

SPARK

The on-line gateway for readers of Public Utilities Fortnightly magazine.



Here is our inaugural issue of Fortnightly's Spark—our middle-of-the-month newsletter for subscribers to Public Utilities Fortnightly.

We've redesigned our magazine for a monthly frequency, with more content than ever. But that doesn't mean we've forgotten our readers. In-between magazine issues, we'll be bringing you the latest analysis in utility regulation, plus interviews, and provocative editorials—and it's all on line, where you can talk back to us with your comments, opinions, rants, and raves.

Fortnightly and Spark is your gateway to the editors, writers and vendors that make it all possible.

Bruce W. Radford, Publisher

PAGES WITH THE EDITOR

Can Entergy Make a Market with Its Go-It-Alone Grid?

BY BRUCE W. RADFORD

No man is an island. But does that go for utilities? What if each utility *was* an island? What if a single utility could be its own RTO (regional transmission organization), like PJM? Or independent system operator (ISO), like New York or New England?

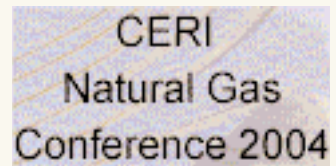
With the electric industry in a funk, with many utilities and state regulators dead-set against the standard market design (SMD) and the Federal Energy Regulatory Commission (FERC), no wonder that this latest idea comes not from Washington, but from mid-America.

And moving under the radar, one company has put together a blueprint for a sort of "junior" RTO—a third way between FERC's dream and "ain't broke, don't fix it."

The locale is the Lower Mississippi Valley, a region that has remained more or less a FERC-free zone, with its grid not yet formed into an RTO. The utility, of course, is Entergy. Simply put, Entergy is quietly putting together a regime that could reorganize its grid to make it look like, feel like, and almost taste like a full-fledged RTO.

Here is just what the doctor ordered for the "just-say-no" crowd. Yet, the naysayers have their reasons. They oppose RTOs as too expensive (the cost-benefit studies do not convince). »

SPONSORS



CONTENTS: Pages with the Editor 1 Interview with Stan Wise 7
By the Numbers with Roger Gale 4 Tell us about it 10

They question a bid-based dispatch (it ignores public benefits, such as stream-flow management by hydro plants). They hate the SMD with its locational marginal pricing (LMP doesn't work for the long-haul transmission lines out West, it doesn't tell you where to invest in new lines, and can force ratepayers to pay for scarcity). They also oppose a financial rights model for grid access (it runs roughshod over municipal utilities with long-standing contracts for transmission rights).

But now here comes Entergy, proposing a new three-part program to entice more power from merchant generators by making it easier for them to gain short-term access to Entergy's transmission lines:

- **GOL—Generator Operating Limits.** Originally a set of parameters (a directional but static measure, based on contract paths) to calculate available capacity for merchant generators seeking short-term transmission service across Entergy's lines. To be used in conjunction with FERC-mandated calculations of ATC (available transfer capability), but offering a source-to-sink analysis, showing plant-specific effects on the grid within a ten-bus radius of the plant in question, as an alternative to a more costly and timely System Impact Study (SIS), which would still be available as a backup option. Program would be run by Entergy's transmission division. (Proposed June 2002. Approved by FERC order nine months later, after a series of amendments setting up separate, daily GOLs for drive-out exports and internal transac-

tions, with periodic status reports to assess their fairness. *Docket No. ER02-2014, March 17, 2003, 102 ¶FERC 61,281.*) For a full explanation of how GOLs work, see, *Request for Rehearing of Dynegy Power Marketing, Attachment A, FERC Docket No. ER-2014, filed Apr. 3, 2003.*

- **WPP—Weekly Procurement Process.** A solicitation process for merchant plants seeking to displace Entergy's native oil- and gas-fired generation to serve Entergy's native load, using a pay-as-bid auction (virtual bidding not allowed) to compare variable costs. Entergy's commodity product division (its "energy management organization," or EMO) would collect bids, and send them to the transmission division for evaluation, which would include a redispatch analysis, subject to oversight by a neutral third party, known as the Independent Procurement Monitor, or IPM. Entergy also proposes participant funding for the cost of transmission upgrades made necessary by merchant plant development. (Proposed June 10, 2003. *Docket No. EL03-132.*)
- **AFC—Available Flowgate Capacity.** A dynamic, flow-based and hourly indicator (before-the-fact) of short-term grid capacity available to merchant generators, by measuring congestion on those "flowgates" in the Entergy grid (out of some 500 or more) that are most significantly affected by a proposed transaction. Would replace the GOL pro-

gram, operating in tandem with ATC calculations and with SIS as a backup option. (Proposed Aug. 29, 2003. *Docket No. ER02-1372.*)

Using a combination of all these techniques, Entergy would offer merchant generators a set of fixed, before-the-fact physical standards and procedures to plan for in seeking grid access to offer cheaper power to Entergy's native load customers. These merchant power bids would compete against Entergy's own variable operating costs for oil- and gas-fired power plants, allowing private power producers to supplant at least a portion of Entergy's native generation, offering savings to Entergy ratepayers. That in itself would deflect some of the political pressure facing Entergy (aided by economic studies obtained by state regulators) to do something about the supposedly high costs of its aged fleet of legacy power plants.

Entergy also could use its GOL, WPP, and AFC programs to avoid the long wait to complete an SIS for each merchant power project, and yet have at its disposal the kind of flow-based analysis (forget the contract path) needed to assure ahead of time that merchant power bids and transactions don't come to grief because of unforeseen constraints on smaller, local transmission facilities. (We have touched on some of these proposals earlier in our magazine. See, "Economic Dispatch Redux," by Michael T. Burr, *Public Utilities Fortnightly*, August 2003, describing Entergy's efforts to attract more merchant power resources.)

