust wholesale market may be on the horizon, however, full customer choice is still in the very distant future. The effect of wholesale competition needs to be put in perspective. It includes only 5% to 8% of the total electricity market in this country. Any new merger policy should reflect the broader public interest. If you look at the standard that Congress has considered, the public interest is much broader than just this wholesale market.

Some of the comments we heard earlier were predicated on full competition, full deregulation of generation and full customer choice. FERC should take care in designing a new merger policy when these changes have yet to occur. If FERC makes it difficult for small companies to merge, they will be at a competitive disadvantage with respect to a disaggregation strategy. One of the reasons smaller companies merge is to improve their balance sheet capability in an effort to handle the inevitable wave of competition. I believe that there will be deintegration in this country but I think that there's going to have to be more consolidation to get to a level where you

deintegrate in a way that companies are big enough to enjoy the benefits of the financial markets. From a shareholder's perspective, there has to be a certain critical mass before it makes sense to spin off into two separate companies. Electricity is a long way from having the critical mass of the airline or of the telecommunications industries. Electricity is in the middle of a worldwide reconfiguration of utility assets

Consolidation of companies should be promoted. FERC ought to have a policy to facilitate mergers, not act as an impediment to mergers. In particular, FERC ought to be facilitating consolidation so that smaller companies can help themselves to be little losers rather than big losers. Even the low cost small companies, will have stranded investment if generation is totally deregulated because we think the per-kWh price has dropped considerably. In this low-price environment, small companies which are in proximity to larger companies, will find it hard to compete. Policy makers really need to think about applying the HHI, and avoid locking in the advantages of large companies.

Finally, the schedule for merger application approval definitely needs to be shortened. We have done business in Argentina, Russia and England. The process is faster in each of these countries. Likewise, the merger process in other industries, even here in the United States, is much faster.

Discussion

Merger Jurisdictions

: FERC should probably retain jurisdiction - it deals with utility issues day in and day out and

has the expertise to deal with utility mergers. This assuming that FERC establishes the *right* merger policy.

: FERC oversight is more appropriate than allowing individual states jurisdiction. I would much rather see decisions made at the federal level rather than across several states. However, merger policy needs to be considered in the context of comprehensive legislation.

: If FERC jurisdiction is repealed the Department of Justice and the Federal Trade Commission will maintain anti-trust jurisdiction.

: If a merger crosses the jurisdiction of at least two states, each state may address it in a different way. This was the case in a recent Iowa-Indiana utility merger. The Iowa PUC allowed allocated cost of the transaction to the company, introduced a rate moratorium and agreed to write off ^{all} the cost of conservation. In Indiana they did a totally different thing. They forecasted the same merger savings but they also allowed recovery of the costs in rates.

What Should Merger Policy Look Like?

: The very essence of mergers is that you're dealing with a structural change which is supposed to last a long time. It seems sensible from the point of public policy to judge those mergers by the competitive effects that they will have over time including the kind of universe into which we expect to be moving.

: It's very difficult for the Commission to make policy and apply policy today for a world that doesn't exist yet. Yes, FERC is moving there, but it is a long way and even if it continues

moving on this course it will be a long time before significant generation sources develop.

: The best public policy is neutrality. The FERC should neither be pro-merger but it should consummately not be anti-merger. It should not adopt policies as a matter of law or as a matter of practical reality which is anti-merger.

:An antitrust analysis is perhaps a policy that seeks to avoid competitive harm, but should FERC standards be higher than that, since it is trying to restructure a wholesale market to achieve broader policy objectives?

:We want to provide the flexibility for the industry to reorganize itself. A traditional anti-trust analysis assumes a degree of competition which may not presently exist in the electricity industry. Traditional analysis should be approached with some trepidation. Historically the DOJ or the Federal Trade Commission participated as intervenors in FERC 203 proceedings. Consequently, there was a single federal forum and any necessary state forums. Under a FERC 203 case there are competitive considerations there, whether it's open access transmission, market domination and generation, ISO, that is one economic regulation track. If the proceeding is separated, with the DOJ pursuing what could be a considerably different result, the result may be a settlement which could lead to a district court case. The proceeding could end up with the two federal forums following on different tracks, different litigation, forum shopping, etc.

: There are attractive mergers which might have onerous requirements associated with them. In such cases, the parties would have to divest their generation. This will prevent these

mergers from transpiring. The question is whether or not the divesting of generation should be required, and would that be unacceptable to some companies. In some cases generation combinations probably won't be a problem and in some they will. What is the recommendation for the latter case?

