

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26

UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

- - - - -x  
PROMOTING REGIONAL TRANSMISSION : Docket No.  
PLANNING AND EXPANSION TO : AD05-3-000  
FACILITATE FUEL DIVERSITY :  
INCLUDING EXPANDED USES OF :  
COAL-FIRED RESOURCES :  
- - - - -x

Salon D-F  
Charleston Marriott Town Center  
200 Lee Street East  
Charleston, West Virginia  
Friday, May 13, 2005

The above-entitled matter came on for technical  
conference, pursuant to notice, at 8:40 a.m.

PRESIDING: Chairman Pat Wood, III

## P R O C E E D I N G S

(8:40 a.m.)

CHAIRMAN WOOD: Good morning, everybody. I'm Pat Wood, Chairman of the Federal Energy Regulatory Commission, and my colleague, Nora Brownell, and I would like to welcome all of y'all to our conference on coal, officially called the Conference on Promoting Regional Transmission Planning and Expansion to Facilitate Fuel Diversity, Including Expanded Uses of Coal-Fired Resources.

That is actually our largest official conference title of any conference we have ever had.

(Laughter.)

CHAIRMAN WOOD: That means that we've got a lot to cover today, and I appreciate y'all coming to Charleston and coming out here to this nice hotel. I appreciate the help from the folks at Marriott here, to make this a good, productive day for us.

Over the past year, the Commission has had a series of conferences to explore what regulatory actions we can take to increase the production of electric energy, from intermittent energy resources such as wind and potential solutions to impediments in investment in electric transmission infrastructure.

The goal of today's technical conference is to explore possible policy changes that would better

1 accommodate, in particular, the increased participation of  
2 coal-fired energy in the wholesale markets of our country.

3 We have a full day of informative discussions in  
4 store for you, and, particularly, for us. David, our  
5 transcriber, is here to make sure we have an official record  
6 upon which we can base future policies at our Commission, so  
7 if he needs to interrupt you to get a word corrected or a  
8 name spelling, please accommodate him on that.

9 So, we look forward to looking at clean coal  
10 technology, all the way to regional planning in the  
11 afternoon, but to start it off, we're honored to have a  
12 special guest here, as we have had on so many of our  
13 infrastructure conferences across the country for the past  
14 four years, the Chief Executive and Governor of the State of  
15 West Virginia.

16 Governor Manchin is the 34th Governor of the  
17 State, and he was born and raised in the coal town of  
18 Farmington, West Virginia, and I should add, Governor, that  
19 two of our top agency staffers, Mr. Larcamp -- where are  
20 you, Dan? Dan, who you met coming through the door, Dan is  
21 from St. Albans right across the River, and so is the Chief  
22 of our Infrastructure Division, Mark Robinson.

23 And in the other coal country, I've got my Chief  
24 of Staff, Susan Court, who is from Kentucky, so it's a real  
25 duke out between where we would do the coal conference in  
26

1 Kentucky, or do we do it here in Charleston, and Mr. Larcamp  
2 is the largest of those three people, so he wins.

3 (Laughter.)

4 CHAIRMAN WOOD: As he usually does around the  
5 Commission, so we're thrilled to be in your home state.

6 The Governor attended West Virginia University on  
7 a scholarship, and served on -- on a football scholarship, I  
8 should say -- I think they just grow them all big down here  
9 in West Virginia.

10 (Laughter.)

11 CHAIRMAN WOOD: He was a member of the House of  
12 Delegates in the State Senate and was elected earlier this  
13 year, after serving as Secretary of State here in the State  
14 of West Virginia. He is as popular in West Virginia as the  
15 Commission is unpopular in California, and that is a  
16 wonderful, wonderful honor to have, Governor, and we're  
17 pleased and honored to have you here, and welcome you to the  
18 podium.

19 (Applause.)

20 GOVERNOR MANCHIN: Thank you. Thank you so much,  
21 thank you.

22 First of all, Pat, we want to thank you for  
23 choosing West Virginia. We think that you should be making  
24 your decisions based on the percentage of your economy that  
25 really deals around coal. Since there's not really many  
26

1 portions of our state that are not affected by the coal  
2 industry, and Billy Jack will tell you that, that we think  
3 it's befitting that you do come to West Virginia, even  
4 though he might be larger than the other ones around.

5 (Laughter.)

6 GOVERNOR MANCHIN: And also, we would like for  
7 you to know that we have a nice mall across the street.

8 CHAIRMAN WOOD: We saw it last night.

9 GOVERNOR MANCHIN: And we have another  
10 entertainment center up on the corridor, going down towards  
11 Huntington, that you might enjoy, if you like to watch dogs  
12 and you're into pets.

13 (Laughter.)

14 GOVERNOR MANCHIN: And whatever you do, please  
15 spend as much as you can while you're here; we appreciate  
16 it.

17 (Laughter.)

18 GOVERNOR MANCHIN: It's certainly befitting that  
19 we talk about coal-fired energy. I had a chance to go to  
20 the National Governors Association meeting, my first, that I  
21 attended in February.

22 And with that, I had the chance to talk on the  
23 Energy Committee, and, of course, the Governor of Alaska  
24 gave me a chance to make a presentation. And I'm trying to  
25 urge all of them to look at coal and at the new technologies  
26

1       that we can use with coal to make coal a viable energy for  
2       the future.

3               Like most states, in West Virginia, we're looking  
4       to put together a long-term plan for our energy, and I'm  
5       hoping that this country does the same also. Coal plays a  
6       vital part. We still have an awful lot of reserves in West  
7       Virginia, and we believe that we can play a vital part in  
8       supplying a lot of the Northeast with the energy that it  
9       really needs, and do it in a safe environment, and also one  
10      that's going to be long-lasting for the State of West  
11      Virginia, economically.

12             The coal industry -- and I've told them and we've  
13      watched the dips and valleys and the high points on the  
14      mountain, but basically we go through this cyclical era with  
15      coal, because of the nature of the market.

16             What is happening -- and I told -- and when I  
17      said to the NGA, I said, we better be looking at how do we  
18      stabilize this industry, because we are not able to produce  
19      the workers that will be able to produce the coal. We don't  
20      have people going into this profession because their parents  
21      have been in it and seen the highs and the lows, and they  
22      said, hey, I don't want you to go into that profession.

23             Now we have a demand for the product, and we  
24      can't get it out of the ground because we don't have the  
25      people. We have a hard time meeting that, and, with that, I  
26

1 think the Federal Government needs to get its basically  
2 direction on what we're going to do with the coal industry,  
3 how we're going to work with it and how we're going to make  
4 it a premier energy that we have, as far as resources for  
5 the future.

6 Clean coal technology -- I see my good friend  
7 Dana White over here from AEP, and we're working with coal  
8 gasification. Of course, they have on the a design table  
9 right now, maybe a plan or two that they're talking about,  
10 that is going to catapult, I think, into the next phase.

11 I had a chance to go to the Gridiron Dinner. I  
12 don't know if you've ever been to the Gridiron Dinner, but  
13 it's really something. The President was sitting there. I  
14 had met him earlier, so I went to talk to him. I said, Mr.  
15 President, you need to build that future plant in West  
16 Virginia. It's truly the only place it should be. I said,  
17 we can do it all.

18 He said, well, you go over and tell Carl Rove  
19 that that's where it needs to be. I said, hey, Carl, the  
20 President told me to come tell you that --

21 (Laughter.)

22 GOVERNOR MANCHIN: You know, I took him serious.  
23 So I'm on and going on and going on and going on, and  
24 everything, and then Jim Knaughten I have become fairly good  
25 friends, and we've worked together on some issues, but we're  
26

1 moving ahead.

2 I want you to know, I want all of you from around  
3 your respective areas to know that West Virginia is proud of  
4 its heritage. We're proud of who we are; we're proud of  
5 what part we've played in the development of this country.

6 Coal has been in then forefront, every time. I  
7 always tell people, I say, we come from a little state  
8 that's probably one of the most patriotic states in the  
9 nation. We have more veterans, on a per capita basis, than  
10 most other states. We fought in the World Wars and  
11 conflicts, shed more blood, lost more lives for the cause of  
12 freedom, than most other states have had to endure.

13 We also mined the coal to make the steel to build  
14 the buildings, the guns and ships, even today. So we've  
15 been to the forefront every time, but we're proud of our  
16 coal heritage.

17 There's not a person of the 1,800,000 of us that  
18 hasn't benefitted by the coal industry in West Virginia,  
19 either through our education and extracurricular activity,  
20 whatever it may be, or our jobs in life, the coal industry  
21 has been good to us.

22 We need to find a way to kind of blend it more  
23 and harmonize it more with our economy, to where it's more  
24 acceptable. We look to you all for the answers that we need  
25 to make this happen.

26



1                   We basically look for the new technology that's  
2                   needed to make it more acceptable. We need to get New York  
3                   and some of the Northeastern states to quit suing us and  
4                   taking us to task, every time they get a little bit of puff  
5                   of smoke coming their way. But they sure do like that  
6                   switch. They like to flip that switch on and off all the  
7                   time.

8                   They need to find out how do we all start working  
9                   and learning in harmony. And that's what we're trying to  
10                  do.

11                  I'm just going -- I'm a big promoter of this. I  
12                  believe in it; I believe in the technology that we can do,  
13                  the fuels that we can do, and also not only just to light  
14                  our homes or heat our homes, but also the fuel that we can,  
15                  with the technology, move into the next realm to where we  
16                  can power our automobiles, our transportation systems,  
17                  everything, and I think we need to start looking that far  
18                  down.

19                  So, I just wanted to say thank you for choosing  
20                  West Virginia. I think you're going to find a very, very  
21                  friendly environment that welcomes you here, that really  
22                  appreciates you making the effort and commitment to come to  
23                  West Virginia.

24                  Hopefully, we can show you a little bit of our  
25                  southern hospitality. We can go either way. We're Mason-

26

1 Dixon. You see, if you like that northern, Yankee draw, we  
2 can give you that, and we can come back to that southern  
3 draw, so we're pretty flexible here.

4 But I do thank you all for coming, and I hope you  
5 enjoy your stay, and we appreciate your choosing West  
6 Virginia and Charleston. Thank you.

7 (Applause.)

8 CHAIRMAN WOOD: While the Governor is leaving, I  
9 wanted to mention that we had a chance to visit with the  
10 head of the West Virginia Institute of Technology last  
11 night, Dr. Bayless. Is Dr. Bayless in here yet?

12 (No response.)

13 CHAIRMAN WOOD: He might be here. He's on a  
14 panel later today. He was talking about the need for  
15 training. This is one I see when I go to my alma mater,  
16 Texas A&M, how many of the young students are not  
17 participating in the programs that we're going to need for  
18 energy development for the coming generation.

19 And I was really pleased that Dr. Bayless and the  
20 Governor and the Legislature here are considering, in the  
21 way of more educational opportunities for young students to  
22 pursue energy development careers. That is where you've got  
23 to start. If you don't have people, as we saw in the Wall  
24 Street Journal this week -- there's a big article about the  
25 future shortage of coal workers.

26

1                   In a state like this and in Kentucky and Wyoming  
2                   and some of the other states where this happens, that's a  
3                   critical need that we're all going to have. So, talking  
4                   about the coal in the ground is great, but it's got to get  
5                   out and it's got to get into a machine and that machine's  
6                   got to use the new technologies and be clean to do it, which  
7                   will be our first panel.

8                   But before we do that, I want to introduce some  
9                   special guests, our colleagues at the state level. We can't  
10                  make this happen as a country, without the close cooperation  
11                  between the Federal Government and all of its many Cabinets  
12                  and Departments and our colleagues at the state level.

13                  We're pleased to have here, the Chairman of the  
14                  Commission here in West Virginia, Chairman Ed Staats. Ed's  
15                  right here next to Nora. I'm glad you're here, Ed. Thank  
16                  you.

17                  MR. STAATS: Thank you.

18                  CHAIRMAN WOOD: And our two colleagues from north  
19                  of the border, Mark David Goss, Chairman of the Kentucky  
20                  Public Service Commission, and Greg Ross from the Kentucky  
21                  PUC.

22

23                  I will introduce our staff later in the day, but  
24                  as we all know, it's easy to stand up here and be the face  
25                  guy, but we can't make stuff work without a good, smart  
26

1 staff, and this is really kind of what we do around here, is  
2 make sure that we come together and try to get the facts and  
3 understand the policies and the implications for customers,  
4 implications for business, and try to make policy as a  
5 result.

6 This conference, as I mentioned prior to the  
7 Governor's remarks, is part of our strategic plan to  
8 increase transmission infrastructure and maintain a reliable  
9 transmission system that will permit the lowest cost  
10 supplies of electricity to reach customers all over the  
11 country.

12 Certain regions of the country are highly  
13 dependent upon natural gas as the fuel source for electric  
14 generation, and this gas is getting pretty expensive. The  
15 ability to build additional coal generation and to transfer  
16 more coal-generated electricity, can mitigate the reliance  
17 that our country has had on natural gas as a fuel for power.

18 This effort will complement the Administration's  
19 efforts, those pursued by Congress, and the National  
20 Governors Association, to expand the utilization of domestic  
21 energy resources.

22 And the benefits from expanding transmission for  
23 this region include the following: Improved access for  
24 utilities to lower-cost power; local economic benefits to  
25 the developing regions such as this one, through job  
26

1       creation and property tax income; improved reliability for  
2       the overall grid; and helping states to increase the use of  
3       alternative resources like wind and solar. The transmission  
4       grid is a facilitator for all of these.

5               As far as the expected outcome of the conference,  
6       we hope to learn about whether there are any revisions to  
7       regional planning processes that we can make, that will help  
8       more transmission get built. As you know, transmission is  
9       sited by the states, and so, again, that's a strong reason  
10      for collaboration here, that we've got to make this work as  
11      a team.

12             Looking to come away with some ideas to which the  
13      Commission can assist in promoting the regional planning  
14      process to integrate electric resources that are hard to  
15      locate closest to customers. These coal plants, the future  
16      coal plants in our country, and the existing coal plants,  
17      tend to be located relatively remotely from where they're  
18      being used, at least in part, and so to enable that power to  
19      get from where it's generated to where it's consumed, it's  
20      important to have a strong and robust delivery system.

21             This conference, I think, will be a success, if  
22      we can identify a few transmission bottlenecks in the  
23      eastern and western -- we are also looking at western issues  
24      here today, as well -- interconnections, which are the two  
25      large electric grids in our continent, and agree to  
26

1       concentrate our resources on building the needed  
2       transmission to eliminate those bottlenecks.

3               We can get upgrades done. Look at the Path 15  
4       upgrade, which was pursued in California. We also support  
5       the four-state collaboration that we heard about at our  
6       workshop in Washington about three weeks ago, that is being  
7       pursued by four Governors in the West -- Wyoming, Utah,  
8       Nevada, and California Governors -- to build the Frontier  
9       Line from Wyoming to take a clean-coal resources and also  
10      wind resources combined with that, move those over very  
11      large facilities throughout the West.

12             This project is exactly what the West needs, and  
13      I've asked our Commission Staff to work very hard to assist  
14      in getting that line built. So, with no further ado, I'd  
15      like to start first with an initiatives presentation on  
16      clean coal itself.

17             Our presenters here are going to talk about the  
18      federal and private initiatives regarding the development of  
19      clean coal, which is kind of the catch-word that we all  
20      know, but we wanted to really start the conference, before  
21      we did our overview from Jeff Wright on our Staff, wanted to  
22      start the conference with really crisper understanding and  
23      better definition of what we mean by "clean coal."

24             And I've got three speakers here, and I'll  
25      introduce them all now, and let them go in sequence here to  
26

1       come up. Would y'all like to speak from here or walk up  
2       here? I'm easy.

3               That's fine, okay, great. First we've got Ken  
4       Markel, who is Director of the Office of Major Demonstration  
5       Projects at NETL, which is the National Energy Technology  
6       Laboratory, a very important R&D arm of the Department of  
7       Energy of the United States Government; Dan Fessler, an old  
8       friend of ours from the California days, is Of-Counsel to  
9       Holland & Knight, LLP, and Managing Principal of Clear  
10      Energy Solutions, Inc., and has been in the energy  
11      industry, Dan, for?

12             MR. FESSLER: More years than you'd like to know.

13             CHAIRMAN WOOD: More years than I'd like to know,  
14      as he can only say. Finally, there's Roy Palk, who is  
15      President and CEO of the East Kentucky Power Cooperative,  
16      who we know at the Commission, and who is a developer of  
17      resources here in the region.

18             So we'll start, Mr. Markel, with you.

19             MR. MARKEL: Thank you. I appreciate the  
20      opportunity to talk with you this morning. Energy  
21      production and its use, are important topics to this region,  
22      to West Virginia, and to the nation as a whole.

23             This morning, I'm going to give a very brief  
24      introduction to the development of clean-coal technology  
25      that's being done by the Department of Energy's Office of  
26

1 Fossil Energy, Coal Research and Development and  
2 Demonstration Programs.

3 Consistent with maintaining a fuel diversity on a  
4 national basis, this program's purpose is to develop clean,  
5 efficient ways to produce electricity from coal.

6 The work is done in cooperation with, and with  
7 the participation of industry, academia, and nonprofit  
8 research organizations. Funding for the work is cost-shared  
9 between the Department of Energy and the companies and  
10 organizations participating in specific projects, so it's a  
11 joint venture, not just a government-driven program.

12 In Fiscal Year 2005, to give you a sense of the  
13 size, approximately \$365 million federal dollars were  
14 allocated to the program. The activities are managed by the  
15 National Energy Technology Laboratory about it as NETL.  
16 NETL gets a little prickly for us.

17 (Laughter.)

18 MR. MARKEL: The program has over 500 activities,  
19 ranging in size and scope from system studies and laboratory  
20 work, to full-scale commercial demonstration projects. It  
21 includes a wide range of technologies that have application  
22 timeframes that span from the near term to 2020 and beyond.

23 Listed in a rough ordering from near  
24 commercialization, to a long ways off, the technologies  
25 being developed include those which target NOX control, fine  
26



1       particulate control, utilization of coal byproducts, mercury  
2       control, coal gasification, water management, oxygen  
3       production, fuel cells, CO2, fuel separation, hydrogen  
4       production, and even carbon sequestration.

5               Work sponsored by the program has been important  
6       to the commercial deployment of technologies currently in  
7       wide use throughout the coal industry. NOX controls systems  
8       is one example.

9               The work being done now, addresses what is  
10       anticipated to be a more restrictive regulatory environment,  
11       and offers significant efficiency improvements over what is  
12       currently available. In other cases, the technology is  
13       actually widely deployed, but not in the coal power  
14       industry.

15              Gasification, for example, is often used in the  
16       chemical and refining industries, but the significant risks,  
17       both technical and financial, of integrating it into a power  
18       plant, have limited its commercialization in the utility  
19       industry.

20              With that background, I'm going to focus on one  
21       specific area -- coal gasification. Coal gasification  
22       produces a combustible mixture of gases by reacting coal,  
23       oxygen, and steam at high temperatures and pressures. In an  
24       integrated gasification, combined-cycle power plant,  
25       efficiency and fuel flexibility gains are achieved by  
26

1 combining the coal gasification process with a high-  
2 efficiency combustion turbine and a steam turbine to produce  
3 electricity.

4 Before it is burned in the gas turbine, the  
5 combustion gas is cleaned of particulates and sulfur  
6 compounds. This is much more easily accomplished as a fuel  
7 gas, because it constitutes a very small volume, compared to  
8 that which is in a flue gas from a conventional combustion  
9 system.

10 It is also much more reactive. Oxides of  
11 nitrogen are controlled by a combination of gas turbine  
12 combustion modifications and downstream reactors. DOE has  
13 sponsored two completed commercial IGCC demonstration  
14 plants, the Wabash River and Tampa Electric Projects.

15 Both were constructed in the early 1990s, and  
16 both produce about 250 megawatts of power. The Wabash  
17 project re-powered an existing steam boiler at a  
18 conventional power plant, using an E-Gas or now Conoco  
19 Phillips gasifier; Tampa was constructed on a Green Field  
20 site, using a Texaco gasifier. At 98-percent sulfur removal  
21 and a 90-percent NOX removal, both projects demonstrated  
22 extremely good environmental performance compared to the  
23 current fleet average that generated 92 percent less sulfur  
24 and 85 percent less NOX.

25 Last Fall, two new IGCC projects were selected  
26

1       under the second round of the Department's Clean-Coal Power  
2       Initiative. The Southern Company Project will build a 285  
3       megawatt commercial IGCC plant near Orlando, Florida. It's  
4       based on an air-blown transport reactor.

5               Compared to the earlier projects, it will  
6       eliminate the oxygen plant, have a much smaller footprint,  
7       and operate at a lower temperature, all of which will reduce  
8       costs.

9               The Excelsior Project is the second generation of  
10      the Conoco Phillips technology used at Wabash River. The  
11      530 megawatt plant will be located in Minnesota.

12              Its design is based on lessons learned from that  
13      earlier project, incorporating changes to improve  
14      efficiency, operations, and reduce capital costs. Both  
15      plants are expected to perform better environmentally than  
16      these earlier projects.

17              As a response to a comment earlier, you should  
18      note that both the Orlando and the Tampa projects, are  
19      located near high-population metropolitan areas in Southern  
20      Florida.

21              Negotiations for both of the new projects will be  
22      completed this year, and once that's done, permitting,  
23      design, and construction of the plants will take  
24      approximately six years.

25              Based on the work to date, when compared to  
26

1 conventional scrub pulverized coal plants, IGCCs have  
2 greater fuel flexibility, and if designed to do so, can  
3 actually produce liquid fuel or chemical feedstocks, in  
4 addition to electricity.

5 They are also more efficient, and, on an apples-  
6 to-apples comparison, perform better environmentally.  
7 Coupled with fuel cells or advanced membrane gas separation  
8 technologies, they have the potential of actually  
9 approaching zero emissions and 60-percent-plus efficiencies.

10 Currently, at the 300 megawatt size, IGCC plants  
11 are estimated to be of somewhat higher capital costs than  
12 pulverized coal plants. Economics for the 600-megawatt  
13 size, however, appear to be more favorable.

14 e.

15 As with environmental performance, new  
16 technologies will also significantly impact capital costs.  
17 For example, the production of oxygen, using membrane  
18 separation technology, rather than a conventional cryogenic  
19 technology, is projected to significantly lower the cost of  
20 this important component for many IGCC designs.

21 Outside of the Department programs, the past year  
22 has seen some significant business developments that could  
23 have an impact on the commercialization of IGCCs. On the  
24 equipment supplier side, General Electric purchased the  
25 Texaco gasifier design.

26 This brings together under one corporate  
27

1 umbrella, two elements of the IGCC which require close  
2 design and operational integration -- the gasifier and the  
3 combustion turbine.

4 This represents a significant commercial  
5 commitment, given GE's technical and financial clout. On  
6 the utility side, AEP, Southern Company, Cynergy and others,  
7 have announced plans to actively pursue the design,  
8 construction, and operation of IGCC plants within the next  
9 ten years.

10 In closing, I invite you to learn more about the  
11 DOE Coal Research and Development and Demonstration Program  
12 through the NETL website. There you'll find exhaustive  
13 descriptions on all of these technologies, including the  
14 economics, the technology, and the prognosis for future  
15 applications. The best way to find it, Google it, NETL.

16 I appreciate the opportunity to talk to you, and  
17 look forward to the rest of the comments.

18 CHAIRMAN WOOD: Thanks, Dr. Markel. Mr. Fessler,  
19 welcome.

20 MR. FESSLER: Thank you very much. I'd like to  
21 take three remarks that I jotted down from the Governor, and  
22 use them sort of as the text for the thoughts I'd like to  
23 share with you.

24 The Governor indicated that it was important that  
25 the energy needs of the nation really be addressed. At  
26

1 another point in his brief remarks, he said that it was  
2 critical to make it -- the reference to coal -- more  
3 acceptable.

4 And toward the conclusion of his remarks, he  
5 noted that it was important to look, quote, "that far down  
6 the road, to make fuels out of coal."

7 The thoughts I'd like to share with you this  
8 morning are that in the proper location, making fuels out of  
9 coal, is not that far down the road. It is dependent upon  
10 finding areas where this can be done with economics that  
11 return a significant return to the private sector, and,  
12 therefore, incent the investment process.

13 It is critical that we do so, if we go back to  
14 the Governor's first point, that the energy needs of this  
15 nation really need to be addressed. I very much appreciate  
16 the Chairman and Commissioner Brownell's tolerance of the  
17 presence of some remarks that are not directly in the  
18 deepwater channel of this conference, which is concern about  
19 the critical infrastructure, which is our high-voltage  
20 transmission grid enabling coal-fired generation.

21 I'm going to talk about that, but I'm going to  
22 talk about it in the context of trying to make coal more  
23 acceptable, because if coal can be made truly acceptable,  
24 then transmission will come to coal. But until the  
25 acceptability issue is resolved, it is going to be  
26

1       problematic, at least in my part of the world, which is that  
2       I come from the state of Wyoming, but I have led my adult  
3       life in the state of California.

4               It is going to be difficult to build the  
5       Frontier Project, because no one is going to spend \$4  
6       billion on a transmission project in the hope that in  
7       Wyoming, we will have an acceptable coal industry that will  
8       require, along with wind and other renewable energies that  
9       can be firm, that will require that type of infrastructure.

10              The key, the Governor has already laid before us.  
11       It is to reconfigure our thought about the economics of coal  
12       gasification by simply noting that we can gasify coal for  
13       the purpose of producing a far more environmentally  
14       acceptable solution at the point of production, and that it  
15       can be made a profitable enterprise right now, not something  
16       which has to wait five, ten, or 15 years into the future, if  
17       we note that coal gasification also sets the stage for the  
18       production of something this country desperately needs,  
19       which is synthetic fuel.

20              Several months ago, the President gave his State  
21       of the Union Address, and I wondered how many of you were  
22       struck by what I found as the discontinuity in the outline  
23       of that address. The President pointed to the critical need  
24       that we have as a nation to reduce our dependence upon  
25       foreign petroleum and immediately followed that by  
26

1       indicating that he called on Congress to pass an energy bill  
2       that would do two things: a) revive the nuclear industry,  
3       and, b) make a common-sense rationalization and enhanced  
4       efficiency out of the high-voltage transmission grid.

5               I support both of those initiatives. They are  
6       critically needed, but neither has anything to do with our  
7       dependence upon the importation of foreign oil.

8               We do not in this country, import foreign oil or  
9       use domestic oil reserves as a significant means of  
10      generating electricity. Now, the impact of our dependence  
11      upon foreign petroleum, has been stated by the NRDC, and I  
12      will use their figures.

13              It costs the American economy, \$300,000 a minute  
14      to support what is our national equivalent of a cocaine  
15      habit in the importation of foreign fuels. That money  
16      leaves the country, bleeding our economy to the point of  
17      anemia, and it does not come back.

18              The other consequences of our dependence upon  
19      foreign oils are read about every morning with regard to the  
20      impact on foreign relations and our defense obligations.  
21      Coal can be a significant answer to playing the hand that  
22      God gave us in terms of resolving our problem.

23              We can, using proven technology, which will  
24      surely be enhanced, but which can work today, produce  
25      synthetic fuel out of coal in a manner that will begin to  
26



1        resolve two problems that we have: the dependence on  
2        foreign oil, for every barrel of synthetic fuel is a barrel  
3        of foreign oil that we did not need to bring in, and also  
4        the major glut that we have -- or bottleneck, to use the  
5        Chairman's term, in refinery capacity in this country.

6                We have not built a new refinery in nearly two  
7        generations, and none are planned. Coal refineries produce  
8        a synthetic product that needs no further industrial  
9        application before it can be placed in any compression  
10       engine as a substitute for No. 2 Diesel fuel.

11               And that brings us to a third problem we have in  
12       this country, because the current formulation of No. 2 Fuel  
13       as a byproduct of petroleum, is presenting us with a sulfur  
14       issue that the EPA is attempting to resolve in 2006, 2008,  
15       and 2010, dates that are immediately around the corner.

16               The object is to move from the current 500 parts  
17       per million of permitted sulfur, down to 15 parts per  
18       million. We have several large refineries announcing that  
19       they cannot, or, as an economic decision, will not do this,  
20       but already we are consciously aware of something that has  
21       crept up on us with little attention in the media.

22               Each of us as an adult, grew up in a world in  
23       which No. 2 Diesel Fuel sold at a substantial discount, 87  
24       octane gas. Today, in virtually all markets in the country,  
25       it sells at a premium, premium gas, signalling that we have

26

1 an acute shortage of a critical transportation  
2 infrastructure resource.

3 Fuel that we can produce from coal, has zero  
4 parts per million of sulfur. It is the in-state move in an  
5 attempt to control the tailpipe emissions. By a simple fuel  
6 substitution, we can transform every stationary and local  
7 compression engine in this country, from one of the leading  
8 sources of NOX, SOX, and particulate matter criteria, into  
9 ultra-low-emission vehicles.

10 In my state of California, in order to keep an  
11 attempt to address the extreme nonattainment of air quality,  
12 we have entities like the Los Angeles education system,  
13 faced with the need to replace thousands of school buses  
14 that are perfectly serviceable, to convert them to natural  
15 gas.