Moreover, if merchant power producers could not meet the GOL and AFC parameters, the WPP program would allow them to submit to an »

FORTNIGHTLY'S

SPARK

Copyright 2004

Public Utilities Reports, Inc.
8229 Boone Blvd., Suite 400
Vienna, VA 22182
Phone: 703-847-7720
800-368-5001
Fax: 703-847-0683
<http://www.pur.com>

Bruce Radford, Publisher
radford@pur.com

Lori A. Burkhart, Editor
lab@pur.com

Alex Stephen, Designer
astephen@pur.com

E-mailed mid-month to all *Fortnightly* subscribers.
Call: 800-368-5001

For e-mail address changes or other information, contact jclark@pur.com or 800-368-5001.

Except for one copy to the subscriber, reproduction is not to be made in whole or in part without special permission.

SIS or to pay the costs of a redispatch by Entergy, based on the utility's "knowledge of the system." And here is where the story gets interesting.

If Entergy can calculate the costs of such a redispatch, and then bill those costs to power producers to allow them to "buy through" the congestion and reach customers markets in spite of apparent physical obstacles, that starts to sound like what an RTO does. It starts to look almost like a real spot power market, with a bid-based and security constrained dispatch, reflecting supplier offers, buyer needs, actual power flows and real-time physical demands on the system.

Of course, Entergy's WPP auction would not offer a universal market-clearing price, but instead would pay power producers based on their individual winning bids. That falls a bit short of a day-ahead LMP market, as run by PJM or ISO-NE. Yet the foot is in the door. The Entergy program offers a real taste of many of the key features of an RTO and the SMD. But everything occurs under umbrella of a single utility corporate unit—a fact now more important than ever, as the SeTrans effort has now collapsed, leaving Entergy shut out from membership in its RTO of choice.

The FERC conducted a technical conference on these programs on December 8 and 9 (not the first one, and probably not the last). Moving forward, the key questions cover a wide range:

1. Should the WPP plan extend to other load-serving entities (LSEs) within the Entergy footprint, such as transmission-dependent municipals and co-ops?
2. Should rules allow merchants to bid and recover fixed costs, in addition to variable costs, or even compete against Entergy's legacy nuclear and hydro resources?
3. If merchants can bid fixed costs and supplant Entergy resources with high sunk costs (nuclear, for instance) does that mean that Entergy ratepayers save the difference, leaving Entergy's fixed costs unrecovered, with its

Simply put, Entergy is re-doing its grid to make it look like, feel like, and almost taste like a full fledged RTO.

plant investment left stranded?

4. Regardless of the size and scope of bids, how should Entergy calculate redispatch costs? And who should do it?
5. Should FERC now require Entergy to modify the proposal to include a market-clearing auction with locational marginal prices, instead of just pay-as-bid? (This question arises since Entergy can no longer depend on the now-defunct SeTrans to establish a regional day-ahead market with LMP.)

The Grid and Its Limits

In 1999, Entergy had handled more than 27,000 distinct transmission reservations across its grid system, and confirmed over 50,000 actual transaction schedules. Three years later, by 2002, reservations had climbed to 87,000, just short of 150,000 schedules. In short, Entergy was grappling with a flood of requests from non-native generators and shippers, forcing it to spend time and money to confirm the availability of transmission capacity.

And FERC's tariff regime for transmission, with its mandatory calculations of ATC, did not help all that much.

ATC measures transfer capability from one control area to another, regardless of the relative location of a power plant within its host control area. Yet Entergy's problem centered more on local constraints affecting particularized grid elements within its

own service territory, depending upon the exact location of the plant in question. Simply because an ATC calculation might indicate that the Entergy control area as a whole could reliably transfer an aggregate amount of power to another control area, did not mean that the local transmission system could accommodate the same amount of power from a particular generator in Entergy's control area.

Of course, a merchant generator seeking a path for its product could request a transaction-specific SIS, but such detailed studies are ill-suited for quickly responding to a multitude of requests for short-term transmission service.

On top of these physical problems, a study prepared by David Dismukes and published by the Louisiana State University Center for Energy Studies had asserted that Entergy customers could save \$825 million in 2003, and up to \$926 million in 2006, if merchant plants could gain access to the Entergy system and begin to displace the utility's older and more costly units. (See, *"The Power of Generation: Continued Economic Benefits from Independent Power Development in Louisiana,"* April 2003.)

So Entergy proposed a system of GOLs to identify safe harbor limits before the fact, as ATC would do, but on a plant-specific basis and covering every hour for a month, taking account of plant-induced effects on the grid within a ten-bus radius, by using monthly power flow models and simulating four directional power transfers (N, S, E, and W). The GOL plan assumed a worst-case scenario (limits were set at the lowest available level of any of the four directions), and would be updated only monthly. It used a 3-percent OTDF (Outage Transfer Distribution Factor), so that GOLs would evaluate only those grid elements that would absorb a power flow of at least 3 percent of the total capacity of the plant-specific transaction. Merchant generators saw the plan as not flexible enough to reflect up-to-date grid upgrades, and too conservative with »

its least-cost-denominator (LCD) theory, leaving a significant amount of grid capacity still unavailable to them.

After a lengthy series of hearings, protests, and adjudication at FERC, Entergy eventually revised the program to offer two different 'flavors' of GOL: (1) A "macro" plan identifying directional GOLs updated daily, for exports of power to each of some 14 drive-out control areas directly connected to the Entergy system, again using the 3-percent OTDF and a ten-bus effects test; plus (2) An "internal" GOL that would monitor all constraints within Entergy's own local control area, regardless of size or location of the affected grid element.

Entergy would still calculate ATC (as required by FERC), and would allow nonqualifying merchants (those failing the GOL test) to request a follow-up SIS for a second bite at the apple.

Yet the system still had its limitations. ATC/GOL calculations effectively bifurcate the process. ATC focuses on regional effects; GOL on local constraints. Yet each is static—each reflects the fictitious contract path. Neither offers the sort of flow-based, dynamic, source-to-sink analysis provided by an SIS.

To add a flow-based dynamic element to the process, Entergy proposed to replace its ATC/GOL calculations with a flow-based process similar to that approved by FERC for the Midwest ISO and the Southwest Power Pool. This flow-based method—known as the AFC process—would measure hourly power flows across certain key transmission bottlenecks on the Entergy system. As a dynamic process, it would rely on two newly installed computer systems: the OASIS Automation and the Response Factor Calculator ("RFCalc") programs, both designed by ESCA, a division of Alstom Corporation.