: Each merger would be geographic, temporally and product specific in a marketplace which is evolving into futures, options and portfolio sources of supply. There will have to be a sophisticated analysis done when a generation problem arises.

: There have been a few strong assumptions about DOJ policy, but I don't see any basis for those other than fear. I don't understand where the notion that the justice department is going to apply rigid and inflexible HHI standards has come from. FERC's present responsibilities are significantly different from those of the justice department. As it currently stands, FERC has a broader mandate over what they look at in mergers than the DOJ.

:We don't need or want an impartial FERC at this point. What society wants is a FERC that carries out a mandate which only it can carry out right now, a mandate that's been given partly by the Congress, partly by technology, and partly by the forces of history. We want a biased organization that tries to create a competitive generating market that recognizes it needs merged and larger transmission companies and must find some particular regulatory fictions that will allocate regulatory labor between states and the federal government. Congress is not going to return to here, there's nobody else in a position to do it, so by default it falls to the FERC, with perhaps a little help from DOE, at least potentially. The FERC can reward companies, for example, it

could mark up transmission assets as a reward for merging transmission companies. FERC's policy is one favoring robust competition. It's not simply a policy that wants to avoid competitive harm.

: There are many practical obstacles in trying to accomplish simultaneously a merger and a divestiture. A lot of firms might be very scared, to the point where they say forget it, we're not even going to try a merger.

: Think about the banking industry in the United States, a very regulated business although differently regulated than this. There are unbelievable state impediments and federal impediments to merging in the bank industry. The top 20 banks in the world 20 years ago were US banks. Over the last 20 years you got all these impediments, particularly on the state level. If you take the top 20 banks in the world today, only one of them is a US bank, because the policy of a facilitator is consolidation, and now the technological developments are driving the bank industry. The international banks have got a real head start.

Procedural Changes

Two Track Approach

: A FERC rule making on market power rules would be fairly lengthy. However, what is needed is a *quick* rule making in order to amend the 203 application so that it would require only relevant and useful information. Once these changes are established, the merger process could be faster and cheaper for applicants. As it stands now, **theGemmidoibe** has the power to weed out the relevant issues in their hearing orders. The whole purpose of an administrative proceeding is to create a

Unintelligible in original

record that is to be used by the commissioners - it isn't a federal trial. If the Commission believes that certain information is important, and some information is not necessary for determining the public interest, it can recommend that the administrative law judge limit the scope of the hearing.

: The double track concept was decided upon more than twenty years ago when the Supreme Court said that the Ft. Lauderdale Power Company was not exempt from application of the anti-trust laws even though it was a pervasively regulated company. DOJ already has the responsibility to supervise and review the economic efficiency and potential market concentration of mergers of regulated companies.

: This is similar to the nuclear licensing and associated state rate making processes of about 1977-78. At the time the assumption was generally held that the process could be shortened, the approvals would come more quickly. The NRC approved far too many of the applications before it for the economic good of the country. Approximately half of the approvals that were issued wound up in cancellations and a few others probably should have. When seeking to reform the merger process, the temptation is to lean on the side of those who complain of its slowness, complain that it gives too much leverage, complain that it's too expensive, complain that it's overly judicialized. Within that group there is an implicit assumption that a faster process will give faster approvals. We need to be aware of the pitfalls which come with a faster process. A reformed process may well give

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and its criticisms for twenty years ago can provide a lesson, merger reforms should allow for a negative answer in the faster track as

well.

:FERC has an even bigger challenge than it thinks. It really needs to come up with two merger policies, not just one, not even a two track one, but a two phase one. The trick is to try to find a way, to give fast track approval to the attractive mergers out there, the ones that will enhance competition but not roll into that category approvals of mergers that will enhance market power and impede competition. Then FERC can get to the second phase, which is really the post-competitive world where anti-trust rules can be applied.

: When you establish the criteria for what becomes the fast track, you can essentially implicate all of these same issues because the regulator has to say ok, these are the set of standards by which companies essentially die and go to heaven. Those requirements would accomplish nothing if they reflect a policy that assumes a competitive marketplace which does not exist now and requires parties to agree to things which they would find onerous on economic grounds.

:The fast track, two track process is a good idea - I want to carry it a step further to a third track. The way the European Commission handles block exemptions is a good example of another approach. If the application qualifies under an exemption, it proceeds without further inquiry. If not, then the applicants have to go through a series of hoops. The FERC could take a similar approach. It would allow utilities to come up with their own solutions to the problems which were identified by FERC. FERC could resolve this transmission bottleneck or whatever and then the company will have a clean shot at its merger proposal. This track would take advantage of the ingenuity of the world and

the creation of structural relief or certain transmission conditions.