16 If we use coal that produces synthetic fuel,  
17 every one of those buses could be retained as an ultra-low  
18 emission vehicle, freeing the resources for textbooks,  
19 classroom size reduction, and decent salaries for teachers.  
20 That's one indication of what we might do, if we took coal  
21 and made use of it today.

22 To make use of it today, you need the location  
23 that satisfies the environmental community. Ken has already  
24 indicated all the things that can be done with coal  
25 gasification.

26

1                   There is one further issues that environmentalists  
2 point to and that's CO2 emissions. If we use the further  
3 industrial step of producing synthetic fuels, we can capture  
4 and then sequester those CO2 emissions. But before we  
5 sequester them, they would be a third source of income for  
6 projects, which would be selling fuel, electricity, and CO2  
7 for tertiary oil recovery and the release of coal bed  
8 methane reserves.

9                   Just in my native state of Wyoming, the  
10 University of Wyoming indicates that there's 1.5 billion  
11 barrels of oil within 20 miles of Casper, Wyoming, awaiting  
12 tertiary oil recovery. It requires CO2. Why don't we do  
13 it? Thank you.

14                  CHAIRMAN WOOD: Thank you, Dan, thank you very  
15 much. And now we'd like to have our final speaker from  
16 Kentucky, Mr. Palk.

17                  MR. PALK: Thank you, Mr. Chairman. Good  
18 morning, ladies and gentlemen. My name is Roy Palk. I'm  
19 President and CEO of East Kentucky Power. I want to speak  
20 to you this morning about who is East Kentucky Power?

21                  We are a generation and transmission cooperative.  
22 We're headquartered in Winchester, Kentucky, which is about  
23 15 minutes east of Lexington. We serve 16 electric  
24 distribution cooperatives, all located in Kentucky, and soon  
25 we'll serve a 17th over in Bolling Green, Kentucky, which is  
26

1 leaving TVA and coming with our supply system in April of  
2 08.

3 What drives our construction program, really, is  
4 growth. East Kentucky Power is growing at twice the rate of  
5 the national average. We're growing at about a five-percent  
6 growth rate per year, and that's in all customer classes.

7 Because of that, we are having to add new  
8 facilities, both generation and transmission, to our system.

9 The reason that we are going with circulating  
10 fluidized bed, for the time being, rather than IGCC, is  
11 simply a matter of time. Both Ken and Daniel have mentioned  
12 the time necessary to bring IGCC into commercial status, and  
13 we certainly support IGCC as a technology that needs to be  
14 developed for all of the reason that have already been  
15 mentioned here this morning, and perhaps many others.

16 In fact, we signed a contract with a private  
17 developer about four years ago, to develop and put on our  
18 lines, an IGCC plant. And we signed the contract, a 20-year  
19 contract approved by the Kentucky Public Service Commission  
20 for the total purchase of that output.

21 Unfortunately, that plant has not been able to be  
22 developed, and we are in the process now of moving forward  
23 with other technologies, those being circulating fluidized  
24 bed. We have just brought online, our first circulating  
25 fluidized bed plant in Maysville, Kentucky, a 268 megawatt  
26

1       plant.

2               We have in the works, on the drawing board, if  
3       you will, a 278 megawatt plant that we hope to get a permit  
4       for this Summer, and then in 06, a third circulating  
5       fluidized bed plant that we'll be bringing on, and those are  
6       the baseload plants that -- I'm not going to talk about the  
7       peakers, but those baseload plants that we'll be adding to  
8       our fleet.

9               That will give us a baseload generation total  
10       capacity of somewhere around 3,000 megawatts within the next  
11       five to six years, and so our growth is pretty fast. The  
12       long-term need for power in our case, is driven by the  
13       forecasts that are given to us by the member cooperatives.

14              We go ahead and actually sit down with our member  
15       cooperatives and ask them what their growth projections are.  
16       We do some econometric models on those numbers, and then we  
17       go out for RFP to go to the market, if you will, and see  
18       what resources are available before we select a way to  
19       supply the next increment of power.

20              Then that selection is put before our Public  
21       Service Commission and we make our case, hoping to achieve a  
22       Certificate of Convenience and Necessity, or in normal  
23       terms, a building permit to build this power plant. And so  
24       that's the process that we go through to get increments of  
25       power supply, and why we are choosing CFB.

26

1           CFB, we think, provides, at least in the time  
2       that we need the power, some of the benefits that these  
3       gentlemen have already mentioned. For example, it gives us  
4       fuel flexibility.

5           CFB will burn a wide variety of coal. It will  
6       burn high-quality coal; it will burn low-quality coal, high-  
7       Btu coal, and as low a Btu coal as 8,000 Btu. In mining  
8       terms, it will even burn the gob pile.

9           Now, the gob pile is the washings that come off  
10      of the coal, that normally are waste products, either  
11      because they are too high in ash, they're too low in Btu,  
12      they're just not marketable.

13          From the standpoint of economics, this technology  
14      gives greater economics to the coal market, because it  
15      creates a sale for coal that wasn't heretofore, sellable.

16          The second thing it does, we think is really neat  
17      in terms of the environment. And I want to come back and  
18      talk about a theory that I have of how technology really  
19      does impact transmission, here in just a few minutes, so  
20      follow me along here for just a minute.

21          Anyway, as far as the environment goes, sulfur  
22      content of the coal, as I said, can be as much as 4.5  
23      percent. The boiler can also burn other forms of fuel. We  
24      can burn up to ten percent, for example, of supplemental  
25      feedstock.

26

1           Those can be biomass; they can be wood; they even  
2     be tires. We do have the Gilbert plant, one that just came  
3     on and we have it permitted to burn up to five percent of  
4     rubber tires, so we can use that as a means of taking an  
5     eyesore, if you will, a problem, and converting it, through  
6     technology, into a usable product that makes our lights burn  
7     and keeps us cool and powers our industry.

8           Even petroleum coke can be used. We have no  
9     plans to burn petroleum coke, but I'm telling you that this  
10    boiler, the CFB boiler, does have a wide variety of  
11    capabilities.

12           In terms of environmental performance, the  
13    Gilbert unit achieves very low emissions of sulfur dioxide,  
14    of NOX, and carbon monoxide and particulates. The sulfur  
15    dioxide is removed at a low-cost per ton; the majority of  
16    the sulfur dioxide and the NOX emission levels are obtained  
17    by in-furnace technology, actually injecting limestone into  
18    the boiler.

19           The post-combustion or the back-end cleanup  
20    equipment, only further reduces the sulfur dioxide and the  
21    NOX. The efficiency -- the Gilbert unit is designed at a  
22    heat rate of about 9570 Btus per kilowatt hour. The  
23    operating cost is very, very competitive and provides us not  
24    only the technological advantages that I've just described,  
25    but also provides us a good, low-cost, competitive price of  
26

1 power.

2 And so that's why we went to CFB. That's why  
3 we're continuing to build the CFB. We support the IGCC  
4 technology and I've already described that.

5 Now, how does technology affect transmission?  
6 Let's look at the plant location issue from an environmental  
7 standpoint. If you look at the state of Kentucky, there are  
8 only a few locations where you, because of emission levels,  
9 can locate a power plant.

10 So, that affects, one, what kind of technology  
11 you choose, because of emission levels. In other words, you  
12 want to say under your caps.

13 The other thing it does, it affects transmission  
14 because you have to get the power into the market. You've  
15 got to get the power to the plant. The plant is located, on  
16 a limited basis, because of emissions levels that are  
17 already in the air, both stationary and mobile, and so  
18 technology and transmission do have, pardon the pun, a  
19 connection between each other, if you look at it from the  
20 standpoint of the emissions that are already in the air.  
21 Thank you very much.

22 CHAIRMAN WOOD: Thank you, Roy. I've got a  
23 couple of questions. The fuel issue is an interesting one  
24 that, Dan, you raised on the motor fuels issue. Where in  
25 the country is the development of this type of alternative

26



1 motor fuel going on? Is it western development? Are there  
2 companies out there or agencies that are involved in this?  
3 Is it going on in other countries anywhere?

4 MR. MARKEL: I have to apologize to the group.  
5 I'm sitting here thinking about this, I put this little bit  
6 together, and forgot a major project that we have, which is  
7 actually production of diesel fuel. We call it the WMPI  
8 Project in western Pennsylvania.

9 It is a project that uses anthracite coal to  
10 produce electricity and 5,000 barrels of diesel fuel on a  
11 daily basis. So, it's actually a project that talks very  
12 much to what Dan was referring to.

13 It's a demonstration project that uses coal  
14 gasification. It uses a waste product as a fuel source, and  
15 we're in the process of negotiating that, as well.

16 So that's one example that I am personally  
17 familiar with.

18 CHAIRMAN WOOD: Great.

19 MR. FESSLER: The best example, Mr. Chairman, of  
20 large scale industrial production of synthetic fuels is in  
21 South Africa where they produce 166,000 barrels a day of  
22 synthetic substitute for diesel fuel from domestic coal  
23 resources.

24 They are using a technology that was actually  
25 invented in Germany prior to the Second World War. The

26

1       technology has an unpleasant political paternity, but in  
2       point of fact, it is a proven industrial process that has  
3       been functioning seven days a week, 24 hours a day in South  
4       Africa for now nearly 30 years.

5               In the United States, we have a number of  
6       companies that, on a small-scale basis, have shown that we,  
7       too, can produce synthetic fuels, and we have the support  
8       for this important project in Pennsylvania.

9               What I am seeking to suggest is that in certain  
10      areas of the country and in my native state of Wyoming,  
11      particularly, all of the factors seem to point toward the  
12      ability to site, not a demonstration project, but an  
13      industry in Wyoming now, because of the existence of the  
14      Powder River Basin infrastructure, the ability to select  
15      coal from five major producers of coal, the capacity to  
16      utilize the CO2 emissions for tertiary oil recovery and coal  
17      bed methane release.

18              The one major factor that stands between that and  
19      helping to work on the West's electricity infrastructure, is  
20      the question of transmission. The Frontier Project would be  
21      very, very useful.

22              In order to have the near-zero emission plant,  
23      using today's technology, one would only be able to co-  
24      generate electricity, and, from a 25,000 barrel a day  
25      facility, that would be about 300 megawatts of net  
26

1       exportable electricity that each of these plants could do.

2               But there would be sufficient coal reserves in  
3       Wyoming to support several hundred of these plants, and they  
4       could make a significant -- Ken has talked about some of the  
5       other interesting technology issues. If you could  
6       substitute a membrane for the cryogenic oxygen process in  
7       isolating oxygen, if you could reduce the temperature and  
8       pressure under which you produce the synthetic fuels, you  
9       would enhance the efficiency of the existing technology.

10              But the point is that today, with \$50 a barrel  
11       oil, one could make a great deal of money with existing  
12       technology. I've had many people come to me and say I'd  
13       love to finance the third, fourth, or fifth of these plants,  
14       because they will begin to have these major breakthroughs in  
15       cost production and efficiency enhancement.

16              It becomes rather obvious that there is no third,  
17       fourth, or fifth plant, unless there's a first and second.  
18       Wyoming, I think, offers a set of circumstances that is  
19       unique.

20              There are many wonderful technologies, including  
21       the technology that Lloyd speaks of, and so, given the broad  
22       pattern of resources we have in this country and the areas,  
23       the different geographies offer us in terms of opportunity,  
24       this is one opportunity that I would like to see pursued,  
25       and that's what I'm suggesting.

26

1                   CHAIRMAN WOOD: That's an interesting suggestion.  
2       I gave a speech and started off with statistics about, you  
3       know, how much oil we import. It's just a big -- 25 billion  
4       Btus going to 40 by 2020.

5                   MR. FESSLER: Mr. Chairman, in California, we use  
6       nearly 285,000 barrels of No. 2 Diesel fuel every single  
7       day. It is the largest source of pollution left in our  
8       area.

9                   If it were replaced by 285,000 barrels of  
10      synthetic diesel, we would do more to clean up the air in  
11      California, not just in our cities, but in our great  
12      agricultural valleys, than any single thing that could be  
13      posed, and we would do it by removing a demand for 285,000  
14      barrels a day on the infrastructure fuel resources of this  
15      country by taking the domestic resource and solving a  
16      refinery shortage.

17                  CHAIRMAN WOOD: You'd solve a political problem,  
18      an economic problem, and an environmental problem at the  
19      same time.

20                  Let me talk with the three of you all about the  
21      economics. In a \$50-barrel oil scenario, which translates  
22      roughly -- of course, it's not directly related that closely  
23      -- to -- we've got now \$6 gas and, say, \$40 a megawatt hour  
24      power, on average.

25                  How do the economics of the three technologies  
26

1       that we've talked about, the original pulverized coal, the  
2       fluidized bed technology, and the IGCC? Kind of put some  
3       dollars and comparables next to that, so that we kind of  
4       understand what the economic opportunities are for these  
5       three types of coal.

6               MR. PALK: Let me give you one illustration, Mr.  
7       Chairman. We have been buying a lot of purchased power from  
8       the market. We started buying purchased power from the  
9       market to grow our load several years ago, and then bringing  
10      plants on behind them, and avoiding the capital investment  
11      until the load was built.

12             We could buy power from the market, as you well  
13      know, at 1.5 cents, 1.7 cents. Now, power prices are four  
14      cents, five cents and even in peaking times, we have seen up  
15      to eight cents a kilowatt hour.

16             The point I'm making is that by bringing the  
17      plant on now, we have already seen our fuel adjustment  
18      clause in the last three months, drop by about 30 percent,  
19      because we are taking ourselves out of the market. We are  
20      generating a lot cheaper than we can buy on the market, and  
21      we're stabilizing the price for the consumer.

22             CHAIRMAN WOOD: So, a ball park price then, yours  
23      is CFB, the kind of all-in price that you reflect in your  
24      customers' rates, would be how many cents a kilowatt hour?

25             MR. PALK: It's going to be a little less than  
26

1 four cents a kilowatt hour. What that means is, that is for  
2 fuel for generation, for transmission, for distribution  
3 substations, and our customers, our member coops, take their  
4 delivery at the low side of the substation.

5 CHAIRMAN WOOD: That's the delivered price, four,  
6 a little under four.

7 MR. PALK: For billing and administration.

8 CHAIRMAN WOOD: As to IGCC, Ken, you kind of  
9 mentioned a few things pretty quick. You might have  
10 mentioned this, but I wasn't writing fast enough. What are  
11 the economic -- I think you said the 600 megawatt plant size  
12 --

13 MR. MARKEL: Based on the studies we've done thus  
14 far, in a 600-megawatt size, the economics are comparable to  
15 a pulverized coal system with similar performance, or  
16 circulating fluid bed.

17 I think the important question is not which  
18 technology is the best, but which technology fits the site  
19 the best. It's a combination of coal, location,  
20 transportation, transmission, and the level of comfort with  
21 risk that the utility has, all come together to really  
22 decide what is the best technology for that particular  
23 location.

24 The issue, in my mind -- and this is Ken Markel  
25 speaking -- is not one of is it too expensive, but am I

26

1 willing to live through the cost of getting it online, being  
2 the first one there?

3 Penguins have this habit of all bunching up  
4 before they all jump in. They kind of push and push and  
5 push and push to get one of them to jump in, to make sure  
6 there's no tiger sharks down there eating anybody.

7 Utilities tend to have that same kind of  
8 conservative nature. Cost is an issue, yes, but, to me,  
9 it's the larger one of convincing the market boys that the  
10 technology is ready to go.

11 And that's the Department's objective with their  
12 demonstration project, with the one in Tampa, with the one  
13 in Orlando, with the Wabash technology, with the one in  
14 Gilbert, trying to get things in on the ground so that  
15 people can come in and kick the tires.

16 The plant in Tampa, I just visited two weeks ago.  
17 Interestingly, the things that keep it offline, that have  
18 caused it the biggest problems since it started up, were not  
19 the gasification systems, were not the cleanup systems. It  
20 happened to be that they chose one of the first 57 new gas  
21 turbines that GE produced.

22 That has caused more problems than the  
23 gasification, the cleanup technology, the coal handling  
24 system, anything else. There were some problems with the  
25 rotor; there were cracks in the rotor, and it's gone down to  
26

1 be replaced.

2 Gasification technology runs pretty much like  
3 clockwork. Since the first plant turned on, they run it all  
4 the time. It's a very, very profitable operation.

5 CHAIRMAN WOOD: Dan, what's -- it's sounds like  
6 there's a win/win setup there for Wyoming. What are the  
7 obstacles to making that happen there?

8 MR. FESSLER: One of the biggest obstacles is  
9 that the economy of Wyoming, if it were to be relied upon to  
10 consume the fuel output and the electrical output of the  
11 first plant, it's going to be a close fit.

12 I think the case can be made that the burden is  
13 on those of us who believe in it, to do it. But since you  
14 asked a question about basic economics, for a plant that is  
15 designed to produce 25,000 barrels of synthetic fuel and 300  
16 megawatts of export electricity, the cost of that plant is  
17 going to be -- the first plant -- about \$1.6 to \$1.8  
18 billion. It depends on the degree to which you have to take  
19 ownership and responsibility for the infrastructure to deal  
20 with CO2 emissions in a responsible way, so that you can  
21 look people in the eye and say we are sequestering the CO2  
22 emissions at the end of the day.

23 Now, that plant can return an 18-percent ROR to  
24 its investors, if you assume two things: That you can sell  
25 the electricity at the bus bar, at 3.5 cents a kilowatt  
26



1 hour, an eminently doable thing in the western part of the  
2 United States today, and that you could deliver the  
3 synthetic fuel for what's known as the rack or wholesale  
4 price in Los Angeles, at \$34 a barrel.

5 I do not know what the wholesale price for No. 2  
6 Diesel fuel, a fuel that will be illegal in its current  
7 formulation in Los Angeles in less than 18 months, as it  
8 will be here. I do not know what the current price is  
9 today, but I do know that last week, it was over \$60 a  
10 barrel.

11 So, that suggests that if such a plant were  
12 operating, it would simply add to the total number of mints  
13 in the United States as far as the return to its investors  
14 would be concerned. But, as Roy said, it's a question of  
15 getting the plant online, and, as Ken said, I've never heard  
16 the penguin analogy, but it is a useful one.

17 (Laughter.)

18 CHAIRMAN WOOD: I would love to have you here all  
19 day, but we have a schedule. I thank you for kicking it  
20 off, and I want to again thank you for your participation in  
21 framing, really, the fuel, because I think, quite frankly,  
22 that we've been a Commission, because of our regulatory  
23 enterprise that deals a lot with natural gas, and the  
24 construction of plants in the last ten years has been almost  
25 exclusively natural gas, so we haven't had to think about  
26

1 coal.

2 Price makes you think about things again, which I  
3 think all of you -- there certainly sound like there are a  
4 lot of opportunities there, and I know that our sister  
5 agencies in government are working very closely on the  
6 environmental implications of coal development, as well.

7 It sounds like, certainly from some of the  
8 reading material we had here in preparation for the  
9 conference, that the new technologies, including the full  
10 sequestration technology, not only addressed the current EPA  
11 standards, but go beyond and talk about the global gas  
12 initiative issues, which I know are important to a lot of  
13 people in the country.

14 So, thank you all for kicking off our panel. I  
15 appreciate your being here today.

16 Before we go further, I'd like to -- as Jeff  
17 Wright, who is the Director of our Infrastructure Division  
18 in the Office of Energy Projects does, as he always does for  
19 every one of our infrastructure conferences, of which we've  
20 had about a dozen since I've been on the Commission, starts  
21 off with some facts and background for us and for the  
22 audience and for the record.

23 I would like to introduce our Staff who are here  
24 today. Some of them will be asking questions on and off  
25 through the day. Please feel free to get to know them, as  
26

1       you do us, but Chris Thomas, right here next to Commissioner  
2       Kochler, John Yakobitis from our Office of Markets, Tariffs,  
3       and Rates; Jignasa Gadani is from our Office of General  
4       Counsel; Joe McClellan is the new Director -- not new, he's  
5       been here awhile, but he's Director of our Reliability  
6       Division, which was a new mandate from Congress that we got  
7       last year, and Joe's doing a great job getting the  
8       reliability issues teed up; Mike McLaughlin, who is one of  
9       the key Directors in our Agency over this region of the  
10      country; Connie Caldwell from our Market and Oversight shop;  
11      Mark Whittington, from our Office of External Affairs. We  
12      talked about Big Dan Larcamp, hometown boy, back in the  
13      back there.

14               There is Susan Court, our Chief of Staff for the  
15      Agency, and a Kentucky native; Sarah McKinley, who organizes  
16      the conference and is out front taking care of logistics,  
17      and, of course, Jeff Wright, to whom I will now turn it  
18      over.

19               MR. WRIGHT: Good morning. Again, I'm Jeff  
20      Wright. I work in the Office of Energy Projects at the  
21      FERC. Dan Larcamp approached me, given my gas background,  
22      to come here and talk about liquified natural gas.

23               (Laughter.)

24               MR. WRIGHT: Now, I told Dan, I can't do that.  
25      This is a coal conference with some transmission issues, and  
26

1 I'm going to stick to that and I'm going to stay away from  
2 LNG. So that's the last time I'll talk about LNG today.

3 (Laughter.)

4 (Slides.)

5 MR. WRIGHT: Really, my purpose here is, in order  
6 to set up the panels for the remainder of the day, I'm going  
7 to take a look at coal in the U.S. and its contribution to  
8 electric generation, along with its potential in the  
9 generation fuel mix.

10 Also, I'd like to take a look at how more  
11 electric transmission will allow the U.S. to realize a  
12 greater contribution from coal-fired generation. In 2003,  
13 the U.S. produced about 1.07 billion tons of coal.

14 Approximately 70 percent of all U.S. coal  
15 production was produced in Appalachia and in the Powder  
16 River Basin of Wyoming, and in 2004, it is estimated that  
17 the U.S. production was 1.1 billion tons, an increase of 2.8  
18 percent over 2003.

19 Electric generation has been the largest  
20 consuming sector for coal. In each of 2002, 2003, and 2004,  
21 the electric power sector consumed 92 percent of the U.S.  
22 coal supply.

23 This slide shows the weekly coal and natural gas  
24 prices from 2002 to the present on an equivalent-Mmbtu  
25 basis, comparing coal prices from Appalachia and the Powder  
26

1 River Basin in Wyoming, with the Henry Hub gas price.

2 Even when prices were closer in 2002, coal sold  
3 at a large discount to gas prices. As gas has become more  
4 volatile in the last few years, this differential has grown.

5 There has been some increase in the Appalachian  
6 price, due to increased demand, but still, the difference is  
7 great. Of course, the price of the commodity alone, does  
8 not determine whether to use one fuel or another.

9 According to Jerry Eyster's study of the PA  
10 Consulting Group, new combined-cycle plants are cheaper than  
11 new coal plants at gas prices less than \$4 per Mmbtu.  
12 Between \$4 and \$7, either gas or coal plants could be  
13 cheaper, based on the type of coal plant being built,  
14 however, according to Mr. Eyster, once gas prices exceed \$7  
15 per Mmbtu, then even expensive coal plants will produce  
16 electricity cheaper.

17 I would also like to point out that the Henry Hub  
18 spot price averaged over \$7.30 per Mmbtu during April 2005.  
19 And as the graph shows, coal prices, with the exception of a  
20 slight rise in the Appalachian coal prices, have remained  
21 low.

22 Currently, coal-fired power generation capacity  
23 comprises 34 percent or 314 gigawatts of the total U.S.  
24 power generation capacity of 933 gigawatts. The SERC has  
25 the largest generation capacity of any NERC region at 170  
26

1 gigawatts, 74 gigawatts of which are coal-fired.

2 The coal-fired generation capacity of the ECAR  
3 region is 69 gigawatts, or 63 percent of its generation  
4 capacity. The ECAR region constitutes the highest  
5 concentration of coal-fired generation in the U.S.

6 Coal-fired generation capacity in ECAR and SERC,  
7 comprised about half of the nation's capacity in 2005, and  
8 when the WECC's coal-fired capacity of 33 gigawatts is added  
9 in, these three regions, SERC, ECAR, and the WECC, account  
10 for over 55 percent of the nation's coal-fired generation  
11 capacity.

12 While coal-fired generation is 34 percent of  
13 total U.S. capacity, it comprises 50 percent of the total  
14 U.S. electricity output. Eighty-five percent of ECAR's  
15 generation output is coal-fired, which is over 26 percent of  
16 the total U.S. coal-fired generation. Again, the top three  
17 coal-fired generation regions, SERC, ECAR, and WECC, account  
18 for almost 65 percent of the nation's coal-fired generation  
19 output of about 1.8 million gigawatt hours.

20 Now, the next two slides give an idea of the  
21 source of the coal that's burned in these plants. In 1993,  
22 the majority of coal purchased by electric generation plants  
23 east of the Mississippi, was from the Appalachian and  
24 Illinois Basins.

25 Powder River Basin coal reached plants located in  
26

1 the West, the Midwest, that is, West of the Mississippi, and  
2 Southeast. Purchases in the West also included coal from  
3 the Rockies and from Washington State.

4 From 1993 through 2003, Powder River Basin coal  
5 use has increased in the Midwest and Southeast regions, and  
6 the spread of Powder River Basin coal probably is due to its  
7 low sulfur and ash content.

8 Taking a look at new construction, over 3400  
9 megawatts of coal-fired power plants are under construction  
10 and are expected to be online by 2009. A third of this  
11 total will be in the SERC region.

12 Another 7700 megawatts of coal-fired generation  
13 are in the advanced development stage. Most of this  
14 capacity is scheduled to come online between 2008 and 2010.  
15 For all fuels, over 52,000 megawatts are under construction  
16 or in advanced development, so coal-fired generation  
17 represents about 22 percent of the new generation load that  
18 will be coming online.

19 This is actually a large proportional increase in  
20 coal-fired generation. In each of the years of 2001 through  
21 2004, gas-fired generation represented over 90 percent of  
22 the generation load that came online.

23 On a regional basis and looking at the long-term  
24 future, by 2015, total generation capacity is expected to be  
25 1,023 gigawatts, 329 gigawatts of which will be coal-fired.

26

1 This is actually an annual growth rate of less than one-  
2 half percent in coal-fired generation, but by 20205, total  
3 generation capacity is expected to exceed 1185 gigawatts,  
4 and 36 percent or 431 gigawatts will be gas-fired.

5 This represents a growth of over 2.8 percent per  
6 year between the years 2015 and 2025. I think I misspoke  
7 there. We're talking gigawatts, not megawatts here.

8 Going back the regional basis, coal-fired  
9 electric generation capacity is expected to increase from  
10 2005 to 2015 in all of the NERC regions, except in the  
11 Northeast and in ERCOT. By 2025, though, coal-fired  
12 generation capacity is expected to increase in all the NERC  
13 regions, and the regions that will experience the largest  
14 capacity, as you might expect, are ECAR and SERC.

15 Electric generation output is projected to  
16 increase in all of the NERC regions through the year 2025.  
17 The West and Southeast regions will have the largest demand  
18 for electric generation.

19 While gas-fired generation will be the fastest  
20 growing fuel source to produce power, coal will still  
21 produce the majority of electricity in the United States.  
22 In 2004, coal-fired generation produced 54 percent of the  
23 country's power, while gas only accounted for 14 percent.

24 By 2025, coal-fired generation is expected to  
25 produce 53 percent of the power, while gas-fired  
26



1 generation's contribution is expected to increase to 24  
2 percent.

3 This slide shows those counties that are  
4 designated nonattainment areas for sulfur dioxide,  
5 particulate matter, and ozone. Air quality may limit coal-  
6 fired electric generation development in these nonattainment  
7 areas, however, the nonattainment areas, for the most part,  
8 do not overlap coal production areas.

9 This lends credence to the idea of constructing  
10 more mine-mouth generation plants and transporting that  
11 energy to where it is needed.

12 This gives you brief idea of where the mine-mouth  
13 generation is in the U.S., and mine-mouth generation, as  
14 we're defining it, is the cost of transportation and  
15 shipping of about a dollar.

16 However, the planned addition of new western  
17 power plants in the proximity of existing mine-mouth plants,  
18 may be problematic, since already congested transmission  
19 lines will not have sufficient capacity for the increased  
20 generation.

21 Now, our current transmission system is under  
22 stress. We have a growing population that is increasingly  
23 dependent on electric technology. The majority of the  
24 largest U.S. cities are located in highly-congested areas of  
25 the bulk power, bulk electric transmission system.

26

1           The lack of investment in new transmission lines,  
2       combined with growing demand for power that could be met  
3       with coal-fired generation, will lead not only to increased  
4       reliability problems, but also difficulty in serving new  
5       load.

6           In 2002, the Department of Energy conducted the  
7       National Transmission Grid Study. The study showed that  
8       there was significant congestion and transmission  
9       constraints across the United States. The arrows in this  
10      map represent the most congested transmission paths in the  
11      U.S., as identified by the Department of Energy.

12           I will note that we did take Path 15 off the  
13      maps, since that was relieved.

14           In order to improve grid reliability and to  
15      transport needed, increased energy needs, additional  
16      transmission needs to be built across the U.S. Otherwise,  
17      congestion costs will increase.

18           FERC calculated during the Summer of 2000, that  
19      over \$800 million of congestion costs occurred over 16 well  
20      known constrained paths.