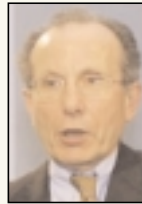
And what is a flowgate, anyway?

A flowgate can be a single grid facility or a set of facilities. The capability of a particular flowgate (*Continued on p. 9*)

BY THE NUMBERS

2004 Hails the Vertically Integrated Utility

By LORI A. BURKHART



Roger Gale

"Optimism" is back, driven by a vote in favor of the regulated, vertically integrated utility as the most successful business model. That

is a key finding of a new survey on what to expect in the year ahead. "The best business to be in is the regulated, vertically integrated utility model, the one they were all saying a few years ago had no life left in it," says Roger Gale, president and CEO of GF Energy.

No doubt it has been a tough couple of years for the energy industry. But the past shapes our future, which is why *Fortnightly's Spark* talked with Gale about his firm's "2004 Electricity Outlook."

For more than a decade, ending in 2001, Gale's predecessor firms had examined the electric power industry's emerging trends and expectations, sprinkled with his own expert judgment, insight and commentary. After a three-year break, GF Energy is back with telephone survey results from senior leadership in the Canadian and U.S. power industries. The Outlook's objectives are to capture industry trends/drivers as perceived by North America's senior executives, and help survey participants improve the quality of their strategic management decisions. "What we have done for ten years—this is the 11th year—is try to identify what the senior leadership of the industry is thinking about the future and capture the trends and the

drivers as the leadership of the industry perceives it," Gale explains.

Stodgy Is Back

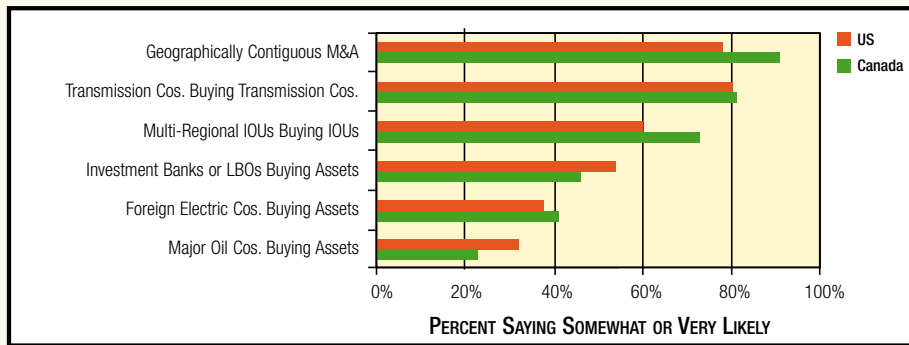
The Outlook finds that the industry no longer is interested in transforming its business to new operating models. Also gone is the belief in generation and telecommunications as profit drivers. "There was in 2000 a sense there would be tremendous convergence of electric, water, gas, and telecom—that whole business model has collapsed obviously," Gale notes. He also points out it was thought then that the large merchant business would be a very good one and it hasn't worked out that way.

The report notes very little concern among participants about supply-demand disruptions and very low expectations for national policy emanating from Washington. The result is that the North American electric industry sees itself quite nicely as a safe haven, a business happy to be low risk, low expectation, low growth and low margin.

It makes sense that an industry rocked by so much volatility in recent years is thrilled to look forward to a calm period. But the shark lurking in the waters could be an onslaught of mergers and acquisitions (M&A). Over the next five years, industry leadership expects more M&A. "The leadership says there will be more mergers and acquisitions but they don't perceive many changes in the core business focus," Gale says. He predicts the utilities will experience much growth in M&As for geographically contiguous companies. »

Q: What types of mergers and acquisitions are most likely over the next one to three years?

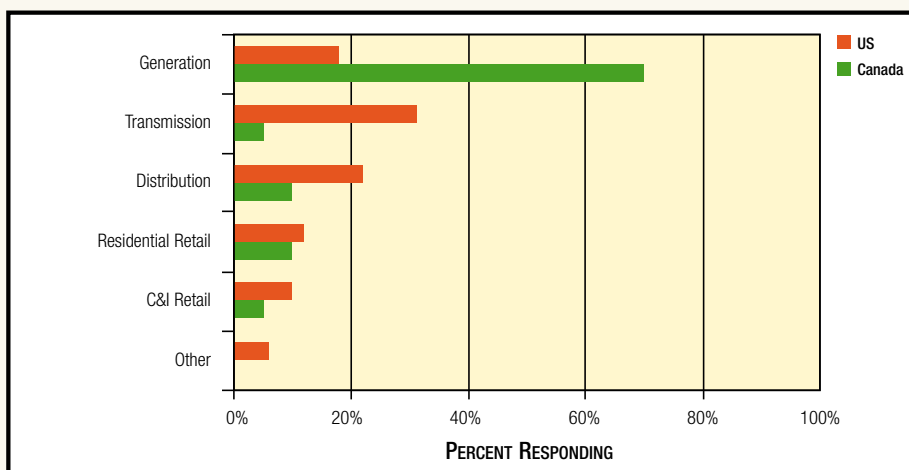
A: Consistent with what the “grapevine” is saying, industry leadership believes that the pace of M&A activity is picking up, with the most action in contiguous geographies and in transmission with three quarters of the leadership expecting this is “somewhat or very likely.” Foreign buyers and the oil companies are not perceived to be major players by a majority.



Transmission has replaced generation and telecom as the most profitable sector in which to invest, the survey finds. And the most capital is going to be spent on transmission. There will be significant acquisitions of transmission assets. Margins are expected to exceed that of other sectors because transmission will remain regulated and FERC is allowing higher returns. “Transmission will be the other area with a lot of growth,” Gale surmises. “I think a lot of utilities for the first time are willing to look at selling their own regulated transmission.”

Q: Five-year outlook: Which segment of the industry will be most profitable in the next five years?