: The idea of applicants finding their own solution to problems is a good one. FERC identifies what the problem is and the company proposes its own solution because it's their interest at stake. The company is going to be the most creative in coming up with solutions that solve its problems as opposed to somebody else who may not have the same incentive or motivation to find an efficient solution.

Continuing Jurisdiction

:_In the short term, FERC should remove the limits which exist on mergers and allow companies to take advantage of the generation savings which are actually there. There are six mergers pending today which could generate somewhere between \$6-8 billion in savings. The Commission's wisdom is that no one ever delivers the savings that are promised but the reality that we're finding is that because this has been a regulated industry for 100 years, the savings are actually exceeding some of the expectations because of the inefficiencies that were built into regulation. The Commission should allow the mergers and resultant savings to occur. In order to keep some control FERC could say if deregulation of all existing generation exists in the future, if there is full customer choice, we retain jurisdiction to go back in and look at these issues in the future with respect to the market power associated with generation. The issues of generation concentration, asset divestiture, and generation swaps will be a lot easier five years from now than it is today.

FERC has the jurisdiction to continue to oversee companies that have merged as long

as the companies accepted the FERC order that had this condition attached to it. It is perhaps impossible after three or four years to try to reconstruct what costs would have but for the merger, to try revisit the decisions made as a stand alone company that are different than the decisions you made as a merged company.

Mergers and Transmission Market Power

: Stranded costs are not necessarily factors which FERC should consider in merger applications. The focus of FERC's concern should be how stranded costs effect the marketplace.

: FERC could recommend limited mitigation strategies if a proposed merger was anti-competitive. It could order divestiture from generation, however, this seems to be a fairly harsh remedy. In addition, FERC could not require retail wheeling as a mitigation strategy for transmission market power.

: It depends if the mitigation is addressing is a vertical or horizontal problem. If it's a vertical problem, an independent system operator might be a remedy. Horizontal or generation concentration problems could be addressed by expanding transmission or removing bottlenecks. The solution should be affected by the character of the market. FERC should use a scalpel not a sledgehammer when it can.

: The bottlenecks which exist in the East are going to prevent the creation of truly competitive conditions in certain areas. One way to help open the region up is to require that some generation be either spun off or assigned to the distribution company and keep it regulated in the short term.

Integrated Systems and Market Power Issues

: Mergers are an easy way to create large combined transmission systems. To get these with mergers, however, there will be some persistent problems in the short run. The main problem is calculating what rate you charge in the combined system. If a high cost and low cost utility combine their transmission systems and charge a rate based on the combined cost of the two separate systems, how do they explain to their state regulator why they joined this regional system and caused the implicit cost for retail rates for transmission to go up? In the near term, transmission systems will be combined for destination markets within one or the other's territory. Combined companies can now reach more suppliers than before. This has been an integral part of the traditional market analysis that the commission supplied.

: Using an ISO in the right way would solve a lot of problems. An ISO would go a long way toward driving the process for a competitive wholesale market forward. We don't want 300 ISO's, we want a few ISOs responsible for large transmission systems.

: For customers to have choice in a competitive market, either with direct access or financial/ bilateral contracts, controls are necessary. At least initially, the natural market for this development is the NERC region.

: In the past FERC didn't examine transmission constraints or geographic markets very closely. The need to do so wasn't really there as the big benefit of the merger came from open access. There wasn't a need and at least from my office's point of view, we have never, we have tried to match the analysis with the problem that was brought to us and not brought in lots of machineries like dispatch

models and looking at transmission constraints when we didn't need to.

: Very clearly in the Utah Power and Light Pacific case, in order to rebut the company's view, FERC demanded and received transmission constraint data. ¹ It then qualified the order to reflect this information.

: In the UPL case the definition of a geographic market was set, not by an economist, but by an engineer. He walked through every major interconnection point and talked about whether you could get power out of the northwest or not. So the transmission constraint analysis was the market definition in that case.

: However, as you said, it was the open access that essentially solved the problem in this case as well. FERC didn't really have to delve into analysis of the transmission system.¹

*Utah Power & Light and
PacifiCorp*, 45 FERC P61,005 (1988)

Looking Ahead: Analytical Issues and Challenges

First Speaker:

The electricity system and the transmission grid were the focus of our discussions at the conclusion of this morning's session. This afternoon, I will talk about some of the transformations a competitive market might bring to the electricity network. Other network industries, such as railroad and banking, provide good frameworks for exploring the public policy options in the electricity industry.