21           In the last ten years, generation capacity has  
22      increased nationwide by 2.4 percent per year, and net  
23      generation by 1.8 percent per year. However, high-voltage  
24      electric transmission miles -- that's 230 kilovolts or  
25      higher -- had increased at an annual rate of only .6  
26

1       percent, and, even worse, transmission mileage has actually  
2       declined over this same time period in the Northeast United  
3       States.

4               As mentioned earlier, there are coal-fired plants  
5       under construction and in development across the country.  
6       In order for that new generation to reach the large load  
7       centers, new transmission lines need to be built from those  
8       generation sites, as represented on this map.

9               Of course, there are several impediments to  
10      developing new transmission. It's difficult to determine  
11      need and cost allocation for new transmission lines, because  
12      criteria to measure the regional benefits, are unclear,  
13      inconsistent, and ineffective, and achieving consensus in  
14      integrated networks is contentious.

15              Also, customers have difficulty securing long-  
16      term transmission rights at predictable prices. Further, it  
17      is also difficult, without some form of regional planning  
18      body, to deal with the regional infrastructure needs.

19              Stakeholder concerns adversely affect the ability  
20      to successfully site and construct needed transmission lines  
21      in a timely manner, and, finally, the lack of an effective  
22      forum or policy for coordinating multistate processes or  
23      resulting multistate disagreements around siting, is a  
24      barrier.

25              This slides crystallizes the timing mismatch  
26

1       between building a coal-fired plant and siting and building  
2       a bulk transmission line to transport the energy. As the  
3       slide shows, it can take almost three times as long to  
4       construct a bulk transmission line, than it is to build a  
5       new coal-fired generation plant.

6               In conclusion, the realization of new coal-fired  
7       electric generation will depend on the cost differential  
8       between coal-fired electric generation and the cost of  
9       natural gas to fuel electric generation. That differential  
10      is becoming increasingly favorable for coal-fired  
11      generation, however, to realize this, new transmission lines  
12      will need to traverse multiple states, and planning and  
13      construction must be expedited through more efficient  
14      planning and a more rational approach to siting.

15             That concludes my presentation, and I hope I've  
16      kind of teed it up for the panels that will complete the  
17      rest of today's program. Thank you.

18             CHAIRMAN WOOD: Thank you, Jeff. The members of  
19      our first panel are welcome to stay up here, but you're also  
20      welcome to go get a more comfortable seat, as well. I want  
21      to thank you all for your participation.

22             While we're doing that, I want to just add a  
23      couple of rules here. There's not scheduled breaks here.  
24      We have always run these very informally. We leave the  
25      doors open on purpose, so, if you need to wander in and out  
26

1 to make a call or to go to the men's or ladies' room, please  
2 feel free to just do so. We'll have a one-hour lunch break.  
3 We have no structured lunch plans, but I think you heard the  
4 nice advertisement from the Governor that there are, not  
5 only within the hotel, but across the street, some food  
6 options for those of you who would like to get something to  
7 eat.

8 And I think we will have time at the end of the  
9 day, for those who would like -- and we have a setup here as  
10 well -- for anybody in the audience to ask questions of the  
11 panelists at the end of the next panel and of the afternoon  
12 panel, as well, and then also make any general comments  
13 you'd like.

14 So, if you have something that you would really  
15 like to say, please hold on and we will be glad to visit  
16 with you toward the end of the afternoon.

17 At this time, I'd like to introduce our major  
18 morning panel, which discusses regional transmission  
19 planning, the current initiatives and what we might do to  
20 improve those. I'll introduce all of the members right now.

21 They're listed in the handout here, but I would  
22 like to thank them again for being here, coming this  
23 distance today. We have Jim Torgerson, who is the President  
24 and CEO of the Midwest Independent Transmission System  
25 Operator. MISO is one was the first RTO designated by our  
26

1 Commission, and has done a good job throughout the Midwest,  
2 which is a big coal region, as well.

3 Karl Pfirrmann is President of the PJM  
4 Interconnection, Western Region. PJM is another large RTO  
5 that, together with the MISO, works together to really cover  
6 the entire central/eastern part of the country with  
7 oversight of the transmission grid under federal auspices,  
8 with a lot of state cooperation, as well. We're glad to  
9 have both of you here.

10 Bruce Rew is from the Southwest Power Pool, and  
11 is Director of Engineering. The Southwest Power Pool is  
12 another RTO that's a little bit to the south. These three  
13 really comprise really the largest coal producing and  
14 consuming regions for power in the eastern half of our  
15 country, the West, of course, being as well, on here.

16 Paul Halas is the Senior Vice President of  
17 Business Development for National Grid, USA. National Grid  
18 owns a lot of transmission in our country, and, as well, its  
19 corporate parent owns the National Grid of the United  
20 Kingdom, and they have a lot of experience with  
21 transmission. We're glad to have you here, as well, Paul.

22 Steve Waddington is Executive Director of the  
23 Wyoming Infrastructure Authority, which is an authority  
24 created under Governor Friedenthal, and has done a lot of  
25 initiatives to build transmission out West, including the  
26

1       one that Steve is going to talk a little bit about, which is  
2       the Rocky Mountain Area Transmission Study.

3               And Bob Smith is the Transmission Planning  
4       Manager from the Arizona Public Service Company, another  
5       large and growing region of the country with transmission  
6       needs, and he will be here to visit with us about what's  
7       going on out there.

8               And our friend, Charles Bayless, Dr. Bayless, is  
9       the President of West Virginia University Institute of  
10      Technology right here in Charleston, and has had experience,  
11      not only in education and academia, but, importantly, in two  
12      large utilities, Illinois Power and Tucson Electric, in his  
13      earlier career.

14              So, we're glad to have you all here, and we'd  
15      like to start, Jim, with you, and we'll go on down the row.

16              MR. TORGERSON: Thank you, Mr. Chairman. I  
17      really appreciate the opportunity to return to the state  
18      where I spent a lot of my time in the early '80s when I was  
19      with Diamond Shamrock and involved in the Company's West  
20      Virginia and Kentucky coal operations.

21              As a result of that, I have a pretty deep  
22      appreciation for the value of coal as a fuel resource and  
23      for the challenges involved in the extraction and  
24      transportation of it. Recent events have underscored the  
25      need to maintain a balance of fuel resources used for the  
26

1 generation of electricity.

2 The increases in fuel costs dramatically affect  
3 the economics of power plant operations and the optimal  
4 dispatch of generation resources. In order to maximize the  
5 efficient production of electricity, it is essential that  
6 regional grids be planned and operated in a manner that  
7 provides market access to a broad array of generating  
8 facilities.

9 The Midwest ISO issued its first regional  
10 transmission expansion plan in June of 2003. That plan  
11 evaluated the impacts of regional transmission expansion on  
12 the energy costs to the consumer.

13 Overall, we considered nearly a dozen regional  
14 plans that would easily pay for themselves when the  
15 reductions in overall production costs were considered. An  
16 important part of our planning process is to ensure that the  
17 transmission opportunities provided to new resources, don't  
18 curtail transmission access to existing resources.

19 Since then, we have continued to work with  
20 stakeholders on some of the more promising of these plans,  
21 particularly in the northwest part of the Midwest ISO where  
22 we have seen significant collaborative interests on the part  
23 of developers, industrial groups, transmission owners, state  
24 regulatory authorities and other state interests, and this  
25 would be for both lignite and for wind.

26



1           We also take the opportunity in our expansion  
2     plan to float ideas that would provide for economic  
3     development and expansions and entirely new projects. One  
4     idea that we're toying with right now, is to run multiple  
5     lines underground along the interstate highways with access  
6     the coal and lignite basins in the corridor where wind  
7     generation is going on.

8           We expect to be able to recommend specific plans  
9     and to identify principal beneficiaries for all the plans by  
10    the completion of our next regional plan in 2006. We'll  
11    also be looking much more closely over that timeframe, at  
12    other key areas farther to the East, in southern Illinois,  
13    Indiana, Ohio, and Kentucky, that have significant coal  
14    development plans, in an effort to define the regionally  
15    beneficial transmission in those areas.

16           In our 2005 plan, which is coming up in a month,  
17    we've identified the top 24 constraints as identified by  
18    previous TLR events, and 21 are included in this plan.  
19    We've been fortunate to have input from the OMS, the  
20    Organization of Midwest ISO States, in developing a regional  
21    transmission pricing policy.

22           The Midwest ISO has been engaged in a dialogue  
23    with the OMS and other stakeholders on the development of a  
24    comprehensive cost allocation policy for both reliability  
25    and economic or regionally beneficial projects. We expect  
26

1 to be filing tariff revisions to establish protocols for  
2 cost sharing of reliability projects within in a few months,  
3 with additional work expected to continue for about another  
4 year or two, to address economic projects.

5 The tough questions that the stakeholders are  
6 wrestling with are, first, the best measure of benefits that  
7 are both reasonable and yet can be implemented without  
8 endless debate; two, the distance over which the benefits of  
9 transmission extend in a very large RTO; and, three, the  
10 degree to which different parts of the system have been  
11 similarly planned historically, such that one area does not  
12 subsidize another in bringing all areas to similar  
13 standards.

14 One concept that has some momentum in these  
15 discussions is the so-called rough justice approach to cost  
16 allocation. This concept seems to recognize that it's  
17 sometimes difficult to target benefits of major transmission  
18 additions for which the aggregate benefits to customers as a  
19 whole, can be more easily demonstrated.

20 This cost allocation approach blends elements  
21 that will recognize a wider area of benefits with more  
22 localized effect, and also sets some upper bounds to shared  
23 costs as a means to encourage efficiency and address the  
24 regional differences that may exist.

25 The result is a proposal to allocate the projects  
26

1 as a blend as part postage-stamp, part subregional, and part  
2 local, once a project passes certain threshold criteria for  
3 needed cost sharing. Whatever policy results from these  
4 continuing discussions, it will be crucial for the State  
5 Committee to continue to shape the discussions along the  
6 lines that are generally considered reasonable and  
7 equitable, so that transmission owners can have a reasonable  
8 expectation of recovering costs they incur for these needed  
9 regional projects.

10 The second aspect of our transmission planning is  
11 to promote the free flow of electricity between RTOs and  
12 other transmission providers. To this end, we've entered  
13 into joint operating agreements with PJM and the Southwest  
14 Power Pool, and have in place, a memorandum of understanding  
15 with TVA.

16 Both of the JOAs include detailed provisions that  
17 will promote the identification of cross-border facilities  
18 that will reduce the need to invoke transmission loading  
19 relief orders, manage loop flow, and enhance the  
20 interregional power flows.

21 The JOAs also include cost allocation procedures  
22 that are designed to ensure that participants in one RTO are  
23 not asked to unfairly subsidize facilities that  
24 predominantly benefit customers in another. Having adopted  
25 objective rules of the road, up front, we hope to avoid the  
26

1       uncertainty of cost recovery that has plagued multiregional  
2       transmission projects in the past.

3               While we intend that the inter-RTO planning  
4       process be robust, we also intend to look, in the first  
5       instance, to market solutions to transmission constraints.  
6       With compatible markets in both PJM and the MISO, we expect  
7       price signals to identify the transmission corridors in  
8       which transmission enhancements will be most valuable and  
9       will permit resources to flow naturally, according to their  
10      value in the market.

11             Finally, it's worthwhile to keep in mind in a  
12      discussion of transmission pricing policies, that the  
13      transmission component of the customer's electric bill, is  
14      generally less than ten percent.

15             We need to get on with the prudent development of  
16      the transmission grid that will enable a competitive energy  
17      market to help reduce the other 90 percent of the  
18      electricity costs. Certainly, transmission planning and  
19      pricing that enables coal-based resources to participate in  
20      a competitive market, must be a fundamental part of that  
21      policy. Thank you.

22             CHAIRMAN WOOD: Thank you, Jim. Karl?

23             MR. PFIRRMANN: Good morning, Commissioners. PJM  
24      is pleased to have the opportunity to participate today in  
25      your efforts to focus on the regional transmission planning

26

1 process and the role that it plays in facilitating fuel  
2 diversity, as well as the use of coal resources.

3 PJM is certainly proud of what has been  
4 accomplished to date to open up markets to coal, but there  
5 is much more that we and others in this region can do to  
6 further enhance that use of coal.

7 It is for this reason that, today, PJM is setting  
8 out by example, a new initiative which we have labeled  
9 Project Mountaineer -- appropriately titled for the state  
10 that we're in -- to utilize our regional transmission  
11 expansion planning process to explore ways to further  
12 develop an efficient transmission super highway, if you  
13 will, to deliver the low-cost coal resources in this region  
14 of the country, to market.

15 RTOs have and will continue to bring benefits to  
16 this region. PJM has a proven, transparent regional  
17 planning process that has already identified over a billion  
18 dollars of transmission improvements, all designed to  
19 improve the reliability and economics of power flows in this  
20 region.

21 This is further been exemplified recently by the  
22 announcement by Exelon and PSE&G to contribute an additional  
23 \$25 million towards construction of projects identified  
24 through our regional planning process.

25 Additionally, PJM and the Midwest ISO, as Jim  
26

1       just mentioned, are working together to undertake regional  
2       planning for their 27-state footprint. Through our historic  
3       joint operating agreement and our joint regional  
4       coordination agreement just signed with TVA, we are working  
5       to further coordinate both planning and operational  
6       activities to bring down many of the barriers that stood in  
7       the way of past interregional coordination.

8               In short, PJM, the Midwest ISO, and TVA, are not  
9       just talking the talk, but, I believe, we are, in fact,  
10      walking the walk. As a result of the expansion of PJM, we  
11      have seen a dramatic increase in the amount of power flowing  
12      from this region to the Mid-Atlantic region of PJM, and much  
13      of that comes from coal-based generation.

14             The trend of these flows is illustrated in  
15      Exhibit A, which is attached to my testimony, and I sure  
16      hope a number of you have been able to pick up a copy of  
17      that.

18             These off-system sales represent generation over  
19      and above that needed for native load. It's available to  
20      serve other regional demands, at a cost far less than what  
21      would be otherwise possible.

22             Many of the constraints that serve to adversely  
23      affect or impact power flows, have now been internalized  
24      within PJM and within MISO, and redispatch of generation in  
25      response to locational marginal pricing has been used to  
26

1 manage congestion on transmission lines, rather than by  
2 simply curtailing otherwise economic transactions.

3 Also and perhaps most notably, the FERC has  
4 eliminated the through- and out-rates between individual  
5 transmission-owning companies and, indeed, between the  
6 Midwest ISO and PJM regions, as a whole. These through- and  
7 out-rates serve as a significant barrier to economical flow  
8 of coal-based generation in the past. The Commission should  
9 be applauded for taking this groundbreaking step.

10 Today, the Commission has properly asked, what  
11 are the present impediments to additional interregional  
12 agreements? Again, we are today illustrating, by way of our  
13 example, the proposed Project Mountaineer, as a way of doing  
14 that.

15 Our goal is to demonstrate the possibilities that  
16 could result from the targeted cooperative effort to  
17 identify additional transmission that could be built in this  
18 region, and to identify new ways to facilitate fuel  
19 diversity and improve options for economic, coal-based  
20 generation.

21 At this early stage, Project Mountaineer should  
22 not be considered a proposal for any specific line; rather,  
23 it reflects our commitment to utilize our regional  
24 transmission expansion planning process to involve the  
25 states, to involve the FERC, to involve the transmission  
26

1 owners in this region, and, in fact, all affected  
2 stakeholders, to explore new transmission opportunities, to  
3 improve reliability, and, again, enhanced access to the  
4 markets.

5 And because the process is undertaken by PJM in  
6 the context of our approved, independent regional planning  
7 process, we view this effort as one where the facts and  
8 figures will carry the day, as opposed to concern over which  
9 stakeholder is getting the benefit of a particular new  
10 project.

11 Presently, there are several notable impediments  
12 to West-to-East trade, and although West-East power flows  
13 have increased by approximately 35 percent since the  
14 completion of the integration of electric companies, there  
15 remains certain physical constraints on the transmission  
16 system that have further limited flows of coal-based  
17 resources to markets in the East.

18 These constraints are depicted on Exhibit B of my  
19 testimony, and principally exist at three different  
20 locations: On the western side, the first one is the Wiley  
21 Ridge Substation and the transformers at Wiley Ridge, as  
22 well as the Samas to Wiley Ridge transmission line that  
23 forms the AEP-Allegheny-First Energy interface. This  
24 particular substation is located in the northern panhandle  
25 of West Virginia.

26



1           The second is the Beddington-Black Oak 500 KV  
2       transmission line, thoroughly embedded in the Allegheny  
3       system, and located in the eastern panhandle of West  
4       Virginia and the western part of Maryland.

5           Finally, the third is the PJM Eastern Interface  
6       along the Delaware River, separating eastern Pennsylvania  
7       and New Jersey.

8           Any new additions to the transmission system,  
9       must address or minimize or eliminate the effects of these  
10      constraints.

11          So, what is Project Mountaineer? PJM has  
12      undertaken a preliminary delineation of the magnitude of  
13      transmission improvements that are needed to enhance West-  
14      to-East power flows by up to 5,000 megawatts.

15          As Exhibit C illustrates -- and, again, take a  
16      look at the back of the testimony to see Exhibit C -- to  
17      meet this increased power flow, two or more new backbone 500  
18      KV or 765 KV transmission paths of approximately 500 to 900  
19      circuit miles in length, will need to be constructed from  
20      the Kentucky, Ohio, and West Virginia areas to eastern load  
21      centers stretching from Washington, D.C., to northern New  
22      Jersey.

23          PJM estimates that the cost of these new  
24      transmission facilities will range from between \$3.3 to \$3.9  
25      billion, and although this is very clearly a costly  
26

1       undertaking, it's worth noting that one recent study  
2       estimated that \$4 billion in new transmission investment,  
3       would equate to 1 mil per kilowatt hour of a typical  
4       residential bill, if those costs were spread over the entire  
5       PJM footprint.

6               Of course, there remain considerable challenges  
7       to construction of transmission of this magnitude. My  
8       raising of these challenges does not indicate that the  
9       project is not worth undertaking, but, rather, to make sure  
10      that we all have a realistic assessment of the challenges  
11      before us on a regional basis.

12             The first of those challenges -- and I believe  
13      this was previously mentioned by Jeff Wright -- is siting,  
14      siting of these new transmission facilities. The high-  
15      voltage transmission line running from Ohio or Kentucky or  
16      West Virginia to the eastern seaboard, will require the  
17      siting approval of anywhere from three to six states.

18             For the siting process to be successful, it's  
19      critical that these states work together to look at not just  
20      the individual state facts, but also the benefits to the  
21      region as a whole in the strengthening of the interstate  
22      electric system.

23             In order to ensure an orderly approach to this,  
24      we envision that PJM's regional transmission expansion  
25      planning process, again, to provide a forum for states to  
26

1       come together to understand the need for these transmission  
2       facilities, and to help craft multistate solutions.

3               Each state's sovereignty over the siting process,  
4       will be respected in this process, but critical information,  
5       as Jeff called for, a forum for the development of regional  
6       solutions, will be available to all states within the PJM  
7       footprint.

8               The second area is in regard to environmental  
9       issues. We need to be especially proactive to address the  
10      land-use challenges that will arise with construction of  
11      this magnitude.

12              We need to collectively find routes that are the  
13      least damaging to the environment in this region. In short,  
14      we just need to build out this process as wisely as we can,  
15      with considerable planning and foresight, including  
16      consideration of advanced technology options that could help  
17      mitigate the environmental side of the impacts.

18              In terms of cost recovery, one of the first  
19      issues that's always raised is, who is going to pay for  
20      this? Fortunately, in resolving this issue, in PJM we have  
21      the benefit of a fairly long history of how to solve cost  
22      recovery issues.

23              Again, through our regional transmission process  
24      and with FERC's oversight, we have addressed the appropriate  
25      rules necessary for allocating costs, both for economic and  
26

1 reliability upgrades to the system.

2 Finally, coordination among transmission owners:  
3 Historically, transmission planning has occurred or has been  
4 characterized by individual utility planning efforts, with  
5 limited regional coordination.

6 The existence of an entity such as an RTO,  
7 changes that dynamic and opens new opportunities for  
8 cooperative approaches to ownership of transmission. PJM is  
9 presently proposing a consortium approach among transmission  
10 owners to address aging infrastructure issues.

11 There's no reason why a similar consortium  
12 approach could not be used and explored under the umbrella  
13 of Project Mountaineer. For example, public power entities  
14 who have long expressed interest in ownership of  
15 transmission facilities, can now be partners in such a  
16 project.

17 States interested in financing major construction  
18 projects, could now become partners in such a project.  
19 Again, the PJM planning process will provide a forum for  
20 exploring these consortium approaches.

21 So, what are our next steps? The hallmark of PJM  
22 has been to use an open stakeholder process to address  
23 issues which defy individual solutions, and we believe that  
24 the PJM stakeholder process, as well as good dialogue with  
25 the newly formed organization of PJM states, could provide  
26

1       excellent vehicles for further exploration and development  
2       of Project Mountaineer.

3               Our collective efforts should not end there. We  
4       pledge to work with each of the state's economic development  
5       entities, as well as utilities in this area that are  
6       committed to significant new investment in coal-based  
7       generation for this region.

8               All these efforts, of course, will be continually  
9       reported to all the Commissions, so that you can monitor  
10      progress.

11              A regional transmission organization with the  
12      size and institutional history of PJM, has already brought  
13      significant benefits to this region by enhancing  
14      reliability, by increasing utilization of coal-based  
15      resources, and by internalizing its strengths.

16              We stand ready to take our regional planning  
17      efforts to the next level, working with the states in the  
18      PJM region, working with the Midwest ISO, working with our  
19      stakeholders and the Commissions to roll up our sleeves and  
20      focus on ensuring adequate transmission infrastructure for  
21      the future.

22              We ask you to join us in these efforts; in fact,  
23      we ask you to become part of Project Mountaineer. Thank  
24      you.

25              CHAIRMAN WOOD: Thank you, Karl. Bruce, from  
26

1 Southwest Power Pool.

2 MR. REW: Good morning, Mr. Chairman,  
3 Commissioners, and Staff. I'm Bruce Rew, Director of  
4 Engineering for Southwest Power Pool.

5 Today we'll present a brief update on the current  
6 transmission planning and expansion activities at SPP. SPP  
7 believes that its recent activities related to cost  
8 allocation, aggregate processing of long-term requests, and  
9 transmission planning, will provide enhanced opportunities  
10 to expand the transmission system to meet short-term and  
11 long-term transmission delivery demands.

12 Last month, SPP received FERC approval of its RTO  
13 cost allocation provisions. These provisions, developed by  
14 the regional state committee, through an extensive  
15 stakeholder process, including state commission  
16 representatives, provides for certainty in the cost  
17 allocation of reliability and economic transmission upgrades  
18 needed in the region.

19 SPP has a license plate or zonal rate design with  
20 differing rates in each pricing zone. Reliability upgrades,  
21 which are those upgrades necessary to serve existing  
22 obligations, one-third of an upgrade's cost will be  
23 allocated on a region-wide basis, with two-thirds of the  
24 cost allocated to pricing zones deemed to benefit from the  
25 upgrade.

26

1           Reliability upgrades for new and changing network  
2 resources, will be included, as long as the resources are  
3 designated for at least five years in length, and the  
4 resources designated, in total, do not exceed 125 percent of  
5 the customer's projected load responsibility.

6           The inclusion of new network resources such as  
7 additional coal resources and regional cost sharing plans  
8 will be of particular interest today. Economic upgrades  
9 will be funded on a voluntary basis and will be eligible for  
10 revenue credits provided from new point-to-point and network  
11 transmission service or significant new facilities.

12           Revenue-crediting will also be similarly  
13 available for upgrades required for requested service and  
14 generation interconnection network service.

15           Last year, SPP was approved as an RTO. In  
16 anticipation of that approval, we initiated our regional  
17 planning process. That process consists of two parts:

18           First, it is focused on reliability upgrades,  
19 and, the second, economic upgrades. SPP has completed the  
20 reliability part of its planning process, and identified  
21 approximately \$550 million in needed transmission upgrades.

22           We are preparing for our next transmission  
23 settlement to determine potential regional economic  
24 projects. This settlement will be held in the first week of  
25 June.

26

1           Our work will lead to identification of  
2       transmission facilities that will provide regional economic  
3       benefits, allowing customers the opportunity to voluntarily  
4       fund those projects.

5           SPP will complete its first transmission  
6       expansion plan, including both reliability and economic  
7       upgrades, later this year.

8           SPP has also implemented an aggregate study  
9       process for long-term requests. There will be three open  
10      seasons each year, during which time customers will submit  
11      requests for long-term service.

12          All requests will be done simultaneously, in  
13      order to determine the least-cost transmission expansion  
14      necessary to accommodate the request. This new study  
15      process will provide for cost-sharing of transmission  
16      upgrades on a pro rata basis, as well as transmission  
17      revenue credits for charges in excess of a base rate.

18          This cost-sharing should facilitate greater  
19      transmission expansion in the region. Additionally, we  
20      initiated, on an experimental basis, a provision that allows  
21      for customers to pre-pay for transmission services. These  
22      prepaid funds are used to upgrade constraints limiting the  
23      availability of short-term transmission service.

24          This experimental program has resulted in funding  
25      of upgrades to ten facilities, resulting in expansion of  
26



1 transmission capacity in the short-term market. These  
2 recent efforts of SPP and its regional states committee,  
3 will improve the availability of incremental transmission  
4 service and provide greater market opportunities in the  
5 region.

6 Thank you for offering me the opportunity to  
7 participate in today's discussion. I'll be happy any  
8 questions.

9 CHAIRMAN WOOD: We'll have some, too. Thanks,  
10 Bruce. Paul?

11 MR. HALAS: Thank you, Mr. Chairman. I'm  
12 grateful for the opportunity to my views with you in this  
13 technical conference. As I walked into the room today, I  
14 saw a lot of familiar faces. That's when I remembered the  
15 first of these technical conferences at which I spoke. I  
16 believe it was one of your first ones, Mr. Chairman, the so-  
17 called "Slice-and-Dice Conference" about the delineation of  
18 functionality among RTOs, ITCs.

19 Jim, and my friend and colleague, Nick Windsor,  
20 went on one panel. You could call it the "Big Muddy" panel,  
21 and I think Karl and myself were on another panel, all with  
22 different hats on at that time.

23 A few things have changed since then; some  
24 haven't. Those guys are all still tough acts to follow, but  
25 we're all still here trying to bring the benefits of a  
26

1       robust transmission system to a robust energy market, and  
2       the things that we can bring in terms of economic efficiency  
3       and reliability to the nation's consumers.

4               Today's discussion obviously centers on one  
5       particular, very abundant potential fuel supply, which is  
6       coal. I think it's probably safe to assume that in the  
7       footprint of a traditional utility, there has been low-  
8       priced coal and a reasonable amount of load that the utility  
9       has sorted out with its commission, how to get that  
10      particular coal power to those particular consumers.

11             I think that what we're really focusing on today  
12      is more the regional aspects of getting coal power to cross  
13      over various boundaries, including utility boundaries and  
14      potentially RTO boundaries. I should note in that regard,  
15      that when we're talking about coal power sources and the  
16      transmission system that will hopefully bring those  
17      electrons to market, but the transmission system is kind of  
18      indifferent as to what electrons it brings.

19             If you think that coal might be in remote  
20      centers, the transmission lines are likely to either gather  
21      energy from or across sectors that have other diverse fuel  
22      sources like renewables, you have to transport renewables by  
23      rail; you can get the electrons to market by wire.

24             Just as you get the coal-fired electrons, you may  
25      find that coal-initiated generation and transmission also

26

1 bring to market, renewables where they might not have been  
2 cost-justified, and that's important, particularly as we  
3 talk about things that might happen in the West.

4 Steve's going to talk in great depth about things  
5 that are going on in the Wyoming and Montana area that would  
6 have those dual benefits.

7 This is a little bit of an advertisement, but I  
8 think that National Grid is particularly well suited to  
9 discuss this topic. For pretty much its entire existence in  
10 the UK, it's had both the ability and the responsibility to  
11 plan and implement plans on a regional basis.

12 It also has grown up in basically a coal-by-wire  
13 environment. National Grid's system in the UK, in England  
14 and in Wales, is bringing coal-fired electricity from the  
15 Midlands, down to the load centers in southern England, but  
16 it has also had the versatility to shift that transmission  
17 system as its uses in fuel sources have shifted, including  
18 to the North Sea gas and wind projects. It's also had the  
19 benefit, as I say, of being independent from generation,  
20 which has allowed it to align itself with the interests of  
21 consumers wherever it's located, and would also have the  
22 flexibility of moving to new, lower-cost generation sources,  
23 as the need suggests.

24 The question is, obviously, what is preventing  
25 it? If coal is an obvious solution, or renewables are an

26

1       obvious solution, what's preventing it from coming to market  
2       in a real, cost-efficient way?

3               In this regard, although I'm not going to try to  
4       follow Nick's act, I will try to repeat some of the things  
5       he mentioned at the transmission conference a couple of  
6       weeks ago. In that regard, with regard to our followup  
7       comments and our testimony in that conference, one thing  
8       that's fairly obvious, is fragmentation of ownership.

9               If you postulate three different utilities and  
10       call them A, B, and C, and A happens to have potential coal  
11       generation and C has load needs, and B is in between them,  
12       geographically, there's no incentive for B to build  
13       transmission to transport A's power to C.