A: Five years from now, the place to be is transmission and distribution. Regulated “wires” is believed by Americans to be the most profitable sector in the U.S. For Canadians, generation is favored. Residential retail will a little more profitable than commercial and industrial retail, but neither is seen as profitable as wires and generation.



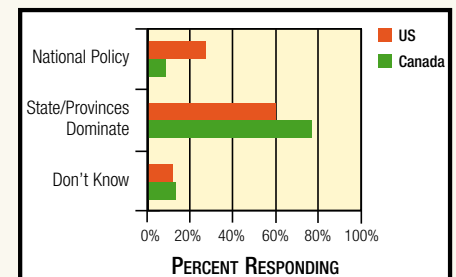
The Outlook finds the industry leadership already sees a decline in reliability for which competition is partly responsible, but is not too concerned with supply-

demand problems or changes in demand growth.

But concerning what to do to improve reliability, Gale notes, “there is a very strong consensus that it would be four or more years before FERC does anything with any kind of market design.” (That is not tied to the energy legislation having failed because the question was asked before that happened.)

Q: Do you see an effective national electricity policy emerging in the foreseeable future?

A: The leadership is understandably pessimistic about the potential for Congress and FERC to craft a national electricity policy with only a little more than one quarter (28 percent) remaining convinced. Canadians are more pessimistic, reflecting, GF Energy assumes, Canada’s weaker federal government powers.

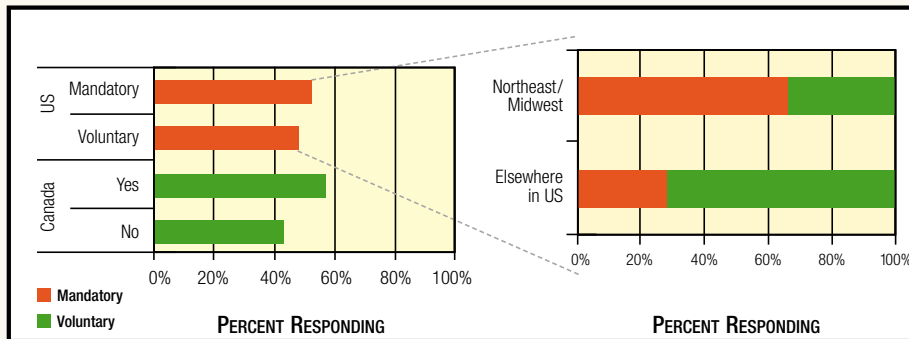


The survey finds the industry is evenly divided on mandatory versus voluntary RTO membership. Gale explains that the survey in 2000 predicted there would be much more activity on the RTO front, that there would be a small number of RTOs to which everyone would belong, but clearly that has not happened.

Q: What are regional differences on the RTO membership question?

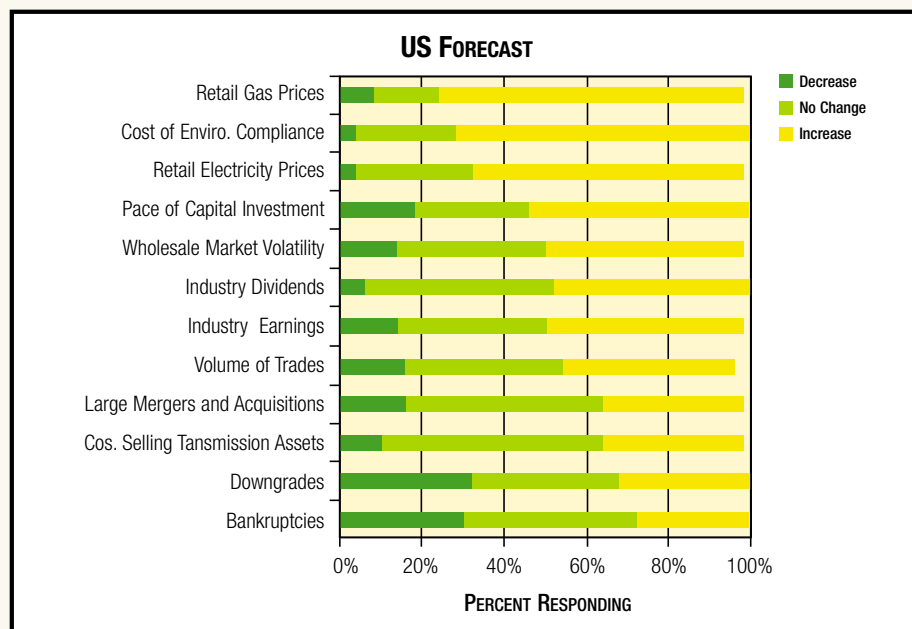
A: The U.S. is evenly split on whether RTO membership should be voluntary or mandatory, but there are large regional differences. The Northeast/Midwest, where the majority of the »

companies are located and the population is concentrated, is much more in favor of mandatory membership than the rest of the U.S. Canadians also are split, but more than half assume there will be mandatory membership for U.S. companies. Therefore, they likely will join border-facing RTOs.



Sixty-eight percent say they are in favor of staying the course on deregulation, but regionally there is a lot less interest on that course of action in the south. The Northeast and Midwest are much more positive about deregulation than other regions, such as the Northwest and the South.

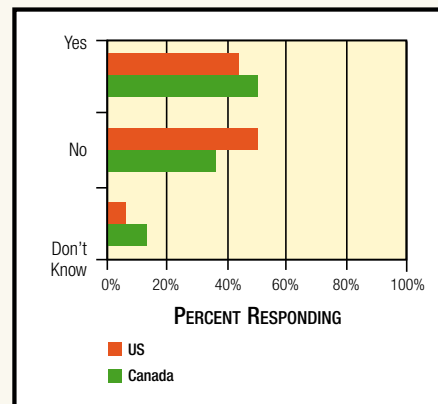
Q: 2004 U.S. Industry Forecast: In 2004 do you expect the following to increase, decrease or stay the same?