A network is a connection to a system in which people who are usually competitors, or even producers and players, exchange traffic, electronic transmission, energy molecules, etc., under an agreed set of rules. A network is concerned with both facilities and rules. The importance of each of these components varies by the individual network. For example, the local telephone network is enormously physically intensive while other networks are almost entirely rule based. The classic example of a rule based network is an electric power pool. The traditional power pool has not owned many facilities and has simply been a device by which people dispatch power to each other in the network on an agreed set of terms and conditions. Congress views externalities as the defining factor of networks. The network is more valuable the more people are connect to it. It is tied up universally, however, this doesn't necessarily mean it is a monopoly because a lot of people may be plugged in by interchange agreements even though they are in different networks.

The large number of antitrust cases concerning network industries provides a rich

and diverse history. The difficulty with antitrust cases is that they are very industry specific and one should take care not to apply analogies from one industry to another.

The seminal case was decided by the Supreme Court in 1912.² The Terminal Railroad Association (a group of railroad companies) had gradually acquired control of all the connecting lines to all the bridges that crossed the river in St. Louis. The Association also purchased a ferry company which provided service between the two shores. Consequently, the only way to traverse the river, when the bridge was open, was over the railroad's track. The Justice Department intervened and called for the group's holdings to be broken up. In its decision, the Supreme Court called for compulsory access. Compulsory access was defined as a right for other parties to share in the ownership of any connecting railway and the St. Louis terminal. The alternative was for the Association to offer per use kind of service, "on as nearly an equal plane as maybe with respect to expenses and charges" as the owners.³ Other examples of network cases are the New York Stock Exchange, the New England Fish Exchange and more recently, the telephone network cases involving local access to long distance servers. The final example, which is still pending, is the Microsoft operating system. This system which is the track that connects users to companion programming.

Each of these decisions reflects a concern that those who control the monopoly and the system are going to use it to disadvantage

² *United States v. Terminal Railroad Assn.*, 224 U.S. C. 383 (1912)³

224 U.S. at 409.

those outside the system. The risks in these cases was that what might have been a competitive business is treated to a network compulsory access rule and that may actually not result in competition. For example, in 1945 the **DOJ** secured a decree that opened Associated Press up to every newspaper in the country.⁴ At the time the Times and United Press International news services were viable alternatives. However, after the decision everyone joined Associated Press and wire service competition no longer existed. The big newspapers, such as the New York Times and the Los Angeles Times formed their own syndicated news services because they saw these serves as providing some differentiation -a brand.

The result of the Associated Press decision highlights another aspect of the network system. This, the brand component of the network system (in contrast to the facilities or rules components), has become an increasingly important source of monopoly power. Consumers have to be able to identify what network they are using and brands provide that definition.

These examples demonstrate a dilemma for network designers: is a monopoly, or a combination of network interchange arrangements, the most efficient solution? If competitive alternatives exist, the networks have great incentive to encourage people to send traffic over them. If there are no competitive alternatives at the network level, those who control the network advantage themselves in the other market. If a monopoly network exists it would probably be more beneficial to have it owned in a manner in

⁴*Associated Press v. United States*,
326 U.S. 1 (1945)

which all of the participants in the network own and control it commonly. This structure will eliminate potential battles between owners and non-owners.

Second Speaker:

The Iowa Utilities Board (IUB) has never seen a merger that it did not like! At least that has been the case since the board passed the reorganization statute in 1989. In 1991 there were seven investor-owned utilities in Iowa. If the recently announced merger between AES Industries, Interstate Power Co., and Wisconsin Light & Power is approved by shareholders and regulators, there will be only two investor-owned electric companies in the state. The number has dropped dramatically in five years. Today I am going to address the developments in the utility industry in Iowa since the passage of the reorganization statute.

In 1991 the Iowa Utilities Board initiated an inquiry into the structure of the state's electric utility market. The conclusions of the staff report revealed fairly dramatic statistics. In 1990 the electric industry in Iowa was made up of 197 utilities. One hundred thirty-six were municipally owned utilities, 50 were electric cooperatives, four were state-owned entities of some sort, and seven were investor-owned utilities. Iowa had the largest number of electric utilities in the country, followed by Minnesota which had 186. The staff report concluded that a large number of utilities resulted in a greater number of transactions, therefore higher operational cost and consequentially higher rates.

While the staff report notably does not include firm conclusions or recommendations, the IUB has consistently encouraged utility mergers in both energy and telecommunications. Several

IUB actions demonstrate support for mergers: approving each of the mergers proposed; approving subsequently in rate cases the recovery of acquisitions adjustments in some form or amount; awarding management efficiency awards, in the form of increased returns on equity to companies entering voluntary mergers; and, supporting legislation which streamlines the regulatory review process.