14              If you couple that with the lack of a rational  
15       cost allocation for transmission, you might actually find  
16       that the consumers in B's territory, have to bear the costs  
17       of delivering A's power to C, so that's actually a  
18       disincentive in respect to the consumers in the area, and,  
19       obviously, to the regulators, as well.

20              If you think then about uncoupling that with a  
21       vertically-integrated system where B might itself own  
22       generation, there's an actual disincentive to produce or  
23       build that transmission. If the company -- one of its two  
24       main objectives is to enhance its shareholder welfare, then  
25       by competing with its own generation, it's actually  
26

1       diminishing shareholder welfare, so there's a fiduciary  
2       obligation in the utility, not to build or to contest things  
3       that are built.

4               Those things are very difficult, and the other  
5       side of it is, in the current environment, there's  
6       uncertainty as to whether, if transmission is built, whether  
7       generation will actually follow.

8               Dan talked about the other way, will transmission  
9       follow if generation is built? There is a cyclical  
10      development to the extent that if transmission investment  
11      would be made, but not have certainty of recovery if  
12      generation didn't follow. That's a greater level of risk  
13      than ought to be borne, we think.

14              So, what's needed? I think the ideal situation  
15      is the transmission companies owning large patches of  
16      generation that would be available on a regional basis, and  
17      they would internalize those flows, they'd internalize the  
18      costs, they'd internalize the benefits, and they'd have much  
19      less of the contention that exists today.

20              That's nirvana, certainly, from National Grid's  
21      point of view. What's really necessary in the near term, is  
22      certainly a robust regional transmission process with  
23      responsibility for, we think, taking into account, both  
24      reliability and economics in the same sorts of analyses.

25              Every transmission investment will have impacts  
26

1       on both reliability and economic efficiency. A system that  
2       bifurcates that analysis, we think, doesn't really give full  
3       credit, and there may be some additional costs along the  
4       way.

5               We think independence in that planning process is  
6       essential. It allows the planning body, whether it's an RTO  
7       or an independent transmission company or a group of states  
8       that want to get together and plan something, to align  
9       themselves with consumers, not necessarily with the  
10      generation interests.

11             RTOs, are they the answer? We think they're a  
12      good first step, and they provide a great platform for the  
13      debate. My view is that they're neither necessary nor  
14      sufficient in their current aspects to a robust regional  
15      planning process.

16             If you look at things like the Wyoming  
17      Infrastructure Authority or the Western Governors  
18      Association, or the recently announced Frontier Project, no  
19      RTO in place, but where there's a demonstrated need and  
20      demonstrated resources, people of like mind, not even of  
21      like mind, but people with a regional view, have come  
22      together and started, anyway, the process that will bring  
23      the right kind of resources to bear.

24             In looking at the benefits in proportion to the  
25      use of the power and generation of the power, there is a

26

1 mind out in the West these days, that the beneficiaries will  
2 actually formulate and pay for the Frontier line.

3 That's unusual. We think it's very healthy, and  
4 we look forward to working with those states, with Steve and  
5 the Infrastructure Authority, with the Frontier Steering  
6 Committee, to capitalize on that momentum, capitalize on an  
7 economic drive to get that project put forward, and also, to  
8 the extent that the utilities have resource percentage  
9 requirements with respect to renewables, this may be a way  
10 to get that done, as well.

11 We think the RTOs, to the extent that they have  
12 undertaken it, are doing a great job on reliability. We  
13 encourage all the RTOs to take the next step and really look  
14 at economics.

15 I think Karl and Bruce both indicated that PJM is  
16 going to move forward with planning in the economic area and  
17 we certainly applaud that. We think it's necessary, and we  
18 applaud the leadership that they have taken in that role.

19 Jim's got the same thing going on in the Midwest  
20 ISO, certainly with respect to reliability and there is  
21 acceptance within the Midwest ISO. I think there are still  
22 some uncertainties as to whether economic planning will  
23 really be accepted, and there are some huge concerns over  
24 cost allocation.

25 We've been there fighting that battle with you  
26

1       for the last couple of years, Jim, and whether or not we'll  
2       be there to see if the rate issues are at least brought up.  
3       Clearly, RTOs are doing a great job in terms of making it  
4       all on an equal basis, that transmission capacity that is  
5       available.

6               I think the next step in development is to  
7       actually actively take steps to make more transmission  
8       capacity available in all times, both near-term and long-  
9       term.

10              What can the Commission do to help that? I would  
11       suggest that the Commission has done a great job, at least  
12       in the RTO areas where they've focused on getting companies  
13       into RTOs. But I would urge the Commission not to be  
14       comfortable with mere RTO membership, and to continue to  
15       improve the model, increasing the independence of  
16       transmission service, and continuing to encourage the RTOs  
17       to take steps in the near term, the medium term, and the  
18       long term, to make more transmission capacity available.

19              We think that the goal of the Commission has been  
20       and ought to continue to be increasing separation of  
21       transmission ownership and operation from the vertically-  
22       integrated model. We think that's healthy for the economy  
23       in the long run, and think that that long-term objective  
24       ought to be borne in mind in the medium-term policy  
25       initiatives.

26



1                   We think the Commission ought to require a reward  
2     for both the regional planning process, and continue to  
3     encourage PJM and other RTOs to continue to improve their  
4     infrastructures.

5                   We think the fundamental nature of RTO structure  
6     and governance may not be the ideal vehicle, but that's what  
7     we have now. Let's drive that forward to at least make the  
8     low-hanging fruit, the necessary improvements, if we can.

9                   We think there are some biases in here. Many of  
10    the protocols for the drive for merchant generation or so-  
11    called participant funding, we think those biases ought to  
12    be removed.

13                  One particular aspect that is troubling in terms  
14    of transmission concerns, is the abandoned plant penalty, if  
15    you will. A transmission project, even if approved, might  
16    only be able to cover 50 percent of the costs, should the  
17    generation not follow it.

18                  I think that's a particular policy that ought to  
19    be looked at again, and we think that the Commission ought  
20    to encourage an independent participation, particularly in  
21    some of these long-haul projects, as they may offer an  
22    elegant solution to some of the regional or statewide  
23    contentions that naturally follow the current configuration  
24    of a footprint.

25

26

1 CHAIRMAN WOOD: Thank you, Paul.

2 Steve.

3 MR. WADDINGTON: Good morning, Mr. Chairman,  
4 Commissioners, and staff. I am delighted to be here this  
5 morning.

6 My involvement in RMATS, the Rocky Mountain Area  
7 Transmission Study, began in its inception when I was  
8 serving as its energy policy advisor.

9 Governor Friedenthal founded the joint Wyoming  
10 infrastructure authority. I'm looking forward to continuing  
11 my involvement in the RMATS efforts and the unfinished  
12 business of getting transmission developed in the Rocky  
13 Mountain subregion of the Western interconnect.

14 Phase one of ARMATS provides some important  
15 lessons and illustrates how transmission planning can be  
16 both a positive process and a useful forum for stakeholders  
17 who have hopes and concerns about the future of the grid.

18 ARMATS is moving into a second phase. As our  
19 efforts are beginning to bring specific transmission  
20 expansion ideas into detailed study for commercial  
21 viability, ARMATS has met some significant challenges. I'll  
22 touch on those at the end. And I'll be echoing a lot of  
23 what we've already heard from other panelists.

24 As many know, ARMATS was driven by widespread  
25 appreciation of the economics of low-cost supply that is  
26

1       bottled up by a lack of transmission in Wyoming and Montana  
2       and the corresponding need for power in centers throughout  
3       the West.

4               Our recent experience, as the chairman mentioned,  
5       with high and volatile natural gas prices has heightened  
6       concern with increasing over-reliance on combustion turbines  
7       located close to the load centers.

8               The question of the outset of ARMATS is whether  
9       low cost, clean coal and wind resources in Wyoming and  
10      Montana could provide an economic alternative to the growing  
11      loads and power needs.

12              An ARMATS phase one study made a compelling case  
13      that the economics of clean coal and wind, including the  
14      costs for necessary transmission, would provide consumers  
15      throughout the West with significant benefits compared to  
16      the business as usual reliance on gas fired generation.

17              The ARMATS screening study also recommended  
18      specific transmission expansions for further study and  
19      development both within the Rocky Mountain footprint and  
20      long distance 500 KV scenarios for moving power from the  
21      region to California and the Pacific Northwest.

22              The ARMATS report also examines cost allocation  
23      and cost recovery issues and concludes the regulatory  
24      uncertainty is the key obstacle that needs to be overcome in  
25      the West. As a first, ARMATS recommended further work on  
26

1 possible solutions by the state's utility commissions and  
2 agencies reporting to the governors that are sponsoring  
3 ARMATS.

4 This multi-state committee has been working now  
5 for about six months. A draft report has recently become  
6 available that's ultimately contemplated as an MOU among the  
7 state commissions and would be filed at FERC.

8 Another direct consequence of ARMATS has been the  
9 recently announced frontier line, which represents a  
10 partnership between four Western governors spanning across  
11 Wyoming, Utah, Nevada, and California.

12 The frontier line MOU stems directly from the  
13 economic potential that was demonstrated in ARMATS and  
14 diversified reliance on low-cost Rocky Mountain resources  
15 with transmission expansion and manifests the beginning of a  
16 serious effort to bring this opportunity to commercial  
17 viability.

18 As the phase two efforts are beginning to advance  
19 the ARMATS recommendations, major challenges are in front of  
20 us. I'll touch on three of these. And I think we've heard  
21 about all three already this morning.

22 First, the Western interconnect does not have an  
23 RTO. We lack a regionwide body that can comprehensively  
24 plan or potentially would be able to broadly allocate the  
25 costs of needed transmission upgrades.

26

1                   In the West it may be necessary to explore  
2                   alternative voluntary or regulatory means for a broad-based  
3                   recovery of transmission costs, especially if it can be  
4                   legitimately demonstrated that facilities would provide  
5                   benefits across a wide geographic area.

6                   The ARMATS projects and the frontier line may be  
7                   candidates for exploring more innovative, cooperative rate-  
8                   making solutions.

9                   Second, the integrated resource planning and RFP  
10                  requirements and processes of many load-serving entities  
11                  present us with a challenge. While ARMATS was never to do a  
12                  regional transmission and generation plan, utilities  
13                  generally plan only for their own parochial requirements.

14                 Regional transmission-dependent solutions can get  
15                 short thrift in RIP's and ORP's due to long lead time  
16                 associated with transmission in coal plants and their  
17                 convention assumption for assigning of transmission costs  
18                 directly and exclusively on dependent generation when doing  
19                 least cost or competitive bid comparisons.

20                 A third major challenge I think we all recognize  
21                 will be in the siting and permitting arenas. ARMATS  
22                 illustrates the importance of gaining political legitimacy  
23                 for transmission planning and expansion.

24                 My view is that garnishing strong support up  
25                 front from governors and others across the necessary  
26

1 corridors will be a plus when we get to siting and  
2 permitting issues.

3 We also have in the West a transmission siting  
4 protocol that was promulgated by the Western Governors  
5 Association a few years ago on the shelf ready to be tested  
6 on a multi-state siting effort.

7 Those are comments on ARMATS. Thank you very  
8 much for the opportunity to be here. And I look forward to  
9 our discussion.

10 CHAIRMAN WOOD: Thank you, Steve.

11 Bob.

12 MR. SMITH: Good morning, Chairman, Commission,  
13 and staff. I am Bob Smith. I manage the transmission  
14 planning group at Arizona Public Service, one of the major  
15 transmission providers in Arizona. And I really appreciate  
16 the opportunity to be here today to share some thoughts with  
17 you.

18 This is my first opportunity to be on a panel at  
19 a FERC technical conference. And Chairman Wood, as I heard  
20 you introduce the folks on the panel with me and I looked  
21 through the agenda, a couple of things came to mind. One,  
22 I'm either in some really good company here or, two, I need  
23 a promotion.

24 (Laughter.)

25 MR. SMITH: I think both are probably true.

26

1 I'd like to talk with you a little bit this  
2 morning about the status of transmission planning efforts in  
3 the Southwest. When I refer to the Southwest, I'm talking  
4 about visuals. We're talking about an area from basically  
5 Albuquerque and El Paso on east over to San Diego, Los  
6 Angeles, and California and really including areas of  
7 northern Mexico to the south and up to Las Vegas and  
8 southern Colorado to the north.

9 So if you can just picture that. And trust me,  
10 it's all a long ways from Charleston, West Virginia.

11 I also want to talk a little bit about the  
12 successes of these planning groups that we've put together  
13 in the Southwest and talk a little bit about the challenges.  
14 And I think a lot of you have already heard we can reinforce  
15 those.

16 And finally, some opportunities for improvement.  
17 The transmission providers in the Southwest have put  
18 together two regional or subregional planning groups, if you  
19 will -- the Southwest Transmission Expansion Plan Group, or  
20 STEP, is chiefly concerned with getting additional  
21 transmission capacity into California. So when I make  
22 reference to STEP, it's transmission into California.

23 The second group is the Southwest Area  
24 Transmission Planning Group or SWAT. This is chiefly  
25 planning within the Arizona, New Mexico, and surrounding  
26

1 area footprint. So when I refer to SWAT, think of Arizona  
2 and New Mexico. And I'll leave the more specific visuals up  
3 to you folks.

4 Both of these groups coordinate with the seams  
5 steering group of the Western interconnection or SIGWI. I  
6 think a lot of you have heard of this group. APS has an  
7 active leadership role in both the subregional planning  
8 groups and in working with SIGWI. In fact, we cochair the  
9 STEP along with the California ISO.

10 I'll talk a little bit about the STEP in more  
11 detail. First, it involves an area of western Arizona,  
12 southern California, southern Nevada, and northern New  
13 Mexico.

14 The chief objective of this group is to identify  
15 transmission plants to increase the transmission capability  
16 from western Arizona into California mainly so that the  
17 California market can access the new gas-fired independent  
18 power producers that have built generation in the Paloverde  
19 area in western Arizona.

20 The group has put together a four-part  
21 transmission plan. There are two plans to upgrade the  
22 existing transmission system from Arizona into southern New  
23 Mexico and southern California. There is the plan to build  
24 a new 500 KV line from the Paloverde market hub area into  
25 the LA basin -- the second Paloverde Dever's line.

26



1           The group has developed two options for a new 500  
2   KV line into San Diego to increase reliability and aid in  
3   the economics of the San Diego area.

4           All together this will increase the transfer  
5   capability from western Arizona into southern Nevada and  
6   southern California by roughly 3,000 megawatts.

7           Turning to the SWAT group now. This is a  
8   planning group that looks at a footprint consisting of  
9   Arizona, New Mexico, the Las Vegas area of southern Nevada,  
10   the Imperial Valley area of southeastern California, and the  
11   El Paso area of West Texas.

12           This group is really coordinating existing plans  
13   that the individual transmission providers may have already  
14   developed according to this group and also coordinating  
15   needs assessments so their coordinated plans can be  
16   developed by multiple entities and participate in projects  
17   that might arise from the plans.

18           One of the subgroups -- we have several other  
19   technical subgroups within this area which further  
20   subdivides planning into the various regions. One of these,  
21   the Central Arizona Transmission Study Group, or CATS, has  
22   actually put together several 500 KV. One of these is  
23   actually undergoing permitting today. These are multiple-  
24   participant, joint-owned projects.

25           There are numerous transmission projects planned  
26

1 in the Arizona area in particular. You hear a lot of folks  
2 say no one is building transmission. I can assure you this  
3 is not true in Arizona. It's another area of large load  
4 growth.

5 APS alone has a 10-year transmission improvement  
6 plan that has committed us to spending over \$1 billion in  
7 new transmission improvements. The other transmission  
8 providers, the Salt River Project and Arizona Electric, have  
9 similar extensive plans for the next 10 years.

10 One of the things we've done in Arizona in the  
11 last couple of years -- the Arizona Corporation Commission  
12 every two years performs an assessment of the 10-year plans  
13 of the transmission providers referred to as the "biennial  
14 transmission assessment."

15 What it does it determine the adequacy of the  
16 existing and the planned transmission system to reliably  
17 meet the electrical needs of Arizona. I should point out  
18 that both SWAT and STEP are voluntary, open stakeholder  
19 organizations. I think this is one of the things that  
20 contributes to the success of these groups.

21 So I'll talk in a little bit more detail about  
22 some of these successes at these organizations. Again, the  
23 open stakeholder process allows for the development of study  
24 plans with all the participants having input into that so  
25 you can get input on how the study is going to be run.

26

1           And as progress of the studies occurs, you can  
2       report back through the open stakeholder process feedback on  
3       adjustments that might be made. And finally the results are  
4       presented in these forums.

5           It's been a very, very good forum for  
6       transmission providers to perform and present the required  
7       studies of the local regulatory community.

8           I know in Arizona as a result of the biannual  
9       transmission assessment for the past couple of years  
10      transmission providers are required to perform reliability  
11      must run analysis within congested load pockets. This  
12      provides an open forum for all the stakeholders to be  
13      involved in those studies.

14          Another success is the involvement of the state  
15      regulatory community. It really helps when you go to turn  
16      in a project if the local regulators have already helped you  
17      identify a need for a project and in fact have helped you  
18      pick the best alternative of several of the projects.

19          There have been a number of projects that have  
20      come out of these forums, as I've discussed. They all have  
21      multiple participants. In California, again, a lot of this  
22      involved upgrades or expansion of the existing transmission  
23      system from Arizona into California.

24          And within the SWAT what we're doing is  
25      coordinating plans to adequately serve load growth and  
26

1       improve reliability of the area.

2               Finally, one of, I think, the most important  
3       successes of these planning groups are the generation  
4       developers who are engaged in the process. We have a  
5       developer, specifically a coal developer in the Four Corners  
6       area, that has been working with the SWAT group for several  
7       years now and, in fact, has filed an interconnection request  
8       with APS on behalf of the other owners.

9               At the Four Corners switch station we've had  
10      numerous coal and renewable developers that have been a part  
11      of this process both within the Southwest and larger  
12      involvement in the Western interconnection in general  
13      through SIGWI and ARMATS, specifically in the eastern  
14      Arizona area. The man we had up here earlier showing the  
15      planned coal development.

16              There is plant expansion -- at a coal plant in  
17      central eastern Arizona called the Springerville Generating  
18      Station 800 megawatts of planned upgrade coal. And there  
19      are transmission upgrades planned to accommodate this  
20      expansion.

21              I'd like to shift some of the challenges that we  
22      have seen within these organizations. While I ended up the  
23      successes with the fact that the generation developers are  
24      engaged, actually one of the largest challenges that we have  
25      is getting good generation planning information to use in  
26

1 making our transmission planning decisions.

2 As you've heard, these transmission projects take  
3 years to plan, permit, and build. They are very, very  
4 expensive. The risk management of a project without a  
5 guaranteed usage of that is something that I just don't see  
6 how we overcome.

7 Another issue that we have is that historically  
8 the transmission system in the Southwest -- and this is true  
9 for a large part throughout the West -- has been jointly  
10 owned. So a number of transmission providers go in together  
11 to build a large EAB project, so they could all benefit with  
12 incremental gains without the unnecessary capacity of the  
13 whole project themselves.

14 Historically this has been joint ownership by  
15 both FERC jurisdictional entities and nonjurisdictional  
16 public power participants. Today what we see is that at  
17 least in California we have an RTO that to date it's been  
18 difficult to try and put together joint projects where you  
19 can have true ownership rights of non-ISO participants.

20 The tariff tends to favor the member transmission  
21 providers building and owning 100 percent of the facilities  
22 and turning all those facilities over to the ISO.

23 It's the different requirements of the FERC  
24 jurisdictional entities. A lot of the nonjurisdictional  
25 entities are becoming wary of participating in projects

26

1       because of at least the perceived possibility of being  
2       brought more under FERC rules. Obviously the financial  
3       responsibility questions of who would be required to build  
4       projects, cost recovery issues.

5               Finally, even though I think we've made a lot of  
6       progress in the economic study tools and modeling, there are  
7       still a lot of challenges in modelling hydropower gas  
8       prices, transmission charges that may be levied on the grid,  
9       and bilateral contracts.

10              The last thing I want to mention are what I  
11       consider some opportunities for improvement within these  
12       groups. And I think in the industry overall recognizing  
13       that both the SWAT and STEP are totally voluntary. And I  
14       think they may be one of the reasons we've had the success  
15       we have had so far.

16              We also understand that to really get where we  
17       need to be in terms of developing transmission, we do need  
18       to enhance the structure, have some kind of governance, and  
19       ultimately an authority and responsibility of the planning  
20       groups.

21              This is going to allow us to keep the momentum  
22       that we've already had to date. We do need to get greater  
23       accuracy and have a longer horizon for generation planning  
24       information.

25              Finally, the determination of beneficiaries of  
26

1 transmission projects and enhanced cost recovery mechanisms  
2 need to be developed.

3 So in summary, the transmission providers in the  
4 Southwest have put together two planning groups -- voluntary  
5 open stakeholder forums. We have a number of plant  
6 projects. And we look forward to working further with the  
7 FERC in improving the processes -- specifically, I think,  
8 the increased structure and governance of these  
9 organizations in the future.

10 CHAIRMAN WOOD: Thank you.

11 Charley, we'll end with you.

12 MR. BAYLESS: Thank you, Mr. Chairman. I know  
13 many of the people in the room. And I've got a couple of  
14 comments.

15 As many of you know, I was the CEO of Tuscon  
16 Electric and Illinois Power. But for the last two months or  
17 so I've been a university president. I suddenly came home  
18 to my alma mater, West Virginia University Institute of  
19 Technology, and I have to admit until Bob said it, I had not  
20 heard the words "reliability must run" for two months.

21 (Laughter.)

22 MR. BAYLESS: I apologize for being late. At a  
23 university you have to get your tuition and fees. Does this  
24 sound familiar? You have to get your tuition and fees  
25 approved by the Higher Education Policy Commission. So  
26

1       today rather than being at the FERC I was at the ATPC doing  
2       a rate case getting the tuition and fees approved. We  
3       managed to do that.

4               I can also tell you a difference. One of the  
5       people when I took the job told me, look, you've got to  
6       realize half the faculty is going to believe that they can  
7       do the job better than you can. The other half of the  
8       faculty will believe that anyone can do the job better than  
9       you can.

10              (Laughter.)

11              MR. BAYLESS:    So far that hasn't been the case.  
12       When I talked to Chris about this -- I grew up just a few  
13       miles from here. I went to high school and college in West  
14       Virginia.

15              We talked about this. And I said, "Look, I've  
16       been in the transmission pricing debate. I've spent more  
17       time that I care to think of with Kevin Kelly arguing this  
18       point or that point. Not an argument. Just discussing  
19       transmission pricing.

20              And I said, "I want to talk about the  
21       inevitability of coal." Being from West Virginia, that I  
22       think is my duty. But regardless, we are in the United  
23       States. About 3 percent of the world's population -- 3  
24       percent -- will use almost 30 percent of the energy in the  
25       world.

26



1                   Think about that -- 29.6 percent in 2003. When  
2                   you look at what we're using in natural gas, according to  
3                   the EIA in 2003, there was 5,300 TCF in the world trading  
4                   under the Ts. We had in the U.S. 193 Ts. We have less than  
5                   4 percent of the gas in the world here, yet look what we're  
6                   using.

7                   If you look at gas and you say, well, the current  
8                   usage rates that we're using -- how long is it till we go  
9                   through the known reserves?

10                  The answer is about nine and a half years.  
11                  That's all we've got left. Look at the decline curves in  
12                  the wells. For those that are in the gas business we can  
13                  find new reserves. I know that. But we're punching more  
14                  and more holes in the ground. We're getting less and less  
15                  out with every hole.

16                  Additionally, in 2003 we used about 24 T's in the  
17                  U.S. 5.2 of that was electric generation. Most of that, as  
18                  we all know, was shut down.

19                  If gas prices fall to probably \$3.50 or \$4.00,  
20                  that electric is going to come right back on. And that 5  
21                  T's is going to go right back up.

22                  People talk about LNG. There was an article in  
23                  the paper this morning in USA Today -- I can't remember  
24                  which one -- about the exporting nations. And they're now  
25                  sort of forming an OPEC to make sure that the prices don't  
26

1 fall too much because, as you know, you've got to have about  
2 \$4.00 -- the point being, I believe, gas is going to stay  
3 high. Right now it's \$7.00 a million BTU's.

4 You look at oil. It's the same thing. We have  
5 three or four percent of the oil in the world here. And on  
6 a dollar per million BTU basis oil is about 5.8 million  
7 BTU's a barrel.

8 Oil is about \$10 a million BTU's. You've got gas  
9 at 7, oil at 10. What's happening?

10 The basic premise I think that is going to cause  
11 a fundamental shift in our economy is that the foreign  
12 nations are making the same transition from a labor economy  
13 to an energy economy that we made 100 years ago.

14 When you're making that transition, you have  
15 economic terms at different elasticity than we would in this  
16 room. And I'm going to try to put you in the labor economy.  
17 You are now on an interstate in your favorite town. But  
18 it's got to be north. You're three miles from any exit.  
19 There's a blizzard. You're out of gas.

20 You're now firmly in the labor economy. How do  
21 you like that? What are you going to pay for gasoline to  
22 make that transition to get you back into the energy  
23 economy?

24 The answer is a lot. If you're a farmer behind  
25 oxen in India or China -- or I don't care where it is --

26

1       your standard of living, your family's standard of living,  
2       your take home can triple, quadruple, quintuple, et cetera  
3       if you could get gasoline at \$6 or \$7 or \$10 a gallon and a  
4       used tractor.

5               They have the same view of energy as we do when  
6       we're stranded alongside the road. To make that transition  
7       from a labor economy to an energy economy is worth so much  
8       to them they are going to continue to make that jump in all  
9       of those countries.

10              High prices. People say, well, high prices will  
11       slow demand down. And it will in the U.S. And it actually  
12       will slow it down. It won't be as high as it would have  
13       been in China and the other places. But given the fact that  
14       they are making that leap, they are going to go ahead and  
15       make it.

16              And you'll say, well, can you make that leap at  
17       \$10 a gallon? Well, Europe has run for years at \$5 a  
18       gallon. When we made the transition in the United States  
19       from a labor economy to an energy economy, we started with  
20       whale oil. Oil was way over \$100 a barrel and we couldn't  
21       buy tractors and cars and lightbulbs. We had to invent  
22       them.

23              We made the transition. I would submit it's much  
24       easier to make the transition.

25              So here we sit with 3 percent of the world's  
26

1       population using 30 percent of the energy. I would submit  
2       the rest of the world is going to catch up. They are going  
3       to catch up fast. And that is going to put continued upward  
4       pressure on oil and natural gas.

5               Now, let's look at coal. When you switch to  
6       coal, the story is different. If you look at oil, we have  
7       about 12 years of production -- reserve to production ratio.

8               If you look at coal, given your view of reserves,  
9       it depends on what you view as economic. We have about 250  
10      years of coal left in the United States. We have 25 percent  
11      of the known coal reserves in the world here.

12              We have as much coal as OPEC has oil on a BTU  
13      basis. Whereas oil is \$10 a million, gas is 7, coal is 2 or  
14      3. My view is that we are going to switch increasingly to  
15      coal.

16              Our industry -- Bob mentioned this. When I was  
17      at Tuscon Electric we completed that and now we're building  
18      more. You think about how many units we've built in the  
19      last 10 years and I'll give you a number that's going to  
20      shock you. I think we've built 60,000 to 100,000 megawatts  
21      of new coal units in the last 10 years.

22              Everybody in the room says Charlie has just gone  
23      off the deep end. You can almost name them on a couple of  
24      hands. You can start down.

25              My view -- I'm on the board of Dynegy. We've  
26

1       increased the capacity factor of our coal units from the  
2       60s. And last year if you look at our 10 K, it was 90.  
3       Coal plants -- big coal plants, cyclone units. The Baldwin  
4       unit, 4,000 megawatts of coal at 90 percent.

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

1           MR. BAYLESS: What we've done as an industry in  
2 the last few years, we've raised the capacity factor of our  
3 units from the '60s to the '80s. I submit that's the same  
4 as building about 60 to 100,000 megawatts new coal plants.

5           We really haven't had to build anything in the  
6 last 10 years. There has been a few units started like  
7 Springerville, because Arizona, in Tucson, there was an  
8 article in the Arizona Republic a year or so ago that said  
9 the dessert is disappearing around Phoenix at the rate of  
10 one acre an hour to development.

11           We've got it build up there, there is just no  
12 way, but I believe that given the price of coal, I think  
13 we're going to shift massively to coal units in the United  
14 States. I think nuclear will come back also, but I foresee  
15 coal is going to happen.

16           I also believe we're going to hit heavily on coal  
17 gasification. I understand Mike was here talking about the  
18 unit they're building. But you look at a gas plant, you can  
19 get efficiencies of 60, 65%. Now it takes a lot of energy  
20 to gasify the coal, but you can still get a coal unit. You  
21 want a startling statistic? In 2003, according to the EIA,  
22 we put 39.5 quadrillion BTUs into electric production.  
23 Coming out the other end, 39.5 in 13 out.