- The three biggest increases expected in the next year are natural gas prices, the cost of environmental compliance and retail electricity prices;
- Companies continue to worry about wholesale market volatility, largely because of the continued illiquidity in electric markets;
- About one quarter of the leadership expect earnings to increase and about half expect increased capital investment; and
- Most leaders believe bankruptcies and downgrades will level out or decrease in number.

Q: Do you think general industry restructuring will pick up speed in 2004?

A: The industry's leadership is nearly evenly divided on whether or not industry restructuring will pick up in 2004, reflecting the uncertain status of FERC initiatives and energy legislation. The responses to many other survey questions suggest that even among those who expect restructuring activity to pick up, the revival will be far more modest than during the 1990s.



The Outlook overall finds that the industry agrees that the past four to five years have been the most traumatic in the history on the industry. The 2000 Outlook said: "The transition to competition will take a lot more time, and there will be a lot more twists and turns before a new industry emerges. Linear thinking doesn't work to understand where we are going; better models are discontinuity or chaos theory." That statement, unfortunately, has been proven correct. ■

Lori A. Burkhart is contributing legal editor at Public Utilities Fortnightly magazine.



INTERVIEW

Q&A With NARUC's New President Stan Wise

BY LORI A. BURKHART



Stan Wise

Fortnightly's *Spark* brings you an exclusive interview with Stan Wise, the newly elected president of the National Association of Regulatory Utility Commissioners. Wise presently serves on the Georgia Public Service Commission. The reader will hear in his own words what issues NARUC believes to be the most important in 2004. Wise discusses the state regulators' relationship with their federal counterparts, as well as why it is important to move forward despite gridlock in Congress over a national energy policy. Wise candidly speaks his mind, rather than just spouting the NARUC party line, evidence that NARUC indeed has chosen a true leader.

SPARK: What are the biggest issues for NARUC in 2004?

Stan Wise: One of the things we really are starting to focus on comes out of the National Petroleum Council's (NPC) recent report on balancing natural gas policy¹. It really is a focal point that I think is vital for us in this country, so that we have a policy surrounding gas supply and energy supply for the next decade or next two decades that is consistent. Commissioner Bob Keating of Massachusetts was very involved with that report on behalf of Massachusetts and NARUC as gas committee chairman. I think the report raises the issues of supply and demand. It raises the issue of balance, of where will we generate

our energy needs for the years to come. Is it liquefied natural gas (LNG), is it imports? Gas-fired generation has grown significantly in the last decade and really there should be no abatement in the near future. I think that we need to focus on our partners to the north and the south—Mexico and Canada. I am looking for increased ties between NARUC and our Canadian regulators. I see this country continuing to gain reliability through partnerships with our Canadian neighbors and our Mexican neighbors. I think it is vital that we strengthen those relationships. And we are going to do that. The message of the NPC and work of Bob Keating is recognizing the need for additional sources of energy—it is vital for this country.

I hope that we continue to work with Congress in a solid way and send a strong message about what our needs are from the regulatory point of view. One of the things I hope we continue to do is strengthen our relationships with our federal partners.

SPARK: How would you describe NARUC's relationship with the Federal Energy Regulatory Commission?

Stan Wise: I think, partly because of our regional differences, it has been a little strained. But the FERC is doing so many things right, that even where we have our regional differences, and where there might be strident voices at times on some of these issues, I think the role of NARUC has been one of trying to work in partnership with FERC. The most recent example is FERC saying, "Well it did not come out of Con-

gress, but there is no reason as a regulatory body not to go forward on reliability rules and strengthening reliability around this country." Reliability issues are important and I applaud FERC for moving forward and giving us that blueprint.

Don't stand there and tell me Congress should have or shouldn't have passed the energy legislation, they didn't and they may, but in the meantime we are not going to be caught standing still. Pat (Wood) and Nora (Brownell) really have done a great job to go ahead and spur that, and it may alienate some people in Congress or some of the state commissions, but I think you have to move forward, you have got to do something. As we say down here, sometimes you have got to put the skunk on the table.

SPARK: What about NARUC's relationship with the Federal Communications Commission?

Stan Wise: Sometimes the state commissions have been crossways with Chairman Powell. I think on some of these telephone issues we have not marched to the drum the Chairman is beating. But again, here is a man that is actively engaged in working to try to make the process work. What makes it so hard is it is an industry—the telecom industry—that is distressed. Not all their fault, but certainly in a transition period during this move to competition and a competitive marketplace. And we have been such beneficiaries of new technology and wonderful new innovations that we have seen in the last ten or twenty years. It has come about from this competitive arena, from new technology that has been brought to bear because of the opportunity to trot it out and not be bound by regulatory control—and I love that message that the Chairman has put out. Even where we disagree at what pace that the Bells are freed from regulatory control, I think that's a message that we are just going to have to deal with. I really am intrigued with what he has been saying recently, "go slow and »

tread lightly on VOIP (voice over the Internet protocol).” There may be something to that. In some regulator’s minds they are thinking we have to go ahead and put in universal service fees and access fees and regulate the stew out of them, but this is new technology. Let’s see if this will work without regulatory interference, and so I’m prepared to go ahead and say yes, let’s give the Chairman’s vision of a light touch on VOIP a chance, and see if this new technology doesn’t drive it. Because if the wire-line industry is a dying industry, then maybe this is the first step towards the competitive markets actually taking over. Then let the strong survive, let them make their way. The toughest part for some is going to be their time in the capital markets and finding out where they are going to raise their money. But with the new innovations when wireless became the rage not that many years ago, somehow the start-ups didn’t seem to have any problems finding capitalization then. Macaw and others made a lot of money. Certainly some of the bigger players bought Macaw and others out, but it worked. We have wireless technology today because of new innovations. I think that is important.

SPARK: Are you hoping the FCC is going to make some changes?

Stan Wise: This may be contrary to some of NARUC’s public positions on VOIP, so I may be talking counter to what we have published, but I think we should give the Chairman’s vision a chance to work. These are wonderful public servants, they take a lot of heat at the worst possible times and yet they move to Washington and they stay for three or five or eight years, just a short time, yet they are committed to the job. I don’t think they are much different than us, except that their stage is brighter, the issues are on the national

I think that we’ll see more and more push for nuclear power once again.

forefront and the criticisms come a little harder. I think we need to remember they take a pretty good whipping every once in awhile too, and not always of their own making.