The reorganization (or merger) statute permits the Board to examine a number of things that we heard about earlier today, including whether the board will have access to records; the utilities' ability to attract capital on reasonable terms, including the maintenance of reasonable capital structure; the ability of the utility to provide safe, adequate and reasonable service; whether ratepayers are detrimentally affected; and whether the public interest is detrimentally affected. Capital structure is probably something that state regulators look at more closely than FERC would, but the Board also analyzes the transaction interest of the public as well as the ratepayers. The key issues in the six proposals filed between 1990 and 1994 varied from case to case.

It is likely that the next few years will be a mixed situation with some competitive aspects, but not fully competitive. In the new environment there will be a distinction made between non-core customers, who will have market power, and core customers, who are in a similar situation to traditional residential and small commercial customers. The core group may still need protection by regulators.

Third Speaker:

My remarks will focus on the ways in which I perceive the antitrust perspective on mergers

and merger policy to be different from the regulatory perspective. While these perspectives seek the same goal, they vary in a very basic way.

Regulators are concerned with how products are priced and the effect of consumer demand versus management determinations of what consumers want. Regulators have traditionally been placed in the role of determining what was good for their constituents. This is not the basic assumption under which almost every other piece of our economy is founded. It is quite important for those who are in the electric utility industry to look at the analogies with other unregulated industries rather than focusing entirely on those things which make this industry different and uniquely complicated. Some of the issues related to competition in the electricity industry have been addressed in other forums. The economics and the law that have been applied to other industries have raised some problems which are similar - regulators should look more careful at these experiences.

In looking at other industries, however, it must be remembered that antitrust law includes a significantly different set of responsibilities than utility regulation. The difference has been recognized from the beginning. In the early antitrust cases, in which the railroads were challenged under the Sherman Act, the railroads argued that competition should not be encouraged in their industry and labeled it "ruinous competition". In response, the Supreme Court referred to the Sherman Acts and other actions taken by Congress. In its conclusion the Court said that if an industry falls under the Sherman Act and not under a regulated scheme, there is no such thing as a bad type of competition, there is just competition. This has been the main theme of

antitrust law ever since.

The DOJ assumes that competition actually serves to bring out better quality products, not worse quality products. This assumption varies considerably from the way traditional regulated companies have thought. Both regulators and company managers have understood that their role is to create the product that the consumer would want. Market economics removes the power from the regulators and from the monopolists to make that determination. The consumer is able to decide which is the better product it thinks is better and businesses compete to try to convince the consumer their product is better.

The goal of antitrust analysis is to examine how a proposed merger could change the competitive structure that would exist if the companies didn't merge. The analysis also examines how the merger will change competition and, in particular, if it might result in decreased competition. The FERC and state commissions have other important considerations to take into account. However, what really matters is the problem of whether the merger will change the competitive structure.

This is a significant chicken and egg problem - getting from where the regulation is now to where many people feel it ought to be. Structural reform can be approached with the idea that companies are already rate regulated and that regulation is capable of taking care of competition. This guarantees that regulation must remain in order to keep a check on competition in the future. Therefore, the amount of competition may be decreased because there is increased concentration due to the structural changes such as mergers. On the other hand, reform can focus on what the

competitive future might look like. Antitrust analysis of mergers in unregulated industries does exactly that. It examines what the future situation in a dynamic industry would be without the merger. There are cases that require analysis of whether a diminishing number of players is entering the industry and whether most of the output of the industry is committed for the long term. These essential aspects are regularly included in merger analysis.

It is important to make some predictions about the future to create the best defenses for what lies ahead. As a result, it is extremely important to try to take educated guesses as to where the industry is headed. This means examining the customers perspective as well as that of the competitors, to get an idea of where the industry is going. That is different from developing an idea of where the industry should go and then forcing it into that model. The DOJ wants to ensure that the markets are free to evolve in a way they are naturally headed, and not determine what the end of the market evolution should be.

FERC and Congress should assume a leadership role in moving this market forward. They should do so with some trepidation, however, because the transition into a competitive industry is going to be harsh. The transition to a merger policy which includes some aspects of antitrust analysis will be difficult. The anti-trust perspective on mergers and merger policy is substantially different than the approach of regulatory agencies. Policy makers should practice reasonable prudent caution in advancing a specific view of the future. At the same time, the steps they take should not be so slow as to cause the whole movement to fall into the abyss.