24           The other 26 quads were conversional losses.  
25 That's a lot of BTUs. We can't afford that. We put a whole  
26

1        accounting around \$20 oil, \$2 gas, \$10 to \$20 coal. We've  
2        got to restructure our economy, and you're in a place right  
3        now that's really -- if you drove up and down the Kanawha  
4        valley, you'd see petrol chemical plants that are losing  
5        jobs left and right to foreign competition because gas has  
6        gone to \$7 an mcf, and abroad you can get it for \$0.50 and  
7        \$1.00.

8                    The premise I have is that we're going to switch  
9        to coal, we're going to need massive amounts of transmission  
10       from West Virginia going otherwheres. I think that it's  
11       cheaper to build the plants here. We're going to see a lot  
12       of coal gas and clean coal technologies. We have to worry  
13       about the environment. I give a lot of speeches on global  
14       warning. I happen to be a fanatic believer in that and I  
15       think it's already here.

16                   But we've got to take care of the environment. I  
17       think it's inevitable that we're going to start building  
18       coal plants and we've got to build the transmission and the  
19       infrastructure and the rules and regulations to cope with  
20       it. Thank you very much.

21                   CHAIRMAN WOOD: That brings it all back home,  
22       doesn't it. How are we going to get it to the people, and  
23       the transmission issues? It certainly is the general focus.  
24       Nora.

25                   COMMISSIONER BROWNELL: I'm delighted and  
26

1       interested to hear all the great planning efforts going on  
2       but we had a conference a couple of weeks ago in which some  
3       pretty stark statistics were given about how little we  
4       actually invest in our transmission system, compared to  
5       almost any other part of the developed world.

6               The consistent theme I hear is, we need to deal  
7       with economic planning and we need to deal with cost  
8       allocation. We've been needing that now in RTOs and outside  
9       of RTOs. What's missing? What is it going to take to get  
10      there? We've heard from the states their frustration, that  
11      we can't get there. We've heard from people who want to  
12      invest huge amounts of capital, yet we've got a planning  
13      process that's largely dominated by the current providers  
14      who do have some perverse incentives, if you really look at  
15      it.

16             So, what is it going to take to get from here to  
17      there in a short period of time? Jim, why don't we start  
18      with you? What's missing in the planning process? How do  
19      we bite the bullet on cost allocation, understanding that  
20      the whole beneficiary issue changes? It's a dynamic issue  
21      and so we can't get that perfect timing.

22             MR. TORGERSON: The first one is the cost  
23      allocation, that has to be figured out who the beneficiaries  
24      are and people stepping up and saying, okay, we acknowledge  
25      this, we'll share the cost, we'll share the benefits, and it  
26



1 involves all those states.

2 The other aspect, I mean, we've done some  
3 planning processes, not looking at economics. We did some  
4 in our 2003 plan. We're doing more in our 2005 plan,  
5 identifying where transmission lines can go in and open up  
6 these regions, and I'm not talking about improving the  
7 reliability.

8 We have 24 different spots where this proposal  
9 gets addressed and it's going to take a few years, but those  
10 will be address. They haven't getting addressed from our  
11 previous plan. It's the economic ones that have to get, and  
12 getting people to lead the charge at this point we believe  
13 we're going to have to be some of the ones to do it. Get  
14 some groups together that actually will push through  
15 Congress.

16 We have some ideas on putting underground volts  
17 that would carry, you know, large transmission lines from  
18 the areas where you have lignite or coal and other areas and  
19 move that so you're not stringing the wires up above, and  
20 maybe you run them along the interstate highways, but that  
21 would take Congress to allow that to occur.

22 So we're going to have to start pushing it.  
23 We're going to have to get some groups who want to actually  
24 build. We hear the money is available, but I haven't seen  
25 anybody step up and say, yes, let's take on that project and

26

1 start doing it.

2 I've heard groups that want to do it. The ICCs,  
3 the Transco, I think there is a number of them who want to.  
4 So we need some leadership. That's exactly what the RTOs  
5 are going to have to do rather than just plan. They're  
6 going to have to lead.

7 COMMISSIONER BROWNELL: I'm sure we're going to  
8 hear from Paul about the willingness of an independent  
9 transmission company to come in. What candidly we hear is  
10 that the processes are not as independent and open as they  
11 might be, so new players haven't actually been welcomed.

12 KARL: You talked about a consortium, you  
13 mentioned public power, who does want to built. We don't  
14 see any ITCs and PJM. Would they in fact be welcome at the  
15 table?

16 MR. PFIRRMANN: Certainly they would. If I look  
17 back over my 32 years in this industry, most of which were  
18 spent out on the construction end of the business, early on  
19 in the process, we built transmission as we built new  
20 generation. They went hand in hand.

21 The only way you built a new transmission plant  
22 is if you, in fact, had a significant amount of transmission  
23 to take that generation load. It was transmission that was  
24 built to basically server a fairly local need.

25 Later, during the 90s, I think what happened was,

26

1       that there was a reluctance to build anything because it was  
2       so difficult to site a project. It was so difficult to get  
3       to a consensus position on the need for a project and how to  
4       best go about doing it, to actually share the benefits.

5               RTOs have stepped in to answer a lot of those  
6       questions. I think the regional planning process that RTOs  
7       bring, brings that independent view of the need and can do a  
8       better job of assessing that need and convincing all the  
9       stakeholders that we are addressing needs in a very  
10      independent basis.

11             Certainly, by getting multiple parties to be  
12      involved in a consortium approach is a way to get around  
13      some of the concerns about one particular group of  
14      stakeholders benefiting more than others.

15             When you open the process to ITCs, to Coops,  
16      Munics, virtually any group that would like to get involved  
17      in the transmission process, I think you step across that  
18      boundary of trying to find the natural opposition to the  
19      project and instead find some natural consensus about the  
20      project.

21             COMMISSIONER BROWNELL: So better assessment is  
22      one of the things and a more consortium approach would be  
23      something that would add value to the existing process  
24      today?

25             MR. PFIRRMANN: Absolutely.

26

1                   MR. REW: With respect to Southwest Power Pool, I  
2 mentioned in the opening comments, we received approval of  
3 our cost allocation proposal developed by the Regional State  
4 Committee, so I think what we need is some experience in  
5 implementing that to make sure it's effective. Is it a  
6 perfect cost allocation? I'm sure it's not. I'm sure we'll  
7 have to tweak it a little bit as we get into it but it gives  
8 us good experience and as part of that, we have economic  
9 planning.

10                   The first week of June we're going to have a  
11 planning summit group preventing four DHV project, which the  
12 SPP has identified can provide potential economic benefit to  
13 the region. It will be a matter of entities agreeing with  
14 those results and stepping up and funding the process.

15                   COMMISSIONER BROWNELL: Paul.

16                   MR. HALAS: A coupe of reactions. In defense of  
17 the existing RTOs, they still are at the stage that I would  
18 call basic. I don't think any of the RTOs are at the stage  
19 that everybody in the room thought they would be in the year  
20 2000 or 2001.

21                   A lot of the last three or four years has been  
22 spent basically getting the footprints of the RTOs settled.  
23 The RTOs had to get that right. They had to get that  
24 settled and get reliability settled down before taking what  
25 has to be the next step.

26

1           The next steps involved regional builds of  
2       transmission, not just interconnections, builds that  
3       actually enhance the reliability of the overall footprint  
4       and bring the longer power sources to bear.

5           Those will have natural resistance in the virtual  
6       integrated model of fragmented ownership. Some force would  
7       need to be brought to bear to overcome that. Considering  
8       the economic reality is starting to overcome that, less than  
9       the absence of the RTO. Perhaps those forces will have  
10      effect in the east as well and the more and more transparent  
11      prices becomes the more likely that becomes.

12           Whether there is a way to jumpstart it is a fair  
13      question. I would encourage FERC to continue to push the  
14      RTOs to take whatever steps are available to make more  
15      transmission capacity available.

16           Whether it's a more enforceable planning process,  
17      whether it's an RTO taking the steps that yes, this line  
18      will be built, and giving these common owners the right of  
19      first refusal to build it in their territory. If not,  
20      someone else comes in and builds it.

21           Those are again steps. They're incremental. In  
22      the long term, we do believe that the country will best be  
23      served if there are market operators that provide all the  
24      information and provide the market mechanisms that give  
25      transparent signals large transmission owners that are  
26

1 independent of generation interests, then the very  
2 competitive generation and supply markets.

3 As I indicated, it's taking longer than anybody  
4 thought. I know Mr. Chairman, you and I talked about this  
5 about two or three years ago. We thought maybe three years,  
6 maybe five. Maybe it's more like 10 or 15, but I think the  
7 industry is on the way to getting there.

8 One aspect, with respect to state regulators, who  
9 are obviously essential to all this, it's incumbent on the  
10 industry to give the regulators reassurance that long term,  
11 their state would benefit from a free trade economy. A  
12 state with low cost power, that lines ought to be built to  
13 take that low cost power out of state because the prices  
14 will go up in their state for some period of time. It's a  
15 difficult road to hoe, if you will.

16 Laws of comparative advantage indicates, over  
17 time, that that state would be much better off, but the laws  
18 of comparative advantage generally take longer to take  
19 effect than anybody is likely to turn out. So we need a  
20 long-term steady hand at the helm here. You guys have the  
21 best shot at it.

22 MR. WADDINGTON: In the Rocky Mountain area of  
23 the Western Interconnect, as we all know, we don't have an  
24 RTO. We don't have an institution that can be used to plan  
25 broadly across the west or socialize the costs for economic  
26

1 upgrades.

2 What we're trying to do with RMATS is forge ahead  
3 on some specific projects that hopefully will gain  
4 sufficient multi-state collaboration and agreement for  
5 either a voluntary or regulatory cost allocation scheme to  
6 emerge.

7 There maybe other tools that FERC and the States  
8 have. I think Path 15 is an interesting example. I see  
9 that success being enabled by at least three elements.

10 First, it was an upgrade that was strongly  
11 supported and recognized as being needed and economically  
12 valuable, with strong political support coming from you all.

13 Second, there is a great deal of regulatory  
14 uncertainty, pre-approvals, accelerated depreciation. If  
15 developers knew going in that they would get their costs  
16 recovered, I think for the jurisdictional utilities or the  
17 incumbent utilities, if they are going to be involved  
18 building transmission, that's a critical piece. The  
19 uncertainty just keeps them from moving forward, I believe.

20 The third enabler on Path 15 was, because a lot  
21 of its involvement, there is an expected siting and  
22 permitting process. All three of those are the kind of  
23 environment I'm hoping RMATS will create around the specific  
24 projects, whether it's within the Rocky Mountain footprint,  
25 where the cost could be allocated between three or four  
26

1 states, or more challengingly, the frontier line.

2 I think we've got to get to a broad based  
3 recovery mechanism in the west. For the near future, that's  
4 going to have to be a voluntary approach.

5 COMMISSIONER BROWNELL: You've made a lot of  
6 progress, so we're okay.

7 MR. SMITH: In the Southwest, I think we're  
8 really in the same place that Steve mentioned the Rocky  
9 Mountain area. I guess I could offer that I think, once the  
10 economic benefits are clearly shown of transmission  
11 projects, that we have evidence from the upgrades that are  
12 really in progress right now as far as they're related to  
13 California, that there are folks that will step up to the  
14 plate and build transmission.

15 You just have to clearly show who is benefiting  
16 and have these people be able to enter into long-term  
17 agreements with the resources that they want to access.  
18 It's probably a lot easier to do that with gas generation, a  
19 lot of which is built relatively locally and I think where  
20 we're at right now is sort of struggling with attempting to  
21 integrate the planned coal resources in the Four Corners  
22 area with a transmission project, which we'll hear more  
23 about, I think, this afternoon.

24 It just seems to center around financing, risk  
25 management, and lack of certainty on various parties to be

26



1       able to make money in the long term.

2               I can assure you that the transmission providers  
3       in Arizona, APS, who is working on transmission  
4       interconnection request for this coal plant and other  
5       owners, specifically the Navajo Transmission System, that  
6       have entertained a number of presentations of this proposed  
7       transmission project.

8               We don't have an interconnection request yet into  
9       our transmission system, but we are certainly prepared to  
10      process those things.

11              We have done pretty much everything we can to  
12      accommodate study efforts. APS has actually expressed an  
13      interest to participate in this transmission line. The  
14      investors preferred that they would own the line and we  
15      would contract long-term transmission from them.

16              But again, I would think the interests and the  
17      institutions are there, it's a matter of just a little more  
18      certainty in the results of economic studies and somehow we  
19      have to manage to get the folks who want to sell this  
20      energy, together with the folks that can buy it and once you  
21      have some long-term arrangements.

22              Even though you had a graph up there earlier  
23      today that showed transmission takes maybe two to three  
24      times as long as it does to develop a coal plant, I'm not  
25      sure I would agree with that, especially in the Southwestern  
26

1 U.S.

2 CHAIRMAN WOOD: While we're talking about that,  
3 Bob, on question I have, I guess a troubling little story I  
4 saw in yesterday's Trade Press. The local Siting Authority  
5 in Arizona had some trouble. I don't know exactly how to it  
6 was represented, but didn't want a one-way line to  
7 California from Paloverde, and I guess that line -- they  
8 worked with you guys on this. Is that going to be a problem  
9 when you've got, really, in your state or any of these  
10 states. Is that going to be the ABC problem that I think  
11 has been laid out?

12 You've got APS building a line that's going to  
13 primarily have the customer being in another state than  
14 California. We could talk about California is willing to  
15 pay it, but will the Siting Authority in Arizona actually  
16 approve that line to go through the Arizona territory?

17 MR. SMITH: First of all, if I could predict what  
18 the Siting Authority in Arizona would do, I would probably  
19 have that promotion already.

20 (Laughter.)

21 MR. SMITH: Second, APS will not be building the  
22 Paloverde Devers line. Southern California Edison will come  
23 to Arizona some time in early '06 and request permission to  
24 build that line. They'll request a permit. It's been, I  
25 guess, some issues surrounding the willingness of the  
26

1       builder of the line, Southern California Edison, to  
2       entertain certain options or interconnections or joint  
3       ownership of that project.

4               That could have benefit to some customers in  
5       Arizona, particularly Western Arizona, along the river, and  
6       I think there are just some issues that we need to continue  
7       to work out along those lines, and I think that's what the  
8       regulatory authority in Arizona is more concerned with.

9               Not that they are unwilling to allow California  
10       additional access to the market that has been built in terms  
11       of generation in Arizona, because it's important to send a  
12       signal to the wholesale market that we're not going to try  
13       and do anything, to somehow restrict that market, but I  
14       think they just want some assurance that the California  
15       entities that are building this line through Arizona are  
16       also looking out for the interests of Arizona entities and  
17       people that they work with. I think it's something we can  
18       work out.

19               MR. BAYLESS: I'd just like to make two comments.  
20       I think the first one, I'm now in an engineering school and  
21       I can make this with more authority.

22               One of my all time favorite comments is the only  
23       known violation of this that involve thermodynamics is that  
24       one it runs uphill to money. I believe FERC has got  
25       together to push market pricing. We've got to get pricing  
26

1 more towards long run marginal cost and then people will  
2 build new lines because pricing anything below that causes  
3 too much transmission to be used and I think decreases the  
4 reliability.

5 The other thing I would suggest, the Commission  
6 has for years advocated, we need more FERC authority.  
7 Somebody has got to have the ability to go in and order the  
8 line built.

9 If you go to Ohio and say, let's take West  
10 Virginia and say, boy we really need to do a \$30 million  
11 investment to help Synergy, you're going to get people  
12 looking at you rather funny. Why do we need to do that  
13 here? The point is, we do.

14 I think one way around that may be something like  
15 the EPA. The EPA has the power to regulate but they concede  
16 that power to the state with compacts, saying to the states,  
17 if you guys form a regulatory compact that's within the  
18 footprint of the RTO, you want to go to PJM Western for them  
19 to give that authority the right to have them in a domain  
20 and to order transmission lines and say this line needs to  
21 be built, fine.

22 But if you don't do that within five years, the  
23 power receipts back to FERC, and to have people have that, I  
24 think some states will be able to do that. But we clearly  
25 need some authority larger than a single state, having the  
26

1 ability to say, we need this line.

2 CHAIRMAN WOOD: I will say, Karl, this is a  
3 switch to you but certainly your project that you laid out  
4 here, the Mountaineer project, would be a true test of the  
5 existing siting system.

6 Let me ask you some questions. What would the  
7 timeframe be for this? I know there is a new announcement  
8 today, but just kind of ballpark what are we talking about  
9 here as to when these lines have to be energized?

10 MR. PFIRRMANN: It's certainly a long term  
11 project. If you go on recent history about building a  
12 project of that length, it's certainly in the 10-year  
13 timeframe, I believe. It's not an immediate solution.

14 CHAIRMAN WOOD: In the meantime, do you go ahead  
15 and do the Blackhoe line on its own?

16 MR. PFIRRMANN: Certainly, reliability, Jim  
17 indicated on a routine basis, PJM as well as the Midwest ISO  
18 will look at reliability issues and issue plan with projects  
19 to address those reliability issues.

20 Certainly, for example, at Wiley Ridge, just in  
21 the last 12 months, Allegheny has put in special protection  
22 schemes of Allegheny for Wiley Ridge to help address some of  
23 the issues at that substation.

24 It certainly would be the integration between the  
25 Midwest ISO and PJM. We've been able to in some re-dispatch

26

1 solutions with the first energy units at Samos. So there  
2 are some short-term solutions to some of the problems.

3 But really what we're talking about, the focus of  
4 this conference is, how do we move large quantities of  
5 energy from this region of the country to the places where  
6 it's needed. That is not something that can be solved  
7 through some localized short-term solutions. It certainly  
8 is a long-term kind of project.

9 CHAIRMAN WOOD: Let me ask this of you, and also  
10 of Jim. The other two RTOs but run through that process,  
11 kind of take it down to a level of detail for me. Say the  
12 planning process comes up with something like this, some  
13 significantly large amount. I've seen Jim, in your RTEP,  
14 and the MYISO as well. Very significant project. How do  
15 you take that from the concept stage in the RTO planning to  
16 actually getting it built?

17 Do you direct that entity to build it? Do you  
18 give them a chance to build it? What if it doesn't have the  
19 financial wherewithal to invest in a big project like this?  
20 Do you let somebody come in as Arizona apparently would  
21 allow and other states utilities to come into another state?  
22 How does that work in your region?

23 MR. PFIRRMANN: There are several options here.  
24 Clearly, right now in the PJM region, individual  
25 transmission owners, on a reliability project have pretty  
26

1 much the first right of refusal to build that project or  
2 responsibility to build that project.

3 But on a project like this, of this magnitude, I  
4 think the first step is really to reach out and find those  
5 who are interested in participating. People who perhaps  
6 wouldn't normally be part of the mix.

7 Obviously, you go back to the transmission owners  
8 as your first step. Clearly, there are others who have  
9 interest. There have been some states who have indicated  
10 interest and are willing to finance large projects like  
11 this.

12 Clearly there are independent power issues and  
13 the ITC folks would like to be involved in projects such as  
14 this. You reach out to those folks nevertheless. The  
15 opponents to those kinds of projects just to find out if  
16 there is some common ground around regional development,  
17 regional assessment of need, regional assessment of how best  
18 to accomplish the project.

19 CHAIRMAN WOOD: When you talked about your  
20 consortium issues, Aubrey mentioned that at our last  
21 conference where PJM in Washington. Would the consortium  
22 just be whoever is interested in being a financial  
23 participant here and also perhaps an operational  
24 participant?

25 MR. PFIRRMANN: I think those are two of the  
26

1 participants in that consortium. But I think as well, the  
2 environmental interests need to be part of that effort.  
3 Clearly the state regulatory and federal regulatory folks  
4 need to be part of that interest as well. We need to come  
5 up with joint ways of resolving many of these issues that  
6 I'm identifying today before we move forward on a project  
7 like this.

8 CHAIRMAN WOOD: Would it be PJM in the driver's  
9 seat on these things? Is that what's different about this  
10 proposal here, is that PJM has actually kind of taken  
11 ownership and proposing to tell them, you handle it from  
12 here?

13 MR. PFIRRMANN: We believe that the regional  
14 planning process that we have is a good place to start with  
15 this. We certainly we the work we're doing with the  
16 organization of PJM states is again another place to start  
17 with this where we can bring these folks together.

18 Within the stakeholders of PJM or any other RTO,  
19 we begin to look at how we can best resolve the issue.

20 CHAIRMAN WOOD: I guess I'm trying to figure out,  
21 how does it move from this is a great idea to, we're going  
22 to make it happen.

23 MR. PFIRRMANN: I think you're right. I think it  
24 does fall back to an RTO. PJM or the Midwest ISO to perhaps  
25 maybe call that first meeting to get those people together  
26



1 to begin to flush out what interest there is and what  
2 commitment there might be to constructing such a project.

3 CHAIRMAN WOOD: Jim.

4 MR. TORGERSON: Well, as you know, we don't have  
5 to order anything. We're about reliability and reliability  
6 would be in the case where the system is threatened, then we  
7 can order it to be built directly to the TO, and if they  
8 can't do it, solicit others or we can actually do it in the  
9 end.

10 We certainly look at economic projects. That's  
11 what things were pointing to. That's why I was mentioning  
12 before, maybe there is time for the RTOs to lead it. You  
13 still have issues that have to be overcome. In our states,  
14 you have to be in order to construct these facilities and be  
15 part of the transmission group. So you have to be a utility  
16 in the state, in some states.

17 You still have to work with the states to get it  
18 done. The TOs who are in the states where we will be going,  
19 many of them believe they have, we'll call it the right of  
20 first refusal, whether they do or not, some believe they do.

21

22 If I wanted to get with Paul McCoy's group and  
23 get them to participate in it, there will be some  
24 challenges. I'm not saying we can't overcome that, that's  
25 what I would think.

26

1                   Maybe it's time for the RTOs to start leading it.  
2       Karl was saying the same thing, get those parties to the  
3       table. If it's an economic project, work with the states.  
4       The State Commission, the OMS has been supportive of this  
5       but get them together, get those who wish to build it and  
6       then find someone who actually can get the project built.

7                   And also, you have to overcome who is going to  
8       pay for it and how are the costs going to get divided, and  
9       who shares these benefits. Those could be worked out and  
10      they can be worked out with the RTO facilitating it.

11                  The RTO, I don't think is going to be the one who  
12      is building it, our role I think is one of facilitation.

13                  CHAIRMAN WOOD: Bruce, the cost allocation plan  
14      that you put before the Commission, your state regulators  
15      were all involved in that. How that worked in the planning  
16      process on that? I watched it personally for like two  
17      years.

18                  In responding to the things we were just talking  
19      about with Karl and Jim, what's SPP's approach is going to  
20      be?

21                  MR. REW: Chairman Wood, our approach is that the  
22      RTO will perform the economic analysis for the region to  
23      determine the beneficiaries. We will put that out in a  
24      public forum such as what we are going to represent, the  
25      economic benefits of four EHP projects.

26

1                   It's at that point where the stakeholders will  
2                   make a business decision on whether or not they agree to  
3                   invest in that project. If they make the decision to do  
4                   that and you get sufficient investors to make the project  
5                   go, they can do that and SPP's cost allocation has a  
6                   mechanism for them in place to get their cost recovery back  
7                   on an investment in the economic upgrades.

8                   CHAIRMAN WOOD: That date is when again?

9                   MR. REW: June 1st is our Transmission Summit  
10                  meeting in Dallas.

11                 CHAIRMAN WOOD: Chris.

12                 MR. WRIGHT: We were down here kind of discussing  
13                 a couple of things. Cost allocation and planning are big  
14                 issues. Doesn't it ultimately come down to siting? Isn't  
15                 that the big specter that scares a lot off? I want to point  
16                 out just one thing.

17                 The first interconnection between Alberta and  
18                 Montana, the Montana Alberta tie, a couple of hundred mile  
19                 line. On their website they said they have to get 134  
20                 separate permits to be able to operate. It's kind of my  
21                 slant on things. It's siting. Always cost allocation,  
22                 always planning are problems, but siting always seems to be  
23                 back there squashing people from coming ahead and proposing  
24                 projects. Any takes on that?

25                 MR. TORGERSON: What we've seen, while you're  
26

1 right, siting is an issue, but the State Commissions  
2 typically get things sited pretty quickly or get the  
3 approvals pretty quickly, or it gets bogged down, as in the  
4 local jurisdictions at times if they have authority or you  
5 wind up with lawsuits or people want it to go through a  
6 certain area.

7 It's not at the state level typically that we see  
8 the issues, it really becomes local and you're right, it's  
9 getting it sited. That's why you start having to look at,  
10 are there other ways we can approach this.

11 Running it along highways, you know, where you  
12 already have a path and doing things that way, rather than  
13 trying to go through peoples' farms, through developments or  
14 whatever, we ought to start looking at ways to minimize the  
15 siting aspect of it.

16 MR. PFIRRMANN: I think this is always where  
17 technology can step in. I believe there are technologies  
18 that are out there that start minimize some of the apparent  
19 effects of transmission on property owners.

20 To the degree we can employ those technologies, I  
21 think that would help us by that process a bit. The other  
22 approach though, again going to the consortium idea, is to  
23 try to get the folks that are most likely to be opposed to  
24 the line, to the table early enough so they understand the  
25 need for the line and the regional focus of that need.

26

1                   In the past, clearly the result of proposed  
2 projects by transmission owners has usually been a local  
3 property owner choosing a position of saying, it's my  
4 property rights versus the interest of that particular  
5 transmission owner.

6                   It's never the perspective of what's going on and  
7 what's best for the region, from an overall social  
8 perspective. That's why you need to do this planning  
9 process that we're talking about in a broad, open  
10 stakeholder process, such as the ones the RTOs provide. And  
11 then, bring about those various disparate groups into the  
12 consortium concept so we can openly discuss resolution of  
13 those issues as early as possible. Will we get rid of all  
14 of them? Certainly not.

15                  About the only answer to that would be some sort  
16 of federal siting law that would basically overcome local  
17 property rights. I think that's a huge battle that none of  
18 us want to undertake.

19                  MR. REW: I agree in general with Jim and Karl.  
20 To my knowledge, any way, siting has not prevented the  
21 transmission line from being built. It's working with our  
22 regional state committees. We think from a state level,  
23 that we can get the necessary approvals but it gets down to,  
24 not in my back yard at the local level.

25                  Even though SPP may not have mountainous terrain,  
26

1 a lot of people there do value their view and don't want a  
2 transmission line in the backyard.

3 MR. HALAS: I might just add a little to that.  
4 Siting is clearly a huge issue but we don't expect that it  
5 will be a dispositive issue. It will certainly be an issue  
6 of timing and expense. My guess is Karl, we haven't looked  
7 at the mountaineer line, but my guess is, in your 10-year  
8 estimate, two to three to four years of that was in getting  
9 permits and siting.

10 We have looked hard at the Frontier project and  
11 we estimate that's a 10-year project. A couple of years to  
12 get it roughly developed, three to four years to get  
13 permitting and siting done, and then four to five years to  
14 construct.

15 It owes an awful lot to the bill. In the U.K.  
16 National Grid was able to transfer flows 50%, moving it from  
17 coal to gas to London without involving a new line. So our  
18 technologies and improvements that can be made in our  
19 existing rights of way ought to be looked at first.

20 They may not answer all the questions with  
21 respect to remote coal, there will be some big siting issues  
22 with regard to that, but it really is, we think, more of a  
23 cost issue than a no go issue.

24 MR. MCCLELLAND: Let me follow up with that.  
25 This is an important point and I think we need to spend a  
26

1       little time on it. Karl, you mentioned the Mountaineer  
2       project. How many states does the project cross?

3               MR. PFIRRMANN: Anywhere from three to six  
4       states.

5               MR. MCCLELLAND: Let's hold the number to say  
6       three. I have an example in front of me. American Electric  
7       Power, 765 kv project, between West Virginia and Virginia.  
8       A simple two-state project that from the time it was  
9       announced in 1991, it was about 14 years down the path to  
10      get that project constructed. That's just between two  
11      states and I have actually the details from our colleagues  
12      in DOE.

13              David Byer worked on the specific example. But  
14      it seems to me, even a decade, considering just the two-  
15      state line. Isn't a decade on the optimistic side?

16              MR. PFIRRMANN: I'm always an optimistic.

17              (Laughter.)

18              MR. PFIRRMANN: Actually, I think our friends  
19      from AEP may take issue with that being a simple line. I  
20      don't want to speak for you, but I'm sure --

21              MR. MCCLELLAND: It was relative to six states.

22              MR. PFIRRMANN: Let's put it this way. There was  
23      some young people at AEP I knew at one point in time that  
24      are now a little bit further along in their careers, but  
25      nonetheless, I'm thinking in my 10 year estimate is based

26

1       upon being successful with this consortium idea, generally.

2

3               I think we need to get to the point again. That  
4       it gets beyond the impression that projects like this are  
5       being built for the sole benefit of a particular  
6       stakeholder. That's the key I think.

7               MR. MCCLELLAND: Also, I guess too, it wouldn't  
8       be fair Karl. I wouldn't expect you to know the specifics  
9       about the line, but there are also one, two, three, I see at  
10      least three federal agencies involved in that decision and  
11      as those federal agencies step in and represent their  
12      particular jurisdiction perspectives, they cause adjustments  
13      to the line path itself.