SPARK: What about the resurgence of nuclear power, is that realistic?

Stan Wise: Ultimately as we see the push for cleaner air, whether it comes out of the states, or comes from Washington, we are going to see cost added to electricity. Because of that, and as that curve of increasing costs escalates, I think that we’ll see more and more push for nuclear power once again. I think that the Bush Administration has seen that and recognized that, and I have called for NARUC to start the process of a streamlined state process where when and if we start to see nuclear licensing once again raise its head, whether its eight or ten or fifteen years from now, that the states are consistent in their process. That it is a process where we are not surprised by the demand for state oversight. It is going to be something that we don’t need to be confused about, or say we are not prepared for, because of state budget concerns and personnel. We need to be prepared.

SPARK: Must a national energy policy come from the U.S. Congress?

Stan Wise: That would be a great first step. I do think this demand for national energy policy is vital and I believe if we

are going to be a nation of energy independents, we have got to do that. But I think that the National Petroleum Council’s report is important as well. We have a growing, vibrant nation, and even with economic cycles the need for energy is going to be there. I don’t think we need to meet that by ruining our environment—if we are ruining our environment—and I’m not casting any aspersions, but there is a give and take to what we do. But as we become a more populous nation, then there has got to be balance.

SPARK: What is the future of NARUC?

Stan Wise: NARUC has been around a long time and may be one of the longest-serving trade associations in Washington. Our focus has changed from the old days of regulating railroads. I was naïve enough to believe when I first came into office to think that as we went into the competitive marketplace that we would see less of a need for public service commissions and that we could become extinct over time. There was a certain naïveté that in 1994 this commissioner was not privy to the fact that in the competitive arena our roles became more important. Maybe not as many large cases but certainly many more smaller dockets are in front of the Georgia commission. My relationship with commissioners from other states has been vital. It is amazing to me the diversity of views and differences in people and personal, yet all the commissioners are very committed to what they do. ■

Footnote

1. The National Petroleum Council (NPC) calls itself an oil and natural gas advisory committee to the Secretary of Energy. The report, “Balancing Natural Gas Policy—Fueling the Demands of a Growing Economy,” can be downloaded at: www.npc.org.



ENERGY

(Continued from p. 4)

may be limited by thermal capability, voltage profile, short-circuit capability or stability. The power flow model used to represent the Entergy transmission system includes over 1,600 transmission elements at voltage levels of 115 kV and above. If each contingency and monitored element pair were considered in the calculation of transfer capability, then over 2.5 million flowgates would be monitored. But Entergy has simplified the process, and proposes now only to monitor about 500 flowgates—mostly its own facilities, but some include facilities owned by other carriers.

Entergy believed that its AFC plan would benefit merchants by evaluating all transmission service requests with the same sort of flow-based, source-to-sink analysis typically reserved for an SIS, but would provide this greater level of detail without forcing customers to pay for transaction-specific studies and without requiring the time-consuming process of submitting study agreements and updating off-line planning models with input from individual engineers.

But there are drawbacks. Above all, note that Entergy's new ATC/AFC system would be purely physical in its orientation, rather than financial, as in PJM or New England. This point is not lost on Entergy's critics. With the demise of SeTrans, which Entergy had been counting on to set up an RTO-style, day-ahead market, with financial rights and locational pricing, the critics wanted Entergy to take over that job. As these critics pointed out, a purely physical system would appear "non-transparent" and inevitably would raise questions, such as how Entergy planned to measure and credit merchant bidders for offering counterflows to relieve pressure on flowgates.

In a financial LMP system, merchants don't need to know the exact physical limitations of particular grid elements, or how they are affected by

MERCHANT POWER: TOO COSTLY?

In September Entergy CEO J. Wayne Leonard sent a letter to FERC's Nora Brownell to explain why power imports from merchant generating plants don't look as good as they seem at first blush.

Leonard argued that "merchant capacity is generally offered at a price above the cost of running our own plants, before even considering the additional cost of transmission."

He says the cheaper merchant bids are typically too inflexible to meet the time-specific needs of a retail utility. And when the merchants make their offers more flexible, then the price goes up, he says:

- **On load characteristics ...**

As you know, our remaining energy displacement opportunity is largely load following. Merchant units used for load following would typically displace our existing gas/oil units at an effective capacity factor of 30 percent or less even if we were to retire those existing units ... any additional merchant output in excess of the capacity factor of our displaced load-following units would typically be displacing block or economy purchases.

- **On physical realities ...**

In the year ended May 2003, approximately 35 percent of the energy produced by our gas/oil stem capacity was minimum generation from units running to provide voltage support. Merchant units sited outside the regions where voltage support is needed cannot displace much of [that] energy ...

- **On the quantity of bids ...**

In most weeks less than 50 percent of the merchant capacity is even offered.

- **On comparative efficiencies ...**

In contrast to the 6,000 to 7,000 Btu/kWh merchant heat rates assumed [for study purposes], the MWh-weighted average of the merchant bids we have received over the period from February through June 2003 has been approximately 9,200 Btu/kWh. Further, these bids have generally been to provide block-like (e.g., 7x24 or 5x16) [days x hours], rather than dispatchable ... cycling operation [by the merchants] tends to result in increases in either heat rate, O&M, or both, relative to more stable operation.

(Source: FERC Docket No. EL02-132, filed Sept. 17, 2003.)

changes in flow direction or magnitude. The LMP algorithm takes care of that. Instead, merchants can simply eye the price for their plant's location, and make a move when the price is right.

A Surrogate RTO?

Entergy sees its program as a way for a vertically integrated and regulated utility to deal with the emergence of a deregulated merchant power sector. Others see the move as some sort of stealth RTO.

To illustrate, Entergy seeks authority to implement participant funding for transmission upgrades required to

accommodate new merchant plants that connect with the Entergy grid. The Arkansas Public Service Commission and the City Council of New Orleans say they favor participant funding. (The generators and market participants would pay for the upgrades, and receive transmission rate credits in return. With an RTO structure, the holders might then trade their credits for financial grid rights.)