Fourth Speaker:

In order to proceed with market power analysis, three characteristics of market power must be recalled: horizontal market power is a concern; open market definition depends on the open access rules; and transmission constraints complicate the analysis of market power. I will focus on some of the market power issues in the context of transmission constraints and the impact on market analysis.

The scope of transmission constraints could substantially determine the degree of market power and the necessity for further mitigation or regulation. Detailed analysis of transmission capacity may be necessary, and in many cases the result could be surprising. For example, constraints on the transmission system may be greater during off-peak periods when not all plants are running and there is an economic incentive to use transmission to reach cheaper, distant plants. Furthermore, when complex transmission interactions are considered, the topology of the market will be driven by electrical distance, not geographical distance. With sometimes poor correlation between electric topology and geographic topology, we should be prepared for surprises in the definition of the electrical market.

For example, if the HHI is calculated for each NERC region, there is little evidence of any real concentration problems. If, however, the NERC regions are separated into sub-regions and states, market concentration is much more ubiquitous. The NERC regions, states, and subregions may actually have little to do with the actual constraints on the transmission system. Nevertheless, the concentration levels do serve to demonstrate that there are potential market power problems.

The first problem is exemplified by a leader/follower model. In this model the idea is that there is a large producer in this industry and when that large producer makes decisions, everybody else responds as competitive followers. There is a competitive fringe, and the leader knows that the competitive followers will react, so the leader makes profit maximizing decisions. What's important about this market is that there is not a single nice simple maximum that's the global maximum. Instead, there has multiple local optima - the revenue function increases, and decreases sporadically. The calculation of the profit-maximizing solution for the leader faces computational challenges. The computation becomes more complicated in a electrical network where there are multiple products, locations and generating plants. Defining profit maximizing solutions will be a nontrivial problem.

The second problem, unique to electrical networks, is the loop flow problem. This is caused by the many interacting, nonlinear constraints that limit operations in electric transmission. Altering load conditions or changing generation location affects the impact they have on a system constraint. The ratio of these impacts of the generation on these constraints can often be quite large.

What does all that mean in the context of analyzing market power? In order to address this question I will compare three test scenarios with a competitive benchmark case. I will analyze the different outcomes in this market with the same underlying assumptions about cost and demands, and will simply change some of the structural assumptions on how the rules might work (no transmission rights, tradeable rights and non-tradeable rights).

The benchmark case is based on the leader-follower model. This allows for a price-taking leader, competitive followers and supply-demand equilibrium.

In the first example, assume that an open access regime exists, an independent system operator is running the grid, participants are bidding into the system, and most importantly, there are no transmission rights other than those based on whatever the economic solution is. The difference in this scenario is that the market leader recognizes his/her position, and wants to exercise this market power. The result is that the interaction through the network makes it profitable for the leader to operate generation at some loss. The leader benefits from the effect of partially blocking a transmission constraint and the system suffering some deadweight loss.

In my second scenario, there is a system of tradeable transmission rights or transmission congestion contracts. Ownership of these rights would provide an additional source of profit from the exercise of market power. In this case, the leader actually increases production above the competitive case, but still profit more from the disproportionate impact on the transmission constraint. The leader is profiting not only from the sale of generation at higher prices but is also collecting some of the congestion payments either directly or by leasing the transmission right at competitive prices in the marketplace. It is more profitable for the leader to force more power into the system at certain locations, even though the marginal value in a competitive sense is negative at that point because it blocks up the transmission bottleneck again. A very small dead weight loss is produced in the system, and a very large profit is earned by the monopolist.

In the last case, transmission rights are non-tradeable. Sometimes transmission rights exist but they are transmission rights in the form of use it or lose it. In other words, the monopolist can't just hold (not use) the transmission right and not let others use the system - that is the open access policy. The leader must use it himself or lose it back to the system. Under this condition, the answer for the monopolist is to use the right. In doing so it further congests the bottleneck, forcing even more competitive supply off the system. The profits of the monopolist are higher than if the right weren't exercised and the dead weight loss increases. Again the result is a curious problem, the leader generates more than he would in the competitive case but the total consumption in the system goes down. An even larger share of the reduction is absorbed by the competitive fringe.

In the tradeable and non-tradeable rights cases, the total production level of the monopolist or the leader in this case actually increases relative to the competitive case. As a result, the ultimate savings and benefits associated with mergers comes with higher prices and increased market share.

The one major point I tried to show with these examples is that because of the effects of loop flow in transmission networks, market participants can have strategically placed assets which have the ability to displace more than proportionate amounts of competitive supply. A supplier can force plants to operate, which look like they are losing money directly, but by congesting the bottleneck relatively cheaply, they can force more than that amount off the system. They can then take advantage of their other assets that are located elsewhere, sometimes electrically distant. These interfaces can take place across great

electrical distance.