14              Although the states in this particular case have  
15      been rather responsive, the states have need to do adjust  
16      and go back and reconsider, proposed and alternative routes  
17      for the lines themselves.

18              So to move further alone, I think in the  
19      Mountaineer project, the commissions try to encourage  
20      infrastructure investments, were pleased to see the  
21      initiative.

22              I think it will be a difficult process to  
23      construct and site in a decade and at least, I believe,  
24      Karl, based on some of the examples that are before the  
25      Commission now, it may be optimistic and it helps to

26



1       illustrate the issue, the problem in moving towards a  
2       national energy plan that incorporates more coal fired  
3       units. Would you agree with that?

4               MR. PFIRRMANN: Absolutely. It certainly would  
5       be the last project of my career.

6               (Laughter.)

7               MR. PFIRRMANN: That's a pretty easy statement  
8       for me to make.

9               CHAIRMAN WOOD: We're a little over time. I do  
10      want to offer anybody in the audience. Yes sir, Mr. Harris.

11              MR. HARRIS: Thank you Mr. Chair. Phil Harris,  
12      Chairman and President and CEO of PJM. I've been listening  
13      to the dialogue on the consortium in the market project.

14              We've been given some extraordinarily serious  
15      thought to a number of things that have happened, creating a  
16      changing circumstances. Certainly Mr. Bayless gives some  
17      very eloquent arguments for the use of coal and the value  
18      that coal is to our region.

19              We now have the organization of PJM states. We  
20      had a wonderful meeting with most of them over the past two  
21      or three days. I did not hear from any state that the value  
22      and the need for transmission that could have value for the  
23      citizens of this country should not be enforced. What we've  
24      seen and looked at in this industry, we've been doing this  
25      for quite a while now.

26

1                   But if you look at evolving and changing, look at  
2                   the aerospace industry. This is a changing industry over  
3                   time. The aerospace industry, for a long time, each  
4                   individual company built their own airplanes. We got into  
5                   out of space and you couldn't do that. You form consortium  
6                   groups that got together from profit and nonprofit,  
7                   academic, developed the shuttle, developed the space  
8                   station. They accomplished great things.

9                   More meaningfully, the Alaskan oil pipeline. One  
10                  of the most wonderful engineering constructions. You go to  
11                  the Smithsonian. You talk about how a consortium got  
12                  together, built a pipeline under a certain project manager.  
13                  Exxon, they got the line built and look at the value the  
14                  proposition has brought in today.

15                 It is time for a vision. It is time to dream and  
16                 I think looking at these scales of these projects, if we're  
17                 truly going to solve some of these massive energy  
18                 dislocations, we have to be able to think and deal with  
19                 that, and I think we're getting a perfect storm in the right  
20                 direction.

21                 We have the states saying this needs to be done.  
22                 We have the federal government saying this needs to be  
23                 pursued. We have a regional planning process, which we've  
24                 never had and I'll tell you, I'm delighted with something I  
25                 read recently from Excelon. In the filing they made the  
26

1 document they made said that they are willing to build and  
2 construct transmission on anything that will enhance a  
3 competitive marketplace.

4 I heard in our annual meeting last week some of  
5 the transmission owners who said we're going to step up,  
6 build and construct to move forward. So I think what we're  
7 seeing is everyone that has a vested interest, even APPA has  
8 been saying publicly, we want to buy into this thing.

9 I think our job is just to simply provide a form  
10 and some leadership for those that want to be in the  
11 business. Just put the things together, put the plans out  
12 and see if we can move forward. Is 10 years too long? I  
13 don't think so. We put a man on the moon in 10 years and  
14 now we have a lot of people saying, let's do something and  
15 our recommendation is, from our consortium idea, let's pull  
16 together all these brilliant public policy leaders such as  
17 you have in the states that are stepping up with Mr. Bayless  
18 with his ideas. Let's put this together in a way that we  
19 can truly solve something that is extraordinarily difficult  
20 and look at the ways we have in the past.

21 Peter Drucker in his wonderful book, Management  
22 Challenges of the 21st Century, said that the 21st Century  
23 will require much higher degrees of sophistication to deal  
24 with our differences, and I think it's up to us to step up  
25 with that sophistication, deal with the differences and  
26

1       make things happen, and that's our idea of what a consortium  
2       is.

3               Just get together, look at it, deal with it and  
4       put everybody in there so we're all on the same team. Thank  
5       you.

6               CHAIRMAN WOOD: Thank you Phil. On that note, I  
7       think it's time to eat. Hold on we've got a very important  
8       announcement first.

9               COMMISSIONER BROWNELL: I now many of you have  
10      been waiting for the details of the Dan Larcamp historical  
11      tour. When we're done today, we'll meet the bus outside and  
12      we'll start at Noreen's house. Noreen was Dan's longest  
13      living girlfriend. Mom by the way did not like her, Dan,  
14      not one bit.

15              (Laughter.)

16              COMMISSIONER BROWNELL: She is one of 12 children  
17      and by the way, she is still not married. If anybody wants  
18      to join us and take a look at that that would be a good  
19      thing and then we're going to go to Becky Campbell's house.  
20      Becky was the date for the senior prom. It was a short-  
21      lived romance, but an interesting one.

22              Then we are going to see Patti's house. Patti  
23      was the girl Dan took to his first dance. Patti was about  
24      half his size and spent half the night dancing with his  
25      navel. That too was a short-lived romance.

26

1                   We did visit the first house last night on Sunset  
2     Drive where Dan moved up into the world. But we're going to  
3     visit the other two and then the football field where he got  
4     his first concussion and we love him anyway, but there were  
5     a few more concussions and when you have a long conversation  
6     with Dan, you can see that outcome.

7                   (Laughter.)

8                   COMMISSIONER BROWNELL: And Dan is also buying  
9     dinner at the end of the tour.

10                  (Applause.)

11                  (Whereupon, at 11:40 a.m., the technical  
12     conference was recessed, to reconvene at 12:50 p.m., this  
13     same day.)

14

15

16

17

18

19

20

21

22

23

24

25

26

## 1 A F T E R N O O N S E S S I O N

2 (12:50 p.m.)

3 CHAIRMAN WOOD: Nora will get here but I'm going  
4 to go ahead and get us started so we don't get too far  
5 behind. We wanted to talk, building on this morning's  
6 conversation in the afternoon. Now you all had a chance to  
7 be nourished a little bit, we wanted to talk about the views  
8 on regional planning from the regional NERC reliability  
9 councils and from state representatives, who will look at it  
10 more from the public side of the post than from the industry  
11 and RTO side.

12 We've got here a great panel to talk about the  
13 current initiatives going on and across the panoply here, I  
14 want to introduce those folks briefly. We've got the second  
15 panel here too, right? I'll introduce you all. Stay where  
16 you are. If you want to leave and walk around it's fine,  
17 but I want to keep my focus here on the five we've got.

18 Bob Dintelman is the COO of the Western Electric  
19 Coordinating Council, the big section of NERC that oversees  
20 the many utilities in the west.

21 William Reinke is the Executive Director of the  
22 SERC, the large region that covers the southeastern United  
23 States. Again, these are the electrical reliability council  
24 regions.

25 Jerry Lein is from the North Dakota Public  
26

1 Service Commission, a State I've had the pleasure to visit  
2 three times in my term here on the Commission.

3 We've got Larry Chaset, a last minute volunteer,  
4 who is from the California Public Utility Commission. He  
5 will also speak on some western issues and western concerns,  
6 and Gayle Mayo who is Executive VP and COO of the Indiana  
7 Municipal Power Agency.

8 We've had the pleasure to have you at FERC  
9 conferences in Washington. We're glad you can join us out  
10 there in Charleston. We'll start here Bob with you and  
11 we'll just go down the line and we'll have some Q&A  
12 afterwards.

13 MR. DINTELMAN: Thank you Mr. Chairman. Bob  
14 Dintelman, Chief Operating Officer, Western Electricity  
15 Coordinating Council.

16 WECC is one of ten regional reliability councils  
17 that comprise the North American Electric Reliability  
18 Council. We're also one of three interconnections that  
19 comprise the electric grid in North America.

20 WECC is a member-driven organization. We have  
21 the ability to take on the tasks and functions that our  
22 members feel would best meet the needs of the western  
23 interconnection. That would include an expanded role in the  
24 area of transmission planning, to the extent that our  
25 members identify such a role, and for us to take on an  
26

1       expanded role, it may require modification or fine-tuning of  
2       our mission and goals.

3               We have a process that's outlined in our bylaws  
4       that would accommodate such a change. In fact, our bylaws  
5       require that we apply that process every five years.

6               A number of years go, our Council, then known as  
7       the Western Systems Coordinating Council, developed and  
8       implemented a regional planning process. That process is  
9       very much in use with in the western interconnection for the  
10      planning of projects that are of regional significance.

11              I want to just take a minute to highlight some of  
12      the key elements of this process and also let you know that  
13      the entire process can be found on our website, if you wish  
14      to take a look at it in more detail.

15              But, the purpose of the process is to foster the  
16      development of a broad regional or sub regional planning  
17      perspective among all stakeholders in the process. Promote  
18      and encourage a more efficient use and development of the  
19      region or sub regions, existing and future facilities, to  
20      enhance interconnected system operation.

21              Ensuring that all relevant regional or sub  
22      regional planning issues are considered during the planning  
23      of transmission projects with regional or sub regional  
24      significance.

25              Provide procedures and guidelines for coordinated  
26



1 regional and sub regional planning. Involve member  
2 representatives, regulators, existing planning bodies,  
3 environmental groups, land use groups, and other non-utility  
4 interest groups in the process. And I might just mention at  
5 this point, that we are actively involved in forms that  
6 include the Western Governors Association the Committee on  
7 Regional Electric Cooperation, the SEAMS Steering Group  
8 Western Interconnection that you heard about this morning,  
9 SIGWI, and the sub regional planning groups in administering  
10 this process for the Western Interconnection.

11 The process allows stakeholders to identify  
12 opportunities for improved regional transmission  
13 efficiencies and make recommendations to achieve them. The  
14 process also calls for a voluntary dispute resolution  
15 process.

16 In addition to these purposes in our regional  
17 planning guidelines, the guidelines also include 11 regional  
18 planning guidelines and I'm not going to go through all of  
19 those.

20 I would like to just indicate several of them to  
21 give you an example of the types of guidelines that we're  
22 looking at. Take multiple project needs and plans into  
23 account, including identifying utilities and non-utilities  
24 future needs.

25 Environmental and other stakeholder interests,  
26

1 cooperate with others to look beyond specific endpoints of  
2 the sponsor's project. To identify broader regional and sub  
3 regional needs or opportunities. And then I think,  
4 particularly pertinent to the conference today, dealing with  
5 transmission planning and the integration of coal resources.

6 Identify and show how the project improves the  
7 efficient use or impacts existing and planned resources of  
8 the region. And we would look at both benefits and impacts,  
9 transmission constrain mitigation and then the final example  
10 is, identify transmission, physical and operational  
11 constraints resulting from the project or that are removed  
12 by the project.

13 In this context within our region, there is  
14 current discussion going on about an expanded role for the  
15 Regional Council with respect to transmission planning.  
16 There is a group called the Western Assessment group that  
17 has put together a White Paper that identifies this as one  
18 of the elements that we're looking at and some possible  
19 expanded transmission planning roles for our Council would  
20 include data collection and management, coordination and  
21 integration of sub regional transmission planning studies.

22 You heard a number of sub regional study efforts  
23 that are going on within the western interconnection in the  
24 earlier panel.

25 Identification of the benefits of the projects.

26

1       Then the last item, which is very important, is development  
2       of principles to promote project implementation.

3               Our track record has been pretty good with  
4       respect to planning projects, especially to address  
5       reliability concerns, but the next step is getting those  
6       projects built. That's an important principle that we need  
7       to review.

8               With that Mr. Chairman, I'll conclude my remarks  
9       and look forward to the discussion.

10              CHAIRMAN WOOD: Thank you very much. Mr. Reinke.

11              MR. REINKE: Thank you Mr. Chairman, Commissioner  
12       Brownell, State Commissioners, staff. It's a pleasure to be  
13       her today. My remarks will provide a number of statistics  
14       about the southeast region. I feel after I finish that  
15       you'll find that I think we have addressed most, if not all  
16       of the questions that you are posing to the panel.

17              I'd offer on the second question, in the panel  
18       list of questions, where you talk about increased  
19       transmission reliability. I want to be sure we don't  
20       confuse reliability and adequacy.

21              I did hear a number of adequacy issues this  
22       morning. I don't know that I heard reliability issues, but  
23       they are different and I think that we need to make sure we  
24       segment the difference between reliability and adequacy.

25              Talking about SERC. SERC was established in 1970

26

1 as Bob said, it's one of the ten regional councils that are  
2 members of NERC. We include portions of 13 southeastern  
3 states in the United States and have 38 regular members  
4 covering an area of about 464,000 square miles.

5 Since our inception in 1970, our members have  
6 entered into a number of reliability agreements to engage in  
7 joint planning within the region. These agreements require  
8 that among other things, members conduct joint studies and  
9 investigations of the performance of the bulk power supply  
10 facilities under normal emergency conditions.

11 They also require coordination of voltage levels,  
12 reactive interchange, as well as exchange of information  
13 within the region related to the magnitude and  
14 characteristics of loads, modifications to bulk power supply  
15 facilities.

16 On the load and generation side, you'll find this  
17 interesting, I think. In 2005, our systems anticipate a  
18 peak load of more than 165,000 megawatts and the capacity  
19 resources available to meet that load exceed 186,500  
20 megawatts which compete to our reserve margin of about 16  
21 percent after we take into account demands side and load  
22 management programs.

23 The fuel mix in the region is such that we have  
24 40% coal -- this is the capacity side, 40% coal, 18%  
25 nuclear, 16% gas, 13% is dual fuel, hydro is 7%, pump and  
26

1 storage 4% and we have some oil, 2%.

2 Clearly, the kilowatt hours produced in the  
3 region are predominantly by the coal and nuclear facilities.  
4 The other facilities come into intermediate or peaking mode.  
5 We count the uncommitted resources that are already in the  
6 region, that is the generation installed and available, but  
7 not committed.

8 If to meet regional load, the reserve margin this  
9 summer would be nearly 43%. Most of this uncommitted  
10 generation uncommitted to our load is gas fired.

11 Capacity additions that are planned to meet the  
12 expected 2% load growth in the region through 2009 includes  
13 16% would be steam, and that could be any number of fuel  
14 sources for that, 5% nuclear, which is typically upgrades to  
15 existing plants, 17% combustion turbine, 11% combined cycle,  
16 and again, you would guess they were gas fired, 8% pump  
17 storage, again which are upgrades to existing facilities,  
18 and 42% other.

19 You'd ask, what's this other? What are the  
20 systems doing? We feel that the other category really is  
21 likely to be made up of purchased power from facilities that  
22 are already on the ground in the region and/or adjacent to  
23 the region from the merchant bank capacity. We think that's  
24 going to happen.

25 One of our members this week made an announcement  
26

1       that it plans to install additional coal fired capacity in  
2       the region as early as 2010. So within five years, there is  
3       the expectation of additional coal fired capacity in the  
4       region.

5               On the transmission side, member transition at  
6       161 kv and above is about 42,400 circuit miles. Planned  
7       additions through 2009 include an additional 1250 miles.  
8       The interesting statistic here is that the expenditures for  
9       transmission in the region that would be at all voltage  
10      levels for transmission, there is no distribution, will  
11      exceed \$1.1 billion per year for the next five or six years  
12      and it has been over \$1 billion the last couple of years.

13             So our member systems are committed to, and are  
14      installing more than 25% of the transmission that's being  
15      installed in the United States for the foreseeable future.  
16      Less than 5% of these transmission expenditures are for  
17      generation interconnections. So 95% of the transmission  
18      expenditures are for load growth and reliability purposes.

19             In some way, the systems in the southeastern  
20      United States have been and continue to be engaged in joint  
21      planning. We have a fleet of resources that have a diverse  
22      fuel mix and we continue to make transmission investments to  
23      accommodate load growth and enhance reliability. Thank you.

24             CHAIRMAN WOOD: Thank you. Larry.

25             MR. CHASET: Thank you. I was asked to speak at  
26

1 the last minute, but I'm afraid my remarks are going to be a  
2 little bit impromptu. But I'll do the best I can.

3 I'm an advisor to our new Commissioner,  
4 Commissioner Dian Grunick. I hope that what I'm going to  
5 tell you today reflects her thinking. California, as you  
6 know, prides itself on being different and special but I  
7 think we have a lot of the same problems that we see in the  
8 rest of the country.

9 You may have heard that we are potentially  
10 experiencing some supply shortages in southern California  
11 this summer. We're doing everything we can to increase  
12 energy efficiency, trying to get some new units on line to  
13 make sure that the lights do not go out, that's very  
14 important.

15 In California, we have a very strong resource  
16 adequacy planning process that our Commission has put into  
17 effect in the last couple of years to assure that we do not  
18 have a repeat of what happened in 2000 and 2001.

19 We have 115% of peak demand resource adequacy  
20 planning criteria that our utilities are supposed to  
21 implement in 2006, by the end of 2006, so I would hope that  
22 by 2007, all our utilities will have signed up enough  
23 capacity to make sure that this is going to be met all the  
24 time.

25 But California, being the nice place that it is,  
26

1 continues to grow, and electricity demands continue to grow  
2 and our utilities do show the need for new capacity, both in  
3 the short-term and the medium-term, and particularly in the  
4 long-term.

5 We have a lot of old gas fired units that are  
6 pretty efficient. Some of them are going to be repowered.  
7 Some of them are going to be replaced by other capacity  
8 options. Believe it or not, we do believe in fuel diversity  
9 in California and just burning natural gas is probably not  
10 optimal, for a lot of the reasons you heard this morning.

11 We are very actively pursuing renewables. We  
12 have a renewable portfolio standard that by law requires 20%  
13 of all energy to be obtained from renewable sources by 2017  
14 as a matter of policy.

15 Both the Governor and our two energy-related  
16 Commissions, the Public Utility Commission, that I work for,  
17 and the California Energy Commission, are committed to meet  
18 that 20% standard by the year 2010.

19 We are hoping to see a 33% RPX by 2020 that could  
20 come in legislation as soon as this year. And, of course,  
21 California is known for its strong environmental commitment.  
22 We are very concerned about climate change, we are very  
23 concerned about air quality.

24 I think one of the maps you saw this morning  
25 showed a lot of that bad air in the non-attainment areas,  
26



1       where in California not just the urban areas in southern  
2       California, but also the whole central valley, a very large  
3       area, growing fast and power demand is growing fast there as  
4       well.

5               Given this mix of policy concerns that we've got,  
6       where do we stand on coal? Our view is, Commissioner  
7       Grunick view is, and I hope it reflects the view of our  
8       whole Commission, we think that coal power can be used to  
9       meet California's needs, so long as it's burned as cleanly  
10      as natural gas.

11             I think you heard some things this morning, in  
12      particular from Dan Fessler that leads us to believe this  
13      can happen and that this can hopefully happen sooner rather  
14      than later.

15             I think in California, to the extent that we can  
16      bring all of our stakeholders together in the state, both on  
17      the regulatory level to meet our Public Utilities  
18      Commission, the Energy Commission, California's EPA, the Air  
19      Resources Board, the Governor's Office, our resources agency  
20      and in fact a team is being pulled together to attract how  
21      to facilitate the development of some of these fuel  
22      diversity alternatives, including coal.

23             However, one thing we do know is that western  
24      Coal is a little bit different than eastern coal. We  
25      appreciate all the research efforts that are going on in  
26

1       Pennsylvania and Florida and what not on technologies like  
2       IGCC, carbon sequestration.

3               We'd like to see some research done on western  
4       coal, which is to make it a lot easier for us to implement  
5       the kind of advanced clean coal technologies in the west.  
6       We would encourage a meeting of the sort we're holding here  
7       today in Charleston, to take place in the west as well, so  
8       that decision makers in the west can be brought up to speed  
9       more easily on where we are heading with the development of  
10      coal.

11             I would certainly like to have our Commission be  
12      more actively educated on the availability of coal  
13      technology that can meet these environmental standards that  
14      we've got.

15             But I think maybe it's fair to say we've got a  
16      little bit of a chicken and egg problem, which is, to the  
17      extent we can develop in Wyoming super clean coal projects  
18      that have multiple benefits, I think from what we heard this  
19      morning, we cannot only develop electricity from coal that  
20      is environmentally as good or better than the electricity  
21      generated from natural gas, we can get super clean diesel  
22      fuel out of it and we can use the carbon to enhance recovery  
23      oil and gas.

24             That is something that I'm not sure where the  
25      money is going to come from. Someone has got to find it

26

1       somewhere but we need to find some consortium, if you will,  
2       of stakeholders to put together the resources to get that  
3       kind of project going.

4               If we can demonstrate the feasibility of that  
5       project then we need to get the money on board to get the  
6       project going, the first of these projects going. It may  
7       require investments from the utilities, it may require some  
8       federal dollars. It may require some venture capital, but  
9       once we have one of these projects going, I like the penguin  
10      analogy we heard this morning as well.

11             Once someone jumps off the brink and goes and  
12      sees who can build one of these projects, get the power to  
13      market and get the fuel into the California marketplace  
14      where it will be consumed and you can burn coal cleanly with  
15      minimal impact on the climate, you will see I think,  
16      eventually a critical mass develop in favor of these kinds  
17      of advanced alternative.

18             I think in California, we would love to see that  
19      kind of evolution but I think we are going to have to work  
20      like a very well oiled crew team. All the stakeholder  
21      groups are going to have to be pulling their oars in the  
22      same direction. And I have to say, looking back in the  
23      past, that hasn't always happened in California.

24             We're hoping to moving in a new direction where  
25      we do see that. We hope we can work very collaboratively  
26

1 with FERC to move in that direction. All that being said, I  
2 would like to talk about the questions that are on the  
3 session, a little bit about regional planning involving NERC  
4 and the Reliability Council.

5 Commissioner Grunick has taken a very active  
6 interest in the work of the Committee for Regional Energy  
7 Planning and Cooperation. I think that's what the acronym  
8 stands for.

9 One of the very interesting things that CREPSI is  
10 doing is doing a west-wide resource planning. It's called  
11 WRAT, the Westwide Resource Adequacy Team. Mr. Reinke was  
12 right, we won't want to confuse reliability and adequacy.

13 The Reliability Council is obviously focused on  
14 reliability, but adequacy is very important. We are looking  
15 for the least cost best fit options, not only for  
16 California, but Westwide.

17 To the extent that least cost best fit, it's  
18 going to involve being high quality, very clean coal power,  
19 maybe mixed with wind power down from the northern rocky  
20 mountain stains, into the major load pockets of the  
21 southwest. We want to do the analysis that shows that that  
22 is least cost best fit.

23 That we are in fact providing resources that are  
24 economical, that are efficient, that are clean, that meet  
25 the multifarious and complex policy goals that we have,  
26

1       certainly in California, but also elsewhere in the more  
2       populated regions of the west.

3               I just want to touch briefly on a couple of the  
4       things that are being done on the resource adequacy side to  
5       the extent that we can take all of these regional  
6       transmission planning efforts. You heard about a couple of  
7       them this morning, RMATS and SWAT and STEP, and there are a  
8       number of others.

9               If we can knit all that together with our  
10       resource adequacy component that's also being worked on.  
11       I'm just going to read through a couple of bullets there  
12       where this might take us in the end.

13               First thing, WECC staff would prepare a single  
14       multi-year western power supply assessment for review by the  
15       WECC board and CREPSI in an annual meeting that should  
16       hopefully happen within the next year or so.

17               This adequacy evaluation would apply a number of  
18       metrics and associated targets and benchmarks and would be  
19       conducted at a meaningful level of geographic granularity.  
20       There is a discussion on transmission bubbles, you know,  
21       within the western interconnection.

22               We've got some areas that are quite transmission  
23       constraint and you need to redo this resource adequacy  
24       analysis within these transmission bubbles and identify the  
25       constraints that need to be fixed.

26

1           The WECC Board would approve the power supply  
2       assessment, forward it to NERC and would direct WECC staff  
3       to ensure any other assessments provided to NERC are  
4       consistent with the approved western power supply  
5       assessment.

6           And here is the important part where the State  
7       Commissions come in. State and provincial regulators  
8       because British Columbia and Alberta are part of our  
9       planning region, would require a load serving entity under  
10      their jurisdiction to compare, contrast, and here is the  
11      knob, justify any differences between their own integrated  
12      resource planning analyses and the mission to their control  
13      area, or to WECC.

14          Then the regional load serving entities and the  
15      regulators would be expected to apply voluntary targets as  
16      basic thresholds for integrated resource planning and  
17      analyses with the expectation that the linkage between these  
18      analyses and load serving entities, specific resource  
19      procurement, would take place where the regulators and  
20      utilities believe that action was appropriate.

21          Finally, the regulators could impose greater  
22      resource procurement standards on utilities under their  
23      jurisdiction if they believed a higher level of reliability  
24      was appropriate.

25          I think it's great that in the western  
26

1 interconnection, which is certainly more than a third of the  
2 Continental United States, on an area basis, that we're  
3 really trying to know together all of these transmission  
4 planning efforts that have been taking place to add a  
5 resource adequacy component to that so that we can really  
6 come up with, hopefully, the best fit, least cost  
7 electricity system that minimizes constraints so that we've  
8 got as good a system as planners and regulators and private  
9 entities working together can come up with.

10 I'm sure that the Commission supports this kind  
11 of planning effort. We certainly want the Commission's  
12 input to make sure we're heading in the direction that's  
13 consistent with your policy. I hope that's where we're  
14 heading. Thank you.

15

16

17

18

19

20

21

22

23

24

25

26

1 CHAIRMAN WOOD: As do I. You did good for  
2 impromptu.

3 Jerry?

4 MR. LEIN: Thank you, Mr. Chairman. My name is  
5 Jerry Lein. I'm an analyst with the North Dakota Public  
6 Service Commission. My primary responsibilities there  
7 mainly around electricity, though I end up doing a little  
8 bit of everything. We have a pretty small staff. It is  
9 good to be here, but it took a while though.

10 (Laughter.)

11 MR. LEIN: Especially, after waiting at the  
12 Bismarck Airport runway to get deiced.

13 (Laughter.)

14 MR. LEIN: You might see some humor in that, but  
15 I think it's sad.

16 (Laughter.)

17 MR. LEIN: We usually don't have to be deiced in  
18 May, but there's been some strange weather here the last  
19 week or so. Anyway, I'm going to talk a little bit about  
20 North Dakota transmission strategies.

21 North Dakota has a vast lignite coal reserve.  
22 Studies indicate that our present consumption rate, which is  
23 about 30 million tons per year, that we have enough lignite  
24 in the coal fields of central North Dakota to last about 300  
25 years. Unfortunately, that coal has high moisture and low

26



1 BTU content, both of which hinder its marketability. So our  
2 marketing solutions so far has been primarily the  
3 development of about 4000 megawatts of electric generating  
4 capability, mostly from mine mouth lignite plants.

5 North Dakota also has an exceptional wind  
6 resource. There have been national studies indicating that  
7 North Dakota leads the nation in wind energy potential.  
8 Many areas are classified as having Class 5, which is  
9 excellent or even Class 6, outstanding wind resource  
10 potential. So far, wind energy development in North Dakota  
11 has been limited to turbine improvements and federal tax  
12 incentives are driving the costs down and we are starting to  
13 see some significant wind interest.

14 North Dakota is also a rural state. We lack the  
15 population and load growth needed to drive energy  
16 development, instead we rely on transmission export  
17 capability to out-of-state load centers located mostly to  
18 the south and to the east. Our present export capability is  
19 limited to about 200,000 megawatts. That is mostly fully  
20 subscribed. About two-thirds of the energy now produced in  
21 North Dakota is exported primarily into Minnesota. Some of  
22 that goes to Minneapolis over a D.C. line. Others of it  
23 goes through a D.C. line to the Duluth area. The rest of it  
24 is pretty much on the A.C. system.

25 There are thermal limitations, of course, but  
26

1        additionally the North Dakota transmission system operates  
2        under stability and voltage constraints caused by large  
3        amounts of generation caused by locating the load long  
4        distances from the generation. Resolving these constraints  
5        to significantly increase North Dakota export limits will  
6        require some major new multi-state transmission lines.  
7        We're looking at maybe \$520 million worth of new  
8        transmission in order to build a new 500-megawatt coal  
9        plant.

10                During the 1980s and '90s substantial increases  
11        to North Dakota export capability were not economically  
12        feasible. There were excess generation capabilities in the  
13        MAPP pool and the cost needed for transmission expansion  
14        would have rendered any new projects non-competitive. Now  
15        MAPP capacity markets are tightening, natural gas prices are  
16        high and North Dakota has begun an effort to expand its  
17        share of regional energy markets.

18                In 2001, the North Dakota Industrial Commission's  
19        lignite research development and marketing program launched  
20        it's Vision 21 project. Vision 21 provided up to \$10 million  
21        in matching funds toward utility feasibility studies for new  
22        lignite-fired plants in North Dakota. At this time it  
23        appears that two projects could go forward from that effort.  
24        There is more information on the lignite Vision 21 project  
25        on the North Dakota Industrial Commission's homepage. If  
26

1       you search on that, you'll find it on the web.