In this case, the would-be SeTrans RTO was supposed to have taken the lead on participant funding. But now, with its demise, some warn against allowing Entergy to develop partici- ►►

pant funding on its own, without an RTO structure. A group of cooperatives and municipal utilities from Arkansas and Louisiana advise regulators to wait for a real RTO:

"The [WPP] filing features a very small number of purportedly 'RTO-like' attributes ... in the apparent hope that the Commission will deem it 'close enough' to warrant authorization for participant funding.

"The commission should not allow itself to be swayed by this tactic. At bottom, Entergy's proposal bears no meaningful resemblance to anything approaching an RTO." (*See, Motion and protest of Ark. Elec. Co-op., La. Energy & Pwr. Auth., Muni. Energy Agency of Miss., Lafayette Utils. Sys., FERC Docket No. EL03-132, filed July 10, 2003.*)

But is the overall plan good for merchant power?

In its most recent status report, filed in November, Entergy noted that during its initial implementation period following FERC approval, in the sum-

mer of 2003, that the GOL process had made more transfer capability available than actually was requested by merchant generators or Entergy, at least on an aggregate basis. (*Report of Entergy Services, Inc., FERC Docket No. ER02-2014-006, filed Nov. 3, 2003.*)

Nevertheless, Entergy also observed that it had seen a fundamental shift during summer 2003 in the types and levels of transmission service requested by merchant generators. Previously, Independent Power Producers (IPPs) had intended 85 percent of their megawatt-hours (MWh) of transmission service requests (TSRs) to be used for export, to serve load outside of Entergy's control area. But during the implementation period, 77 percent of MWh capacity was requested to serve load internal to the Entergy area, and the volume of TSRs had dropped overall. Entergy said it was not sure what had caused this shift, or what it might mean.

Moreover, the evidence seemed to indicate that if IPPs failed to qualify for

grid service under the ATC/GOL tests during the summer 2003 test period, that they could improve their lot by asking for a recount through a traditional SIS. For example, while IPPs gained acceptance for about half of their MW-days of TSRs for internal loads using the ATC/GOL system (about 145,000 of 282,000 requested MW-days), they nevertheless were able to win OK for another 58,000 MW-days by asking for an SIS. That might imply that the ATC/GOL test was too restrictive.

In comments filed after the December technical conferences, InterGen Services, Inc., raised just that complaint, observing that Entergy data for external TSRs (IPP requests to export power to serve outside load) "would indicate that for approximately 80.5 percent of the MW-days where an SIS was requested, there was excess capacity available beyond that indicated by GOLs.

"Thus, GOLs fail to capture ... customers not actually scheduling transmission that was confirmed, »

Tell Us About It

Fortnightly's Spark is interested in hearing from you. We want to know what you think about prevailing issues that may or may not be mentioned in this issue. Be advised *Spark* may publish your thoughts.

To get things started, *Spark* noted that the first week back at business in 2004, U.S. Senate Minority Leader Tom Daschle (D-SD) gave the following response when questioned about the energy bill. "I'll repeat my offer today. I believe that I can produce four, five, maybe even six votes for the energy bill if the MTBE legislation is taken out. So far, for whatever reason, the Republicans in the house and apparently in the administration have refused to take me up on that offer. My offer stands. We can pass this legislation. To hold it hostage to MTBE legislation is a situation I cannot understand." (*Note that Daschle did not include the energy bill in his list of top items for opening days of the new session.*)

Spark wants to know what you think the chances are for passage of a comprehensive energy bill in 2004? Send your responses to radford@pur.com.



redispatches, change in load, or other system developments that may provide additional transmission capability.” Entergy, for its part, answers that an increase in acceptances using an SIS would make perfect sense, since, after all, an SIS reflects later-known facts than those analyzed in the GOL test performed before the fact.

To be fair, however, the weaknesses in the GOL regime have been known all along. That’s why Entergy proposed at the end of last summer to replace its GOL system with the more dynamic AFC test. NRG, the largest third-party LSE within the Entergy footprint, admitted as such in praising the move in theory:

“The resynchronization of the AFC values on an hourly basis should increase the accuracy of those [GOL] value,” noted NRG. “The ability to capture the impact of simultaneous reservations, update outage and load forecasts, and modify the unit commitment models should also improve the accuracy of AFC values.”

There has been murmuring on whether the AFC software will work. At least one IPP wants to delay next summer’s AFC startup (planned for April) to allow Entergy to test its AFC algorithm against GOL results for the prior year, to get a feel for the new system. But Entergy seems to have put those fears at rest, explaining that while the software for the WPP system was still under development, the AFC system was a separate matter:

“The primary justification for delaying implementation of the AFC process appears to be the mistaken belief that the AFC software is not yet developed,” the utility explained. “The optimization software for the WPP is separate.

“The basic AFC software was developed several years ago and is currently in place for SPP and MISO. [We] selected the same vendor (ESCA) to develop the OASIS Automation and RFCalc software for [us]. ... The contractor ... is expected to begin installation ... and training ... sometime in January.”

Entergy says the merchants are “mistaken” if they think that its flowgate system is a surrogate for locational marginal pricing.

Yet the merchant generators have more serious complaints. And at the core, these complaints all come down to the question of whether Entergy can succeed with a purely physical system of allocating scarce transmission capacity, or whether, in the long run, the utility and its customers will find it necessary to develop a financial rights system, with locational pricing, where the traders jockey for grid position by competing on price.

On the technical front, IPPs say that a physical system of monitoring some 500 flowgates is just too complex. How, for instance, will they calculate or gain credit for relieving constraints by offering counterflows?

Entergy had explained earlier, last October, that it would not have to monitor 500 flowgates, but only the “most limiting” flowgates for each source-sink pair that are “significantly” impacted:

“RFCalc select[s] the 15 most constrained flowgates ... If the AFC value on any one of those 15 flowgates remains positive or equal to zero after taking into account the impact of the transmission service request, the request will be granted.” [Otherwise, the request will be denied, unless transmission service of a lower priority may be preempted to bring the AFC valve

back to zero or positive. If preempting does that, then service will be granted.]