These are very large distances where strategic decisions could have an impact on the ability to move power around the system. The examples I've constructed have been to illustrate that the profit maximizing solutions can exploit this underlying physical property and make much more complex to analyze these markets. Therefore, it seems intuitively plausible that tradeable systems are better than nontradeable systems. However, I'm not sure that this is true in very general cases. Under open access, everyone has access, everyone pays what appears to be the competitive price for using the system, yet because of their interaction of the location of generation with the grid, they get to exercise that market power. These calculations can make market analysis incredibly difficult.

Discussion

Transmission Constraints and Market Power

: What is the different between a scarcity and a congestion rent?

: Scarcity rent is a more general concept. Congestion rent is an example of scarcity rent but in this case the scarce item of supply is transmission and in particular there is a scarcity rent associated with that constrained line at every location. The term congestion rent describes that component of the prices or the difference in prices across locations.

: If you have a competitive equilibrium and networks then the marginal opportunity cost of transmission through the network from one location to another is the difference in the prices at the locations. That difference can be decomposed into two components. One is the

marginal effect on losses. The other is what is called congestion - which is the marginal effect caused by the fact that the system is constrained. Power can't be re-dispatched, more power can't be sent without taking some more out someplace else. Congestion rent is the difference in prices across locations. It should be thought of as the cost of the constraint on the system for that particular transaction. So congestion is an example of scarcity. Scarcity's a more general concept.

: In its definition of available transmission capacity FERC has assumed (and hopes) that congestion is not ubiquitous nor is it a big problem when it does occur. Unfortunately it is a big deal. It does depend very much on the pattern of the load. If the pattern of the load is unknown, then you don't know how much power is going to move across the interfaces or how much can move across them. There needs to be some other way to think about the problem.

Transmission Constraints - Some Solutions?

:Some of this problem of the transmission constraints is exacerbated actually by divestiture, or divestiture and unbundling, because one way of relieving a capacity constraint in an electric system is to change generation dispatch patterns. Once generation is taken away from the transmission the ability to do that is eliminated. Could there be a situation where an ISO, for example, had information about why the constraints were arising and would be able to then offer a payment to a company to back down generation. In other words, actually create real time opportunity cost payments to open up a transmission constraint. Would that insinuate the vertical issue back into this?

Is there a way that there could be a mechanism that would allow an independent system operator, not the ability to dispatch all generation, but the ability to identify the constraining generator and then have to make that economic decision more open?

:Yes, but this doesn't solve the problem. The ISO allows everyone to compete on an open access basis. It doesn't solve the horizontal market power problem.. The ISO system would ask companies to back down their generation and the company with the horizontal power would say no. The ISO would be willing to pay that company to back down. As a matter of fact, the ISO may say it's so expensive for your company to put generation in at this location the company has to pay the ISO four cents to take your energy. The company might agree, we'll pay four cents in order for the ISO to take our energy at this location. Even if the competitive companies in the system do the same, the impact is that the profits to the monopolist go up even though it must pay a huge transmission fee. This is horizontal market power.

: At least an ISO would give a regulator or an anti-trust enforcement official the ability to see the behavior - frequently there is a single generating facility that can cause the bottleneck . They could tailor a remedy to address the manner in which that particular generator is dispatched.

: If locational pricing exists, activities might become more transparent. Marginal opportunity costs and the implications of people's behavior would be much more visible. If there isn't location pricing, there is another kind of system where entities believe they have the bilateral right to put in megawatts here and take them out down there. In this case there is

no bidding or pricing or authority. This would be not so transparent, however, if there actually were visible spot prices there at every location then everyone could see that the price at this location (in the example above) is minus four cents.

:RTGs may not be the right solution. At any rate, the problem of adding the new transmission is going to be a much more complicated for gaming reasons among the participants than was originally thought.

: In the past pools agreed to recognize and cooperate on all these concerns, and do the right thing. The system worked very well for a long time. Now functional or operational separation has been introduced. It will be very important to find the right price so that people have the right incentives to concede to these changes. This solves the market problem but not the horizontal market issue. Although an RTG would help with this problem, it doesn't solve it completely.

: The transmission congestion problems identified can be solved by a vibrant secondary market. If a vibrant secondary market doesn't exist they are even worse.

:Free entry in generation would eliminate horizontal market problems.

: That would depend upon what it costs to do that and where the generation will be located. Unless you can have cheap generation built easily at the right locations, it doesn't work. Expansion of the transmission capacity is the real answer.