2               Then in 2003, the Upper Great Plains Transmission  
3       Coalition was formed. Its purpose was to enable coal and  
4       wind interests to work together towards resolving  
5       transmission export constraints. The Coalition is now  
6       working with the Midwest Independence System Operator, MISO,  
7       on a northwest exploratory study. Jim, I think, mentioned  
8       that earlier.

9               This study is exploring transmission option for  
10      an addition 2000 megawatts of new coal and wind generation  
11      in the Dakotas. MISO included the Northwest exploratory  
12      study as a regionally beneficial project in its transmission  
13      expansion plan. MISO may also help in financial  
14      arrangements as its regional economics criteria and benefits  
15      taskforce is now working to develop cost-sharing mechanisms  
16      for transmission upgrades within the MISO footprint.

17              This past month H.R. 1169 was enacted. That  
18      established the North Dakota Transmission Authority, which  
19      operates under the North Dakota Industrial Commission. The  
20      Authority may finance, develop or own transmission. The  
21      Authority's intent is to partner with investors and  
22      transmission providers, but it can serve as a builder of  
23      last resort if others do not come forward. A public  
24      interest finding is necessary before it can build.  
25      Financing is limited to revenue bonds. State ownership is

26

1       limited to transmission facilities and must include an exit  
2       plan. The Authority will contract out its construction  
3       operation and maintenance operations. The projects are  
4       subject to PSC sighting permit requirements. The Authority  
5       must also participate in regional transmission planning.  
6       The Authority transmission rates cannot be challenged before  
7       the PSC. They set their own rates and there's no recourse  
8       for anybody that doesn't like them.

9               It was initially patterned after the Wyoming  
10       Infrastructure Authority and think there are some changes  
11       that were put into place as the bills evolved. The bills  
12       didn't pass unanimously from the House and the Senate. At  
13       this point, we're looking forward to see what are the best  
14       ways to use this new authority.

15              In summary, the North Dakota strategy for  
16       resource development has been an evolving one. There are  
17       many barriers to getting new transmission and many  
18       challenges ahead. Hopefully, bringing the right people  
19       together and giving them the right tools will bring success.  
20       Thank you.

21              CHAIRMAN WOOD: Thank you, Jerry.

22              Gayle?

23              MS. MAYO: Thank you Chairman Wood,  
24       Commissioners, staff. I appreciate the opportunity to be  
25       here today. My name is Gayle Mayo. I'm executive vice  
26

1       president and chief operating officer of the Indiana  
2       Municipal Power agency. We're a municipal joint action  
3       agency serving the cities, towns and State of Indiana, also  
4       active participants in APPA and STEP. Our goal is to  
5       provide low-cost, reliable and environmentally responsible  
6       power to our members and retail customers. We believe we  
7       can do that through a diverse portfolio of resources with  
8       all types of capacity and fuels, all types of plants, and we  
9       think coal is an important component of that.

10               We also think a robust or adequate, not just  
11       reliable, but adequate transmission grid is essential for an  
12       economic and reliable supply, especially for base load  
13       capacity, which is not as likely as gas-fired capacity to be  
14       located near the load. I actually maybe somewhat out of  
15       place on this panel. We do participate in regional and  
16       reliability councils and in NERR, but I'm not here  
17       representing them. We are a political subdivision of the  
18       State of Indiana, but I don't represent the state  
19       regulators. In fact, in Indiana there is no state  
20       transmission commission. There's no required political  
21       process, but I think that I am in a good position to speak  
22       on the need for transmission and the concerns about games  
23       between RTOs and states and the net impact on transmission.

24               IMPA is a joint owner of the transmission system  
25       in Indiana -- the publicly owned transmission system in  
26

1 Indiana with investor-owned utilities and electric  
2 cooperatives. The transmission covers about two-thirds of  
3 the State of Indiana, and we believe that the joint  
4 ownership model is a good model that can address many of the  
5 investment and cost allocation issues that have been  
6 discussed today. We're a transmission-owning member of the  
7 Midwest ISO. We're also partially transmission dependent on  
8 the Midwest ISO. We actually operate within five separate  
9 control areas of the Midwest ISO and we are a  
10 transmission-dependent member of PJM. We have a load for  
11 generation and a load for MISO and PJM.

12 We are encouraged by what we've heard today and  
13 what we've seen in the various processes about long-term  
14 transmission planning, but we feel there's still a long way  
15 to go. Our interest in coal plants has been very, very  
16 strong. We are currently joint owners of two coal plants.  
17 First of all, as organization we can't really develop our  
18 own coal plants. We own them jointly with other people.  
19 We're currently joint owners of coal plants in Indiana and  
20 Kentucky. Those coal plants were developed in a time where  
21 we could get long-term transmission rights for the life of  
22 the plant to guarantee delivery of power from those plants  
23 to our load.

24 We have also recently committed to becoming a  
25 joint owner of two new coal plants -- one in Kentucky and  
26

1       one in Illinois, both remotely sighted from our loads. But  
2       we are very concerned that transmission will be an  
3       impediment to the development of both of these plants.  
4       Certainly, there are other impediments to coal-fire  
5       generation. Transmission is really one of the major ones.

6               For coal plants, the economies of scale are  
7       extremely important. They need to be located close to the  
8       coal mines or close to rail or river transportation. That  
9       means they're usually not located near loads. So without  
10      transmission they simply won't be built. One of this  
11      morning's panelist indicated that there was a need to have a  
12      load-serving entity make a commitment to the resources in  
13      order to get the transmission built. I agree with that, but  
14      there is also a need to have the commitment for the  
15      capability of long-term transmission rights for those load-  
16      serving entities to be willing to commit to the coal-fired  
17      resources.

18             Currently, I've been very encouraged just  
19      recently with the comments by PJM that they are looking at  
20      long-term, firm transmission rights in an RTO context.  
21      Currently, there are no long-term firm transmission rights  
22      available for RTOs. There are no long-term firm  
23      transmission rights in L&P marketplaces. It is very  
24      difficult for someone like our organization that is willing  
25      to make huge capital investments to make those capital  
26

1 investments in both generation and transmission without the  
2 assurance that we will have the deliverability of the low-  
3 cost energy to our load.

4 Without that, even though we have committed to  
5 plants, we are hearing from the rating agencies -- from  
6 Moody's, Standard & Poors that it may be very difficult for  
7 us to get financing unless we can demonstrate that we will  
8 have a long-term transmission right to get the low-cost  
9 energy to our load. So that is probably our primary  
10 concern.

11 Now there are some secondary concerns. We're  
12 located on a seam between RTOs. Frankly, those seams are  
13 creating problems. We see the need to expedite and improve  
14 the joint common market between the RTOs. We right now have  
15 a coal plant that has been in service for 15 years. It's  
16 physically located in MISO. It has historically served load  
17 in PJM. We will most likely start serving load in MISO with  
18 that plant with the advent of RTOs in LMP marketplaces, it  
19 is no longer economically feasible to continue to move that  
20 plant across RTO boundaries right now. That is a problem.

21 We also see some state impediments. Some states  
22 are more receptive than others to out-of-state ownership and  
23 you can bring power from a coal plant from one state to  
24 serve load in another state. That is something we also need  
25 to be addressing. We're not quite sure what the form is for  
26



1       addressing that. Those are my main concerns about coal-fire  
2       generation.

3               We are very much interested in seeing this  
4       development. We think it is the way to assure long-term,  
5       low-cost reliable power to our members, but we must resolve  
6       some of the problems that exist in order to be able to do  
7       that. Thank you.

8               CHAIRMAN WOOD: Gayle, let me just follow-up on  
9       one of your final points there about being on the same line  
10      with the elimination, I guess, rate pancake would not be  
11      enough?

12              MS. MAYO: The rate pancake would help some, but  
13      when you're on the boundary for the first the timing is  
14      different, scheduling is different in each RTO. There's  
15      pancaking of RTO costs themselves, so we're playing twice  
16      for every kilowatt hour that we generate in one RTO and sink  
17      in another RTO. Again, the joint common market may help to  
18      solve that, but right now it is not in our interest. It's  
19      not here now.

20              CHAIRMAN WOOD: Okay. Let me take the West first  
21      on this one. One of our, I guess, issues has always been  
22      the kind of multiplicity of folks out there who come into  
23      the planning role. The inability for them to be sure of  
24      what happened last month was the four governors getting  
25      together and saying that we want this to happen, how there's  
26

1 nothing there hat's actually something of an action-forcing  
2 character.

3 Certainly, we suggested the RTO model, but is  
4 there something else out there that would be a good way to  
5 put into action the plans that we've heard about a little  
6 bit from the morning panel out in Arizona as well as from  
7 Steve talking about RMATS. Is there a way of thinking  
8 outside the structures, if you like, that we've got today?  
9 Is there some way to actually force these things to happen?  
10 Is there someone who will look at the broad public that this  
11 has got to happen to make sure we minimize the costs, take  
12 care of environmental issues.

13 MR. DINTELMAN: That's a good question. Our  
14 organization does not have the capability to force things to  
15 happen. What I'm observing relates to some remarks that  
16 Phil Harris made. We are seeing definite interest in  
17 getting transmission built. The subregional plans that are  
18 taking place, the western assessment group that I mentioned,  
19 they're talking about how can we promote a transmission  
20 planning role in the West. What are some alternatives that  
21 we have for seeing that getting addressed? And in my  
22 remarks I mentioned some of these expanded planning roles  
23 involving a data collection and management.

24 Our board is interested in having our council  
25 take on the development and maintenance of a regional  
26

1 planning data base that we would make available to our  
2 members that would require our staff to get the tools that  
3 are needed for that and we would make that data base  
4 available to our members to help facilitate regional  
5 transmission planning and our Planning Coordination  
6 Committee would be in the role of coordinating with the  
7 subregional planning groups, getting their information and  
8 determining how can we integrate these plans. But,  
9 ultimately, we have to, I think, identify the impediments to  
10 getting the transmission built.

11 We also need to focus on the successes we've had.  
12 If you look at Path 15, that is a success story -- getting  
13 the transmission built. Let's learn from that. Let's apply  
14 that to other projects going forward.

15 CHAIRMAN WOOD: That would certainly build some  
16 of the collaboration that could make this frontier line.  
17 For example, I hope we don't have that transmission project  
18 become common dinner table talk for the average citizen  
19 before we actually take care of it. That was certainly what  
20 Path 15 did. That took a lot of interest I think.

21 Gayle, let me go back to you a second. I was  
22 thinking about what we heard this morning about this  
23 consortium approach -- what PJM was talking about and some  
24 more public power-oriented participants in the markets that  
25 they would have. Is that the type of thing that the smaller  
26

1 public power agencies that may not want to go out and build  
2 a complete line by themselves could participate in the  
3 fraction of the project that serves power? Is that the kind  
4 of the investment vehicle that your folks are interested in?  
5 Is there some aspect of that that ought to be emphasized  
6 over others?

7 MS. MAYO: I think that makes a lot of sense. In  
8 Indiana, we have a joint transmission system that is jointly  
9 owned by ENS Energy and Wabash Valley. That's been in place  
10 since the early '80s. We have mechanisms in place for  
11 planning, allocation of costs for a return on those  
12 investments. It has worked very, very well. I think  
13 something similar to that, whether it's a formal joint  
14 ownership or whether it comes from a consortium approach,  
15 makes a lot of sense for transmission. I know the public  
16 power entities have money they're willing to invest.

17 CHAIRMAN WOOD: Mr. Reinke, we've got a kind of  
18 mixture of ownership in the South -- investor-owned, but  
19 also public power. I think there's a unique arrangement in  
20 Georgia where you've got interconnected. How do you get  
21 from the planning phase? I know that you're focused on  
22 reliability planning is certainly intended for economic-type  
23 planning, but how do you get from the planning phase to the  
24 construction phase.

25 MR. REINKE: Keep in mind that we are organized  
26

1       into four subregions. Three of those four subregions are  
2       large corporate entities in and of themselves. The energy  
3       subregion, which is basically corporate Entergy. They have  
4       some smaller systems there, but basically they're doing the  
5       planning for that subregion.

6               Similarly, in the Southern and TVA subregions,  
7       there is some corporate planning going on. Specifically, as  
8       you mentioned, the Georgia Integrated Transmission System  
9       requires joint planning with those others. You've got  
10      Georgia Transmission, Georgia System Operations, the other  
11      owners of the system as well as the other smaller public  
12      entities in the Southern subregion. That planning effort is  
13      going on within those subregions, but it's a little more  
14      complicated really than the one you illustrated. The one in  
15      ECAR where you have five or six large, but really separate  
16      entities.

17             I know in North Carolina the Commission has  
18      initiated a collaborative to deal with some issues that the  
19      public entities had, vis-a-vis, transmission planning.  
20      Those efforts are going on, but we are coordinating between  
21      and among the subregions themselves. I'm not sure if that  
22      got to your question.

23             CHAIRMAN WOOD: How then does the planning go to  
24      execution?

25             MR. REINKE: I think that the fact that the  
26

1 systems in SERC spending a million dollars a year, I think,  
2 answers that question. The planning is being done and it is  
3 being put into action and construction is going on. We've  
4 seen it the last couple of years, and we're seeing it  
5 through '09.

6 CHAIRMAN WOOD: You mentioned, I think, 5 percent  
7 of that money was spent for generation upgrades.

8 MR. REINKE: Generation interconnection. The  
9 rest of it is not.

10 CHAIRMAN WOOD: It would be reliability upgrades?

11 MR. REINKE: Reliability and load growth.

12 CHAIRMAN WOOD: There were three categories of  
13 transmission generally. We look at firm FERC Form 1 cost.  
14 We talked about this with the EEI folks a few weeks ago for  
15 those two categories as well as the third category -- the  
16 expansion of the interregional transfer capability, say,  
17 between TVA, Southern and the current TVA and ECAR.

18 MR. REINKE: A partial answer to that is there  
19 isn't necessarily a need to increase the wires between TVA  
20 and Southern. In many cases you'll find constraints are  
21 within the subregions or within the systems. So you find  
22 that as the systems -- as we're spending the billion dollars  
23 a year, some of those are going to correct and alleviate  
24 loading internal to the subregions, which then, in fact, de  
25 facto, increases the transfer capability because its

26

1 relieving some strains that were not on the borders.

2 CHAIRMAN WOOD: The last time you looked was  
3 there capability to move power into SERC from outside SERC  
4 from a lower-cost coal region?

5 MR. REINKE: There's capability to go both  
6 directions.

7 CHAIRMAN WOOD: Who would be the entity that  
8 those border needs within SERC itself? It sounds like you  
9 have got kind of that process.

10 MR. REINKE: The reliability agreements we have  
11 in place, and all the joint planning efforts we have with  
12 our neighbors to the north -- the joint planning studies and  
13 models are in place, so those sorts of things happen.

14 CHAIRMAN WOOD: You would have a planning  
15 arrangement with, I guess -- with VACAR?

16 MR. REINKE: We do with ECAR, TVA. We have it  
17 with the folks further east with ECAR, PJAM and the VACAR  
18 Group. o we have all those regions in place and they're  
19 active.

20 COMMISSIONER BROWNELL: Can I just follow-up on  
21 that. We saw a study, I think, three or four years ago when  
22 they were looking at the potential for markets and other  
23 opportunities in the Southeast. You saw some major  
24 opportunity to import into the Southeast some of that cheap  
25 Midwest coal, but we haven't actually seen much transmission  
26

1 get built in order to effect that. Does SERC just really  
2 look at keeping the lights on and they're not really looking  
3 at that broader picture of opportunities to reduce costs to  
4 customers? I know that's not within your mandate, is it?

5 MR. REINKE: It's not.

6 COMMISSIONER BROWNELL: Thank you.

7 MR. THOMAS: Just a couple of things, Mr.  
8 Chairman. This is probably going to go to both Mr.  
9 Dintelman and Mr. Reinke. I understand NERC itself -- all  
10 the groups have been focusing their efforts on reevaluating  
11 the role of the regional councils, which will include  
12 regional planning standards. I want to know -- Mr.  
13 Dintelman, your discussion went to just WECC versus overall,  
14 and I wanted to know if you could tell us what NERC overall  
15 is doing in accomplishing that, where's it's going and maybe  
16 some of the topics that were being discussed right now.

17 MR. DINTELMAN: Much of the role of the region's  
18 discussion that has been going on with NERC had to do with  
19 establishing whether the regions were ready to take on the  
20 responsibilities with the passage of reliability  
21 legislation. For example, what type of governance structure  
22 did the councils have? The other aspect of that initiative  
23 was to look at consolidation of some of the regional  
24 councils in the East. I'll let Bill comment more on that  
25 since that's outside of our interconnection. Just another  
26



1 initiative that NERC has put together that's outside of this  
2 role of the region's evaluation. It was not too long ago  
3 that a report was approved that had recommendations for the  
4 reliability councils to adopt regional adequacy standards.

5 In our region, we have given that consideration.  
6 A number of years ago, we had what is called a power supply  
7 design criterion. Our members were expected to have  
8 resources sufficient to meet at least one of the three  
9 criteria in that document. With the changes in the  
10 industry, that document was set aside and we adopted the  
11 approach of performing power supply assessments that one of  
12 the panelists referred to earlier. But, right at the  
13 moment, we don't have a yard stick to measure adequacy, but  
14 we are working on developing guidelines for adequacy for the  
15 western interconnection. And the publication that I  
16 referred to that NERC produced also addressed transmission  
17 adequacy. That's a reliability element that goes right to  
18 the heart of our mission in terms of making sure that we've  
19 got the transmission needed to maintain the reliability of  
20 the operation of the Western connection.

21 MR. REINKE: Picking up on the role of the  
22 regions' efforts, there were five initiatives in that  
23 analysis. The last one had to do with, and this applies  
24 really to the Eastern interconnection and I think it goes to  
25 your question. Since we have eight regions in the East, we  
26

1       were interested, as we look at compliance issues, compliance  
2       with standards and how we manage the compliance program. We  
3       were interested in the common look and feel, not necessarily  
4       identical, but a common look and feel within the Eastern  
5       interconnection so that an entity that is operating in more  
6       than one region wouldn't have completely different  
7       objectives and completely different standards and/or  
8       methodologies to deal with. So we are driving to a more or  
9       less common-looking field. Again, as Bob said, looking  
10      toward the day when legislation will pass.

11               MR. THOMAS: So, would that kind of evaluation  
12      help, as the Chairman is talking about, the subregional  
13      pacts within the service areas you just mentioned? Would  
14      that be something that would help open that up to having  
15      TVA, if it has constraints within the Southeast, being more  
16      open to creating cross interchanges?

17               MR. REINKE: Except that, if the constraints  
18      happen to be for non-firm transactions, then you get into  
19      what we could have paid for -- the upgrades and the state  
20      commissions have to have some approval mechanism if it's  
21      non-firm, and it's non-firm that's causing the TLRs and you  
22      end up saying, well, do I need to build so that I continue  
23      to accommodate non-firm on a case-by-case? The question is,  
24      how do I justify that and who's going to pay for it because  
25      it may not be a reliability issue, but it's a market issue.

26

1                   MR. THOMAS: I just have another quick question  
2           for Mr. Dintelman regarding the WAG study or the process of  
3           working through that. When you mentioned the coordination  
4           management of the subregional studies, what exactly does  
5           that mean? Will you have a role in saying how they're going  
6           to study that -- whether it's a reliability study only? Are  
7           you sticking with that or are you going to say the study  
8           should be looked at in a different view -- economic aspects  
9           of that study as well?

10                  MR. DINTELMAN: What I really meant by that --  
11           the subregional groups are performing studies and those  
12           studies' summaries and information regarding the studies are  
13           disseminated within the council, and what I was looking at  
14           is a potential increased role to more actively integrate all  
15           of those subregional plans into a plan for the entire  
16           Western interconnection. In other words, instead of being -  
17           - and I'm not saying this exist, but just to illustrate the  
18           point, you could do a better job by integration of the plans  
19           and simply taking each subregional plan and slapping them  
20           together and saying that's the Western interconnection plan.  
21           The council could have a role in looking at the integration  
22           of all those plans and is that a good fit for the entire  
23           Western interconnection?

24                  MR. THOMAS: Thank you.

25                  MR. McCLELLAND: From 1982, from my friends for  
26

1 DOE, the transmission expenditures and the decline. The  
2 first question I have is for Bill from SERC. You  
3 represented that SERC has invested a billion per year in  
4 transmission investments. Five percent of which would be,  
5 say, due to generator interconnects, so the 95 percent of  
6 system improvements. We used to use rule of thumb of about  
7 a million dollars per mile as far as transmission  
8 investments, and would be, say, roughly 950 miles in SERC.  
9 Would that be a good rule of thumb? How many miles would  
10 that represent?

11 MR. REINKE: Remember we're talking here about  
12 transformers, so some of the expenditures are for  
13 transmission -- for transformation. Then you may be  
14 rehabilitating or rebuilding on existing rights-of-way, so a  
15 million dollars a mile might be adequate and appropriate for  
16 new construction. It may not be for rehabilitation or  
17 reconfiguring existing transmission.

18 MR. McCLELLAND: In fact, with the bulk power  
19 supply transformers, they're rather expensive. If you put  
20 those in the mix, it may be less than 950 miles. Do you  
21 have any idea how that equates as far as the national  
22 average because SERC is one of the regions that we track?  
23 We do have statistics about and I'm not picking on SERC.  
24 SERC is not immune from this decline and it's an alarming  
25 decline across the country as far as investment and  
26

1 infrastructure. Do you know if that's reversed trends? Do  
2 you folks say now, prior to the declining years, which was  
3 1992, there's been a significant decline for almost 25  
4 years. We've seen a continuing decline in transmission  
5 investments.

6 MR. REINKE: When I was in that business, one of  
7 the things that we did implement as management suggested  
8 that maybe we ought to squeeze more the current assets.

9 MR. McCLELLAND: Which reduces capacity.

10 MR. REINKE: You re-rate the facility. You take  
11 another look at how are you rating your facilities. What's  
12 your emergency rating? Can you load it higher, check your  
13 stats to make sure that you don't have anything underbuilt  
14 that shouldn't be there. So, for a while -- and all systems  
15 do this -- you squeeze more out of the existing assets  
16 before you begin to add new infrastructure. So you saw a  
17 part of that in the late '80s, early '90s, when that was  
18 going on. But you've run out of that. Now you go back and  
19 the next thing you do is deal with existing rights-of-way,  
20 expand the substations and you get into new transmission.  
21 So it's really hard to quantify where the decline might have  
22 stopped. I don't know that we see a decline in our region  
23 now because the statistics we've been doing with this  
24 transmission survey now for a few years, it's fairly  
25 consistent and it's right at a billion, a billion one, a  
26

1 billion two.

2 MR. McCLELLAND: Thank you. The objective or the  
3 determinant that's pretty objective is a DOE determinant.  
4 That's a million dollars per mile of transmission, so it's  
5 pretty easy to compare it to megawatts. You may not have  
6 this. How about you, Bob, as far as WECC? Have you seen a  
7 continuation of the decline in transmission investment or do  
8 you think WECC's turned the corner? Has there been any  
9 change?

10 MR. DINTELMAN: This is a subjective point of  
11 view. It's been my observation that we've gone through a  
12 period of time where there has not been significant  
13 transmission added in the Western interconnection. My  
14 perception now is that we are turning the corner. We're  
15 seeing increased interest, and the signals that make me say  
16 that the Western Governors Associations, the RMATS project,  
17 the subregional study groups that we talked about, the Path  
18 15 project, the Paloverde-Devers No. 2 project. It looks to  
19 me like we've turned the corner. Time will tell.

20 As I said earlier, we really, I think, need to  
21 focus on what are the impediments to getting transmission  
22 built to make sure those are clearly identified and then  
23 look at our successes. How can we learn from the successes  
24 to overcome the impediments -- the historical impediments  
25 that we had? It's already mentioned -- the cost recovery is

26

1 an issue, but also overlapping jurisdictions is a factor.  
2 The "not in my backyard" syndrome is a factor. You've got  
3 federal agencies, state agencies, private landowners. If we  
4 can look at successes that we've had in overcoming those  
5 obstacles and apply those to additional transmission going  
6 forward, that ought to be our strategy.

7 MR. McCLELLAND: One short follow-up question for  
8 Gayle. You mentioned FTRs are very important, at least for  
9 participation in coal-fired power plant projects. What  
10 would you consider a sufficient FTR level to incent, say,  
11 your group or municipality to participate in the coal-power  
12 project?

13 MS. MAYO: It's going to be somewhat interactive  
14 because the rating agencies are going to have a lot to say  
15 about that. They're the ones who will determine what our  
16 ratings are, and how the bond issues do, the financing, the  
17 whole thing. It may not need to be 100 percent, but it  
18 needs to be close and it needs to be for a substantial  
19 period of time all with renewability capability.

20 MR. McCLELLAND: Would that be, say, for the  
21 projected life of the plan?

22 MS. MAYO: That would be ideal. That may also  
23 come with a commitment that you're going to, in fact, use  
24 that transmission during the life of the plan. That the  
25 pattern of usage is going to be the same. Yes, I think you  
26

1 do need that.

2 MR. McCLELLAND: Thank you.

3 MR. THOMAS: Just one final one. Larry, real  
4 quick. You mentioned you really support state/federal  
5 collaboration. I was wondering if you'd give us some ideas  
6 on how we can get to that approach? What ideas do you think  
7 we could use to do that?

8 MR. CHASET: I understand Chairman Wood and  
9 Commissioner Brownell are coming out to California in three  
10 weeks or so. For us to get together and meet is the No. 1  
11 thing that encourages and enhances cooperation. I think on  
12 the big policy issues nowadays my commission and your  
13 commission have a lot of common values, common policies.  
14 The question then becomes what are the obstacles to  
15 implementing those policies? I think one of the biggest  
16 obstacles is money, and I don't think that's something that  
17 either of our commissions necessarily have a lot of control  
18 over. So we need to start building coalitions and  
19 constituencies for the kinds of projects that we all think  
20 are needed. The kind of transmission upgrades that are  
21 going to create the robust systems that I think we are all  
22 looking for can be made.

23 We do not have the authority to tell our  
24 utilities that shalt build this particular transmission  
25 upgrade. They come to us and say we want to build this. To  
26



1       the extent, that we're dealing with multi-state projects, I  
2       think -- I don't know what kind of legislation Congress  
3       might pass here. The last version of the Energy bill that I  
4       saw did give FERC some backstop jurisdiction over these  
5       multi-state projects.

6               Just speaking for myself, and not for my  
7       commission, that sort of backstop jurisdiction on multi-  
8       state projects might be necessary. But I would certainly  
9       hope that the kind of collaborative effort that we've heard  
10      talked about by a number of speakers today will get us a  
11      long distance of the way there without FERC having to step  
12      in and say "build this."

13             CHAIRMAN WOOD: Let me ask a question. One that  
14      was raise, I think, as we went through this. Jerry, you  
15      mentioned in your comments about North Dakota as well. That  
16      there are some D.C. ties. It's kind of an unusual attribute  
17      in the current grid, although I think we knew the grid of  
18      the future will have a lot more D.C. What is the background  
19      on those North Carolina -- I think you said Duluth? What is  
20      the background? Do you know where they came from, how they  
21      were D.C., who built them and who's paying for them?

22             MR. LEIN: I believe they both came about during  
23      the '70s. They were as a result of a project to deliver  
24      power from the lignite fields into Minnesota. They were  
25      built specifically for power plants. One is a 400 KV line

26

1       that runs to the Minneapolis area. It is owned by Great  
2       River Energies. They are a G&T cooperative, I believe --  
3       formerly a CPA. That line is a big line. It can move about  
4       a thousand megawatts. It comes out of their Coal Creek  
5       Station, which is about 40 miles north of Bismarck -- a new  
6       state-of-the-art station that is really a nice generating  
7       station.

8               The other one -- I believe that one's been around  
9       a little bit longer. I'm thinking it's a 250 KV line and it  
10      runs out to the Duluth area and delivers power up there out  
11      of the Minkota System -- they're also a G&T Cooperative.  
12      Basically, the member coops pay the rates. I think they  
13      found it easier to build D.C. than A.C. because it missed  
14      the stability problems that they would have with the A.C.  
15      system. They weren't getting into the problems. We have  
16      some problems up there in the area trying to decide who owns  
17      what capacity and what flowgates and things like that, so it  
18      kind of misses all that.

19             CHAIRMAN WOOD: Mr. Morris, we'll let you pipe in  
20      here.

21             MR. MORRIS: Pat, I hate to show my age, but I  
22      happened to work on the environmental studies for those  
23      projects. The reason they were direct current was through  
24      the line loss issue as well as the routing through the  
25      pothole regions of North Dakota, which is a very, very  
26

1       difficult place to walk through with a transmission line.  
2       And they were, as pointed out by Jerry, power cooperatives  
3       back then. The Overland Power Cooperatives, OPC, built  
4       them, I think, with black hills power out in Bismarck that  
5       worked on those. It was really quite an undertaking to go  
6       direct current because the theory, again, was line loss,  
7       less steel and all of the environmental impacts of those  
8       lines because of their distance and how far they were going  
9       to move the power to market.

10               CHAIRMAN WOOD: It is pretty much a one-way flow  
11       out of North Dakota on those? So is it the customers in  
12       Minnesota who are really on the hook for paying for that or  
13       have been on the hook over time? It's not included in some  
14       North Carolina rates, is it? Do you know?