And then, January 7, 2004, Entergy adamantly rejected any notion that it should have to list all monitored flowgates in tariffs filed at FERC:

“Temporary transmission outages sometimes necessitate that Entergy monitor other secondary flowgates that do not have to be otherwise monitored in the normal course ... Once the outage terminates, the secondary flowgate is no longer required. The absurdity of requiring Entergy to submit a filing [Federal Power Act Sec. 205] is self-evident.”

Then there is the question of markets. What if AFC limits are exceeded for a particular transaction and the power producer wants to explore the SIS process, including a possible redispatch?

Intergen acknowledges that FERC OK’d the GOL program without requiring a redispatch protocol as an adjunct, but sees things differently with a flow-based system:

What Intergen and others are aiming for is a real market-clearing price, like an RTO would offer, with locational pricing based on a security constrained economic dispatch SCED. The point is not lost on Entergy, which admitted at the December conference that its proposal was “a cousin” to SCED, but not the equivalent. Later, in January, Entergy said Intergen’s argument was based on “the mistaken assumption” that flowgates are a real-time alternative to LMP.

“The assumption is simply wrong,” wrote Entergy. “The AFC process is simply a more efficient and accurate method for evaluating transfer capability with automated power flow studies.”

Yet it may prove difficult for Entergy to distance itself from this issue. Entergy itself has proposed to include some sort of re-dispatch program in its WPP plan, so that if merchant generators submit a winning bid but can’t gain grid access because of a lack of available flowgate capacity, they can »

re-submit the transaction to Entergy's transmission division, which will study the matter and consider some sort of re-dispatch to accommodate the deal, with the merchant paying the re-dispatch cost.

But what is the cost? Entergy has not explained. RTOs accomplish redispatch by calculating LMPs and forcing buyers to pay sellers a bid-ask differential to compensate for (and relieve) the congestion. Yet, without a market-clearing price, Entergy would have to fall back on the embedded costs of network resources, including its own plants. Won't it be tempted to tilt the procedure to protect high-cost, base-load units, like nuclear? Some describe the Entergy proposal as a "black box." Others argue that the "base case" used for calculating redispatch costs should include not just Entergy plants, but some amount of merchant generation. Calpine, for one, calls the Entergy plan "problematic" on at least two counts.

First, says Calpine, Entergy will determine re-dispatch costs unilaterally, "in the absence of any market signal." Second, it adds, IPPs will have trouble competing against Entergy's fleet because the former are charged for redispatch while the latter obtain it free of charge."

The Fate of the Ratepayers

With its plan to solicit offers from third-party suppliers in a physical-only, pay-as-bid auction, Entergy would compare its incumbent generation to merchant power only on the basis of variable cost. That exposes Entergy's oil- and gas-fired plants to potentially more efficient merchant fleets, but makes Entergy's nuclear and coal-fired plants virtually uncontestable, since they enjoy extremely low marginal costs, despite their high initial capital costs.

Moreover, it leaves a good portion of Entergy's retail cost structure unchanged. As the utility explains, [t]his process will not affect the retail rate-making treatment of Entergy's actual costs incurred in producing

energy from its own units."

Thus, Entergy's own retail ratepayers will continue to pay Entergy a bundled rate that includes the fixed costs of Entergy's existing generation fleet, including coal-fired and nuclear plants. So where are the savings?

Dynergy asks that question, suggesting that if ratepayers don't save, then at least the merchants should benefit. Thus, FERC should OK the plan only if it forces Entergy to pay some level of fixed costs to the merchants:

"This is not to say that Entergy's ratepayers must pay twice," says Dynergy, "but merely that, as Entergy will be receiving fixed cost payments while not running less-efficient generation, a portion of those payments should be passed on to the winning bidders."

Tractabel goes further, charging that "unless Entergy has to bid fully loaded fixed ... and variable costs, the auction will be a sham."

Entergy, of course, has responded in kind:

"It would require [us] to incur stranded costs ... This is plainly inconsistent with Commission policy."

Entergy adds that it would not save any money for its ratepayers. For example, assume a gas-fired Entergy plant with variable cost of \$40/MWh and a fixed cost of \$20/MWh (\$60/MWh total cost), competing against a merchant plan with a \$30 variable cost. If the merchant now bids \$45 (getting \$15 to cover its fixed cost), Entergy must accept the bid, forcing its ratepayers to pay \$65—that's \$45 for the power and \$20 to cover Entergy's fixed cost. That amounts to a \$5 rate hike above the \$60 they are already paying.

As Entergy puts it, the unfairness comes because sunk costs "cannot be avoided." In other words, the idea of inviting merchant power producers to bid in against a utility's incumbent generation is OK, but only if it doesn't hurt the utility in the pocketbook. ■

Bruce W. Radford is editor-in-chief of Public Utilities Fortnightly magazine.

Next Month's FORTNIGHTLY

Fortnightly magazine goes international in February as it focuses on the growing European Union with its investment challenges and corresponding opportunities as the EU adds new members.

Here is a glimpse of what you'll find:

▶ Europe Rewired: A Giant Awakens

The emerging EU energy market faces barriers to competition and regional integration, exacerbated by the exodus of American companies from the market and the heightened trend toward oligopoly control. But still, European integration is moving at a faster pace than American initiatives.

▶ European Infrastructure: Billions Needed in Investment

A legal and institutional regulatory framework for the EU should spur significant infrastructure investment in the region, but only if 15 nations can manage to harmonize their regulatory regimes.

▶ Plants for Sale: Pricing the New Wave

Approximately 60 generation asset sales have been announced in the past two years, and future transaction activity is likely to accelerate. Who are the players, and where might the available plants be located?

▶ The Talent Bubble

Many utilities are sounding alarm bells about an impending shortage of skilled personnel—even amid flat industry growth and high unemployment rates. Who will replace the retiring Baby Boomers?