:One of the things you can from a competitive solution is it is impossible to produce at low marginal costs in any location. Whereas with

the horizontal problem, because of this network interaction, it can be possible to produce a low marginal cost in that location.

: In other words, if you can determine that someone is restricting output to raise price, then you observe market power. Aren't monopolists decreasing output of transmission?

:Remember that the monopolists are expanding output to reach across the system. Presumably the monopolist knows where the transmission constraint is.

Many of you may have seen the article in which the subtitle is: *POOLCO's dirty little secret*. It is very important to recognize that labeling the market power problem as a POOLCO problem is missing the entire point. This is not an institutional problem. It takes competitive generation and market pricing in generation to eliminate this problem.

Merger Policy and Transmission Constraints

: Are there any practical means of monitoring and controlling the effects a proposed merger has on the network?

: If there was a procedural market problem, the merger could be accepted with the provisions that the market constraint be corrected. FERC or the state PUC could then monitor the company to ensure that problem was corrected within the prescribed amount of time.

:If a merger had a lot of good synergies and many benefits, yet there was one portion of the market where the merger would result in power to control the interface and benefit from

closing the interface, should the merger be approved?

:The answer proposed this morning was that it may be unclear if a the merger will result in anti-competitive behavior on the interface. In addition, the prescribed cure may "kill" the merger proposal. It may be useful to let the proposal move forward with a provision for future jurisdiction. However, continuing jurisdiction will be of little value to the shareholders. They will not reap the benefit of their bargain because the bargain could change.

: Specific remedies will be hard to identify as there is little information on how much competition there will be in the future. The best prescription is to force the company to spin off the generation if the constraint isn't corrected in the set time. In the meantime, regulators will monitor the company's transactions. This is a compromise: some of the benefits of the merger are not going to go through however, it keeps you from killing a merger that might consolidate companies in a way that would make it financially strong or more competitive.

: Don't make the remedy self-implementing. Instead, if companies fail to comply with the recommended changes there should be an automatic response from regulators. FERC could, and this has been done in rate and merger settlements, specify a period of time when certain anticipated benefits would accrue from either the rate moratorium or the merger. If after a period of time, certain events play out (for example, a rate is not kept at the agreed level), then an action could be brought against the company. This could be done by a commission, a public council, any of the signatories to the settlement. This would

trigger an investigation by the regulator to *then* determine what appropriate action be taken in that instance, without prescribing from the outset that the solution is a spin-off of an asset or -- or any other type mechanism. That is more feasible rather than having something that would be self-implementing by virtue of what occurred at the time the merger was approved.

: Regulatory *reopeners* usually apply to rates. They don't often apply to potential divestiture or spin-off of assets. However, if there is a potential reopener on rates it is possible that divestiture might be the result. In Iowa, there has been a merger case in which the rate level was agreed to for an established period of time with the possibility of being revisited. That did not frustrate the deal.

: If there is an ISO and we have established that the generator could still manipulate the system because of constraints, what would prevent an ISO from simply expanding the system?

: Incentives will have to be created to discourage that behavior.

: A federal siting rule might be the answer to these transmission siting problems. This allows FERC to identify, in each particular case, the 10 or 15 places where the problem is most exacerbated. FERC would condition the proposed merger on more transmission being built in those places. That is a perfect example and illustration of how FERC could use its conditioning authority to address this concern and the merger goes forward with this condition.

: If the transmission system could be expanded so might the ownership of these strategic

plans. There could be situations where the HHI doesn't show very much. If the ISO had the strategic plans for particular locations on the system then the ISO could address the constraint problem without resorting to transmission expansion. In this way it becomes an extended problem that can be understood and addressed.

: If there is some great regulation mechanism that allows the monopolist to benefit from having more transactions through that constraint interface, the leader will stay on the interface and make more transactions. It will be difficult to create incentives to prevent that. It is a lot easier to have a performance based rate system than to figure out these other incentives.

: If self-generation were relatively inexpensive, or generation could be built simply, this wouldn't be a concern because the market, as they say in all the jokes, the market will do it.

: That is not necessarily the correct societal answer in a country awash with excess generation. The answer should be to remove the transmission constraints, not build even more generation.

:The remarks concerning generation raise one of the biggest market power issues out there - that state regulators exercise market power. Sometimes they do it by accident; however, they usually know what they are doing. They know that their decisions on siting can affect the allocation of rents between their state and other states. Commissioners may exercise this power to get their state a bigger piece of the pie. The pie isn't necessarily bigger when they do this, but their piece is. One obvious solution is to remove this power from the states, but that is an unlikely proposition.