15               MR. LEIN: North Dakota?

16               (Laughter.)

17               CHAIRMAN WOOD: I'm sorry. North Dakota rates.  
18       I'm thinking about barbecue. Okay.

19               (Laughter.)

20               MR. LEIN: No, Mankota does have some members in  
21       North Dakota and I really don't know who's paying what. For  
22       the most part, yes, it's Minnesota customers that are paying  
23       it. I don't know that it was a bad investment. I think  
24       that as the years went on, compared to what their options  
25       are now, that they're getting pretty reasonable power prices  
26

1 out of it.

2 CHAIRMAN WOOD: We've got other ones on the MAPP  
3 in the West. And Bob, I think you've got one or two big  
4 ones coming into the LA area and the other SP 15 area.

5 MR. DINTELMAN: That's right. We've got the  
6 Salinas DC line from the Pacific Northwest to Southern  
7 California, and we've got the Intermountain DC line from the  
8 Intermountain power plant into Southern California. Then  
9 we've got a number of back-to-back DC ties that separate the  
10 Western interconnection from the Eastern interconnection.  
11 So there are advantages and disadvantages of DC. Basically,  
12 DC is a good application to ship large blocks of power from  
13 one point on the network to the other over long distances.  
14 It's an economic situation.

15 The disadvantage is it's expensive if you want to  
16 tap off the line to get the power to other parts of the  
17 network. That would require an additional converter  
18 station. They're quite expensive. At the convertor  
19 stations, there's also the need to support the voltage.  
20 That has to do with shipping large blocks of power over long  
21 distances. Sometimes DC works well.

22 The other thing about back-to-back DC ties -- due  
23 to the nature of the Western interconnection and the Eastern  
24 interconnection, large inertial power systems would require  
25 very strong AC ties between the two to keep them  
26

1       synchronized. The DC ties -- back-to-back DC ties enable  
2       the flow of power between east and west without getting into  
3       the problems that you would have with the synchronized AC  
4       ties.

5               CHAIRMAN WOOD: I learned those well in my ERCOT  
6       days, too. From all of you all -- I don't want to dwell on  
7       the DC thing too long, but it is one of these -- people talk  
8       about the grid of the future. It's very likely that there  
9       will be a lot more use of DC to move blocks of power form  
10      long distances, and since the theme of the conference here  
11      is focusing on coal and those tend to be, though aren't  
12      necessarily, one of the larger plants that can utilize the  
13      resources in coal-rich states. It might be cheaper to move  
14      by wire than by train. Is this a feasible way to move power  
15      from this region of the country because we don't have any DC  
16      here? We have some large AC. Is there any reason to think  
17      that DC would be -- when we were talking about transmission  
18      expansion here in the Eastern interconnection, is it likely  
19      that would be AC or could it be DC?

20              MR. REINKE: It could be both. Showing my age, I  
21      was on a taskforce when Governor Moore was governor of West  
22      Virginia and Governor Sununu was in New England. Governor  
23      Moore's objective was to build power plants in West Virginia  
24      and ship it. We quickly discovered or came to the  
25      conclusion that if the lines were going to go into New  
26

1       England, they had to cross Pennsylvania and New York.  
2       Therein was the problem -- raping and pillaging the land and  
3       not dropping off some of that power would be an impediment  
4       and so the project never really went very far. But you run  
5       into those sorts of problems that were already talked about  
6       earlier on the four-corner situation of Paloverde into  
7       Southern California. So you end up with the jurisdictional  
8       issues -- what's in it for me rather than giving up some  
9       land and taking the forest land. So, yes, it's certainly  
10      feasible. You have to get through the jurisdictional and  
11      the land use issues, and have something to benefit the  
12      states that you're going through not dropping off the power.

13               CHAIRMAN WOOD: Anybody from the audience while  
14      we've got this panel here? Anything you want to speak about  
15      or ask questions about?

16               (No response.)

17               CHAIRMAN WOOD: If no, we'll thank this panel.  
18      We appreciate you all coming.

19               (Applause.)

20               CHAIRMAN WOOD: If you all want to step away --  
21      why don't we ask Mike and you all to maybe slide down a few  
22      spots, take your name cards with you and we'll make this a  
23      little bit more spread out.

24               While they're doing that, I want to again thank  
25      our last panel for looking at regional planning issues from  
26

1 a different perspective than we did this morning, and  
2 introduce our last panel.

3 Welcome Mike Morris, President, Chairman and CEO  
4 of American Electric Power. We're glad to have Mike here  
5 from Columbus. You all serve this area too, right?

6 MR. MORRIS: Yes, sir.

7 CHAIRMAN WOOD: Jacob Williams is VP for  
8 Generation Development at Peabody Energy. He's been at FERC  
9 before talking about some of these transmission issues.  
10 He's with really one of the world's largest coal developers  
11 and is also a big participant in the U.S. market as well.  
12 Jerry Vaninetti is the management consultant of the Coal  
13 Project Development. Again, the focus of this panel is  
14 regional planning perspectives from the perspective of the  
15 coal industry. Jerry, we appreciate your being here.

16 Diane Leopold, VP Business Planning and Market  
17 Analysis for Dominion Resources, which is a large utility  
18 that serves Virginia and North Carolina. And Dough MacCourt  
19 is an attorney for the D&A Power Authority, which has an  
20 interesting perspective on developments from Native American  
21 tribal group perspectives in the West.

22 Mr. Morris?

23 MR. MORRIS: Thank you very much Chairman Wood,  
24 Commissioner Brownell, other commissioners and staff people.  
25 We really appreciate the opportunity to be here to share

26

1 with you some ideas about what we think is a very critical  
2 topic and a great time to have this conversation.

3 I know this morning that the newly-elected and  
4 extremely energetic Governor Manchin welcomed you to West  
5 Virginia. I'd like to extend that same welcome to our  
6 service territory. Chairman Wood, if I'm correct, this is  
7 Appalachian Power, a proud power of the AEP System, which  
8 has been serving this area since the early 1900s, and you  
9 might remember from the early legal days because it used to  
10 be called Blue Field. So the Blue Field and Oak cases for  
11 reasonable return on equity were created right here.

12 Over the years, I've had an opportunity to  
13 participate in any one of a number of these kinds of events,  
14 and one of the biggest issues for those who put the event  
15 together is to see to it that we speak or stay on task. I'm  
16 going to try to do that, and it was also suggested that we  
17 speak no longer than about five minutes so that all the  
18 panelists can get their views heard and then we can get to  
19 the meaningful Q&A from the panel to our right.

20 In that regard, those of you who know me that's  
21 probably the most difficult task I have today -- to say what  
22 I have to say in that short period of time. I've tried to  
23 group the questions that were asked of us in some subgroup  
24 so they would make sense.

25 If you have the brochure that brought us here or  
26



1 the papers that brought us here, we're the panel at page 5.  
2 The very sub-bullet talks about joint ventures and suggest  
3 what opportunities exist for coal from joint ventures in a  
4 generation planning perspective. I would suggest to my  
5 friend at the immediate left, who is a very large supplier  
6 of ours, is that what we really look for in a coal supplier  
7 is someone who's willing to join us a longer term contract  
8 period. Someone who's willing to take some price  
9 flexibility and some price increases and decreases, as time  
10 goes forward, to look at our power plant as maybe an anchor  
11 -- tenet, if you will, if you're going to develop a mall.  
12 So we have a longer term working relationship that doesn't  
13 go through the kinds of things we're seeing the near term  
14 like what I'd call price majeure, but the coal supplier  
15 calls forest majeure.

16 (Laughter.)

17 MR. MORRIS: Those are the kinds of things we  
18 have to battle against as we go forward. That's the kind of  
19 joint venture partner I want because, quite honestly, when  
20 we look at new coal facilities; particularly, large volume,  
21 large megawatt, clean coal facilities, we believe they need  
22 to be a regulated asset.

23 We believe very strongly that they need to be a  
24 regulated asset at the state level, and I hope we'll have an  
25 opportunity to talk about that as we go forward. I just

26

1       can't see an environment where anyone is willing to build a  
2       billion, five hundred million dollar merchant power plant.  
3       Those are the kinds of joint ventures that we look at, and I  
4       really believe that that's a state regulated issue and a  
5       state's right issue that ought to be taken care of at the  
6       state level, not the FERC level.

7               The second question is, what do we power plant  
8       owners think about regional planning and how can regional  
9       planning bodies help us? Let me group those two bullets  
10      together and say that we think that regional planning is an  
11      excellent idea without question. I think some of the ideas  
12      that we have tried or you have tried to create during your  
13      chairmanship, and those who were before you, on the notion  
14      of taking a look at these thing through an RTO lens, taking  
15      a look at these things through the regional state compacts  
16      that we've tried to put together makes a tremendous amount  
17      of sense because it lends credibility to what you're trying  
18      to do.

19             Having spent seven years in the ISO New England,  
20      now RTO. Even though I'm not there any more, I'm really  
21      thankful for doing that. We were worried that we were too  
22      small to be an RTO, but it's good that we are. We would  
23      make a determination of what needed to be built, then the  
24      end footprint utility had the right to build it if they had  
25      the capital and the desire to so do. If they didn't, then  
26

1       it was an open territory for others to come forward and  
2       build, if needed -- not unlike Path 15.

3               I've always thought that the regional planning  
4       endeavor makes a lot of sense. What I would also say is  
5       that it's critical important that the FERC be the sole  
6       certificate of public convenience and necessity provider.  
7       That the FERC have sole regulatory authority, ratemaking  
8       power over those interstate facilities and that they have  
9       primary, not backup but primary eminent domain authority  
10      once it's determined the asset is needed and here's how the  
11      rate structure is going to be built.

12             I would submit to you that the panelists who have  
13      gone before us, and I'm sure you heard this morning, that 14  
14      years it took us to get approval for the Jackson's Ferry to  
15      Wyoming project between West Virginia and Virginia that  
16      would clear up so much of the issue.

17             Mr. Chairman, again, I'm so happy to read on  
18      occasion you're saying that it's primary jurisdiction. I  
19      know Commissioner Brownell has join you, as have others, in  
20      that regard. About a month ago I got so excited that the  
21      President was in Columbus standing in front of an audience  
22      talking about energy. He said we need to have an  
23      infrastructure upgrade for the electric transmission grid  
24      and we need to have federal authority not unlike the State  
25      Highway System, not unlike the Interstate Gas System, not  
26

1       unlike the Interstate Oil System and I really got excited.  
2       Then we checked with the White House and it seems as though  
3       he misspoke himself. He was talking about backup authority,  
4       not primary authority, which was a little heartbreak.

5               When I look at the regional transmission view,  
6       and I look at the FERC's authority over that, it would be  
7       wrong for me not to bellyache about applications that we  
8       have in front of you. You've heard this from me many times  
9       before. I think it's essential that we create a rate  
10      structure that is regional in nature to cover a regional  
11      transmission operation rather than a license plate rate,  
12      rather than a postage stamp rate. That's a debate that we  
13      need to continue to have, but we can get the ratemaking  
14      right. I'm absolutely convinced of that as we go forward.

15

16

17

18

19

20

21

22

23

24

25

26

1           The next two bullets have a lot to do with clean  
2 coal. The question really is what other clean coal  
3 initiatives do we need to go through? What else can we do  
4 in an initiative sense to ensure that clean coal comes  
5 forward? I hope you know that American Electric Power has  
6 announced its intention to build one, if not three,  
7 integrated gas combined cycle facilities. We have asked PJM  
8 to characterize three sites for us, one in the State of  
9 Ohio, one in the State of West Virginia, and one in the  
10 Commonwealth of Kentucky.

11           We believe very strongly in the notion of going  
12 forward with integrated gas combined cycle, because it is  
13 the next technological step. I think that it's going to  
14 make a tremendous amount of sense for us to do that. We  
15 don't need initiatives. What we need is a clear rate of  
16 return path from the in state regulator that may or may not  
17 require in state legislation to support that same kind of  
18 approach. We feel very comfortable that that's achievable.  
19 We think that's near at hand in West Virginia. We think  
20 it's near at hand in Kentucky and we think that it's near at  
21 hand in Ohio.

22           Given that path, we will go forward. We are  
23 convinced that the General Electric people are dedicated to  
24 the technology of the gasifier -- which is a real paradigm  
25 shift, if you will, from where we were before when the  
26

1       technology was owned by major oil. They would give you the  
2       manual and they would show you how to build it, then they  
3       would wish you luck.

4               What General Electric is going to do, as they  
5       would do with any facility that they build, is they'll give  
6       you a warranty that it will work and, if it doesn't work,  
7       they'll fix it until it in fact does work. We're not  
8       worried about the power block. We know the power plant.  
9       We're sure that it will work.

10              That's what needs to happen. We're taking those  
11       steps forward, as are others, and we feel very strongly that  
12       that's an appropriate approach to take.

13              The last issues -- and I'll take the last three  
14       bullets and try to loop them together, and I really call  
15       them siting issues: what are the cost impacts and  
16       locational differences? What advantages can be gained by  
17       mine mouth and transportation costs of coal by wire would be  
18       better than coal by rail. That's a pretty easy question to  
19       answer in the railroads. The railroads -- God bless them,  
20       we need them, but they figured out how to milk all the money  
21       out of the delivery of a ton of coal, that's for sure.

22              But at any rate, at American Electric Power back  
23       in the 1940s, a predecessor of mine who was a giant in the  
24       industry at that time, Philip Sporn, began the process of  
25       building coal mines -- not necessarily mine mouth, but coal  
26

1 production area power plans. That was the genesis of the  
2 incredible 765 system that American Electric Power built to  
3 take that coal by wire, quite honestly, to the various  
4 service pockets that we had, which was a shift from the  
5 paradigm then which was to build your plant near the city to  
6 serve the load and haul the fuel to that facility.

7 We believe that that process is an excellent  
8 process going forward. Again, the siting issue there is  
9 much easier because you have an indigenous supply of the  
10 fuel. Typically these are economically-depressed zones of  
11 the states wherein the mines are to be found. Putting a  
12 facility there is usually something that's supported by the  
13 local folks, by the economic development people in the  
14 state, and we believe very strongly that that's the  
15 appropriate way to go.

16 In fact, each of the three states that we have  
17 asked the PJM to characterize for our IGCC plant are all  
18 along a river. They will have multiple means of fuel  
19 delivery. Because, as you know, and you helped us all  
20 understand through an open access grid, there's no question  
21 of having delivery by rail and delivery by barge keeps  
22 everybody price competitive. Those are the kinds of things  
23 that we will strive for as we go forward.

24 I know that Governor Manchin and others here in  
25 West Virginia are working hard trying to get back to having

26

1 coal by truck be a viable option. So that it isn't coal by  
2 Tonka truck, they have to be large enough to make the  
3 delivery meaningful as we go forward and they continue to  
4 work on that.

5 Let me try to bring these comments to a close  
6 simply by saying that this is an exciting time to be in this  
7 business. I don't think there's any question that  
8 additional facilities need to be built. We are strong  
9 proponents of fuel diversity at American Electric Power and  
10 our diversity is going to be clean coal. It will continue  
11 to be renewables. It will continue to be hydro where we  
12 can. It will be demand side management. It will be all of  
13 those kinds of things.

14 I do believe that natural gas has a place in that  
15 equation, but clearly not as a base power plant fuel.  
16 Regulation of the power plants and rate treatment at the  
17 state level rather than the FERC level and an absolute open  
18 access transmission grid regulated by the FERC both as to  
19 rate and pass-through recovery from the states.

20 And remember what we're talking about in the  
21 bundled kilowatt-hour. The T rate is usually a penny or  
22 less, on an average 7 or 8 cent rate: about 3 for the fuel  
23 on the power plant, about 3 for the distribution, and about  
24 a penny for the T. Let the FERC be the primary regulator of  
25 the pass-through opportunity in doing that. Reliability  
26



1 control -- something the Chairman and I have had a great  
2 deal of time to work on -- NERC and FERC working together,  
3 like NPO and the NRC, to ensure that we all live up to real  
4 requirements and if we don't, a penalty is made against us,  
5 is an important thing to do.

6 And lastly, planning for these facilities by  
7 regional transmission groups, by the regional state  
8 compacts; doing it on a regional basis makes a tremendous  
9 amount of sense. But include the transmission player as  
10 well. Whether it's an investor-owned utility, whether it's  
11 a muni co-op, whether it's a G&T player, even if it's an  
12 independent transmission company like the folks who've  
13 succeeded in interest to the Detroit Edison grid, those  
14 things make a lot of sense to us.

15 I appreciate the opportunity to share some ideas  
16 with you and I really look forward to the Q&A. Thank you.

17 CHAIRMAN WOOD: Thank you for being here, Mike.  
18 We appreciate it.

19 Jacob?

20 (Slides.)

21 MR. WILLIAMS: Thank you very much, Chairman Wood  
22 and Commissioner Brownell for hosting this conference and  
23 taking the leadership on the issue of coal and its role in  
24 the electric market and transmission. We like to say at  
25 Peabody coal is the reason we have affordable electricity in  
26

1       this country, and we say it early and often.

2               Peabody is the world's largest coal company and  
3       also the largest coal producer in the United States and we  
4       have a unique position in that we have major operations in  
5       all the major coal basins in this country, with the  
6       exception of the lignite fields in North Dakota and Texas.  
7       I'll let Jerry, who knows a lot more about those two basins,  
8       speak on that. But we have a unique understanding of the  
9       cost drivers in that region. That gives us perspective.

10              I have put out some information on the back  
11       table. I'm going to quickly run through a few of these  
12       because it sets the view for how the coal industry views the  
13       transmission planning. There's some on the back table back  
14       there for those who don't have it.

15              Flip to slide two. It's just a grid of low-cost  
16       states, the yellow states being the low-cost states, other  
17       than hydro, which the Northwest is blessed with. If you  
18       look at the APL states, you'll notice an interesting  
19       characteristic: six of those states have more than 92  
20       percent of their electricity from coal. Very clearly, coal  
21       is the reason we have affordable electricity.

22              Flip to slide three real quick. It's an  
23       interesting slide that was pulled together here recently  
24       which shows which states are the exporters of electricity in  
25       this country and which are the importers. The green states

26

1       are those that export. The red states are those that  
2       import. The dark green are the major exporters.

3               If you look at the dark green states, out of the  
4       11 dark green states, nine of them are major coal-producing  
5       states. It's not coincidental. They happen to -- several  
6       of them -- to be the low cost states as well. The only two  
7       states that are not heavy coal states are the State of  
8       Washington, obviously a hydro state, and Alabama. But the  
9       other nine states are major coal-producing states in the  
10      U.S.

11             If you look in the eastern half -- and most of my  
12      comments are actually going to be dealt with in the eastern  
13      half, even though we supply coal to all over -- but if you  
14      look in the eastern half and you look at Pennsylvania,  
15      Illinois, West Virginia, they are the three largest  
16      exporters of electricity and they're all in the eastern half  
17      and it, along with Indiana, represents where the low cost  
18      power is going to come out of to the other states. That's  
19      the way it works right now. They're the ones that are  
20      shipping a bunch of coal power into the east end of the  
21      South. That's where fortunately the AEP grid was built and  
22      it uses that very, very robust AEP grid to move that power.  
23      We thank those predecessors of AEP for doing that.

24             In the West, essentially you ship coal-based  
25      power from the Western Rockies to California. That's what  
26

1       that does. It forces it to back up with the data -- I won't  
2       go through that at all.

3               Let's move to slide five. In the East, where is  
4       there extra power in the grid today? It's in the main area,  
5       essentially Illinois and PJM, essentially Western  
6       Pennsylvania and ECAR, essentially West Virginia and Indiana  
7       have the excess coal sitting there on the ground, the  
8       capacity factor, the coal units in those three units is  
9       under 70 percent. They can produce more power if the wires  
10      are there to move it. The fact of the matter is  
11      unfortunately in the middle of the night not all of these  
12      have more wires to move it.

13             Move to page six. You get the map of the eastern  
14      U.S. Coal-based generation is essentially in the Ohio  
15      Valley area -- it's kind of a Nike swoosh, I like to call it  
16      -- the Ohio Valley and to the north and west. Out of that  
17      region, there are only 10 high-voltage transmission lines  
18      from Lake Erie down to Virginia, the Carolinas, and all the  
19      way to Western Arkansas. That's almost 1400 miles, if I did  
20      my math right. Only 10 high-voltage lines that come out of  
21      there. In the states of Indiana and Ohio in the robust AEP  
22      system, there are 10 high-voltage transmission lines across  
23      Indiana and Ohio, just in the states. You have a 1400 mile  
24      path where there's only 10. And you see that the coal-based  
25      power that's existing on the ground is trapped there and  
26

1 cannot serve load in the middle of the night. During the  
2 day, those plants are full load. But if you go around to  
3 some of the major producers, like Mr. Morris, he'd say at  
4 night the full units back down. It's simply a function of  
5 economics.

6 That's the existing. What about the future? If  
7 you flip over to slide seven, this is the DOE's relatively  
8 recent announcement. I'm not going to verify it's all  
9 right. I'm not here to say which places are going to be  
10 built, et cetera. But you do notice in slide seven that the  
11 majority -- or a major part of the coal plants that are  
12 announced in this country sit in Illinois and Kentucky,  
13 along with Ohio, Pennsylvania, and even Wisconsin. Again,  
14 more coal plants are going to show up inside what I call the  
15 middle U.S. coal box, further constraining, or further  
16 putting pressure on, the transmission system. Why is that  
17 the case? And it goes to the coal basin itself, slide  
18 eight.

19 If you go to slide eight, you look and you say  
20 why is that the case? If you look at the basins -- and I'll  
21 characterize them in general very quickly: the Central  
22 Appalachian Basin that we're in unfortunately is a high-cost  
23 basin. It is a depleting reserve basin. And it's a good  
24 transportation, it can transport coal out of here because  
25 it's higher BTU and it's got the river system to do it. But  
26

1       it is not one that is necessarily geared around mine mouth  
2       generation because the reserves are depleted.

3               If you look to the Northern Appalachian Basin,  
4       essentially up in Wheeling and into Pennsylvania, that  
5       reserve basin actually is a little better off. There are  
6       some much larger blocks of reserves. It's a medium-cost  
7       basin. And it's very transportable. It's got very high  
8       Btu, which means it's fairly affordable to move on the  
9       rails.

10              But now we go back to the Illinois Basin, in  
11       orange. That basin is a medium-cost basin -- in fact, it  
12       could be on the lower end of that. It is a very abundant  
13       reserve basin. It is the second-largest coal reserve in the  
14       United States. The State of Illinois has more coal than any  
15       other state, with the exception of Montana. It has got very  
16       abundant reserves. That basin also covers Western Kentucky  
17       and Southwestern Indiana.

18              The problem with that basin is it does not  
19       transport very well because it's a lower Btu. A few of the  
20       mines near the river you can go to; otherwise, you  
21       essentially need to have the plants on the mine. No  
22       coincidence why Illinois has so many mine mouth plants  
23       proposed for it.

24              I'll leave the west essentially to different  
25       analysts. The only thing I will point out is that the  
26

1 Powder River Basin is very cost effective, as we all know,  
2 in bringing coal to the midwest as well as now to the east  
3 and all the way into New York and things like that, all  
4 because it's low cost to mine. Therefore -- and it's an  
5 extremely abundant reserve.

6 The eastern plants that you see, I would propose  
7 to you that much of them are going to be developed around  
8 the river system. It is the lower-cost system to deliver  
9 coal, the Ohio River system in particular, and the Illinois  
10 Basin going forward.

11 What does that mean if you look at a transmission  
12 system? You've got abundance of resources there during the  
13 day. The new plants are going to be built there because the  
14 fuel is lower cost. That's where the bottlenecks are going  
15 to be. I ran the math on pages nine and 10 about what makes  
16 sense. I won't bore you taking you through it but the fact  
17 of the matter is it's far cheaper to put coal on the wires  
18 than it is to move it by rail.

19 I will note that the Illinois Basin -- if you  
20 think about it from a load center -- if you look at the  
21 Illinois Basin and the Ohio River Valley, let's take the  
22 Illinois Basin for a moment. You look at the number of  
23 major cities that are within 400 miles of that basin, if you  
24 extend it up the Ohio River Valley, you get the entire East  
25 Coast as well. That is where the new plants are going to be  
26

1       built. That is where AEP is looking essentially is along  
2       the Ohio River Valley.

3               With that said, we talked about the lack of  
4       transmission that's been built. I would also point out that  
5       if you're looking at renewables and wind in the Eastern  
6       U.S., it's going to come from the western part of that  
7       middle U.S. basin. It's not going to be built in the  
8       mountain areas here. Again, you need those same wires to  
9       move power to the east if you're going to have renewables in  
10      the eastern half and make a meaningful difference.

11             The other piece I will point out on the planning  
12      system -- and again, it really takes us to the planning  
13      issues -- is that one of the open criticisms I have about  
14      the electric planning process is it does not take into  
15      account the benefits of natural gas prices to the natural  
16      gas consumer. Every electric study that I've participated  
17      in -- and I've participated in a lot of them up in Wisconsin  
18      -- you look at electricity ratepayer benefits.

19             Today, what if you took one Tcf of gas demand off  
20      because you just displaced gas generation with coal. What  
21      if you took 50 cents a million out of the price of natural  
22      gas just because of that. That's \$10 billion to the U.S.  
23      consumer. We don't factor any of that in. And to say that  
24      knocking off a half or one Tcf annually because it's  
25      displacing gas can't happen, it can. We can have a debate  
26



1       about whether it's a 50 cent drop in price or a quarter, we  
2       can debate that, but the fact is we put zero value on it  
3       today and there is a huge value. In fact, I could argue  
4       there's probably more value there than there is on the  
5       electric side.

6               So what needs to happen on the planning side, and  
7       I'll spend my last few minutes on the planning side, to get  
8       the wires in place? It starts with having a planning  
9       process that takes the consumer part of you. Sometimes I've  
10      participated in it and I don't always see that. In that  
11      process, can we define who are the beneficiaries of these  
12      wires?

13             The second, and I think the real flaw in the  
14      process today or the thing we've got to be careful of, is  
15      historically if gas is \$2, you didn't need transmission  
16      lines because you put gas plants at load, it was fine.  
17      That's not the world we're in now. We know that. Gas at \$7  
18      will justify a lot of lines.

19             Problem. A lot of our transmission -- there's  
20      not a single transmission study that I've seen that actually  
21      even gets to \$7 as its benchmark. What you see typically is  
22      a high gas case over the last few years at \$4 or \$4.50 --  
23      and unfortunately the DOE's long-term curves have always  
24      been meager, burning back to \$4 or \$4.50, so you never get  
25      the true value of the transmission line in the analysis you  
26

1 use.

2 I would argue that you need to do a bit more  
3 planning like we do on the reliability side. In  
4 reliability, you run the transmission. In a reliability  
5 plan, you assume the first contingency already occurred.  
6 Then you see if you can serve load. Why not assume the  
7 first contingency of high gas prices and then let's see what  
8 the value of the transmission is? I think you could justify  
9 a lot more transmission.

10 Finally -- and I've sat through enough public  
11 hearings. If you would lay out the value of these lines to  
12 parties in a clear economic story, it's a lot easier for  
13 regulators, state and local politicians to get behind them.  
14 But if all we do is waive the reliability flag, you know.  
15 But for a blackout it's hard to get people excited about it.  
16 But if you say we are going to save X amount in general  
17 because this line is going to be built and, oh, by the way,  
18 it may help reduce gas prices as well, I think you have a  
19 far better story to tell. And I think the RTOs, no matter  
20 what the price issue, need to say hey, we've seen \$7 gas  
21 three of the last four years. I think it's reality, that we  
22 ought to try to plan around that contingency, much like we  
23 can plan around in one contingency.

24 We also want to look forward in our planning  
25 process. There are going to be new coal plants built now.

26

1       Let's put the new coal plants into those models, where you  
2       think they're logically going to show up. I realize we  
3       don't have contracts in place and all those things yet, but  
4       it takes the transmission lines longer than, frankly, it may  
5       take some of the plants to get built. And you know the  
6       general regions they're going to show up is along the Ohio  
7       River Valley and in the Illinois Basin in the east and in  
8       the west it's going to happen in the Rocky Mountains where  
9       the coal is. Go ahead and put those in and you're going to  
10      see a greater need. But if you don't add any of the coal  
11      plants, it may not show the need that's going to show up  
12      there.

13               And then finally once that happens we need to  
14      pull everyone together -- and FERC can take the leadership  
15      and essentially create in some cases a national transmission  
16      bottleneck group. Here are the three major projects. We  
17      are going to solve these together. We're going to pull  
18      everyone together and work that out. The states will allow  
19      those costs to get rolled into the ratebase, you'll have the  
20      documentation that says who's going to be the beneficiary.  
21      If you want to do some sharing mechanism, that can be worked  
22      out. But I think it starts with justifying it economically  
23      first. I haven't seen good studies out there that do that.

24               Finally, a question that was asked, can there be  
25      partnerships between regulated and unregulated entities to  
26

1       built coal plants? Absolutely. We and AEP are venturing  
2       into a partnership called FutureGen, if that comes about.  
3       That is one such thing. We've talked to a number of  
4       utilities about partnering and two of our mine mouth  
5       projects -- one way to take some of the bounce out of the  
6       coal price, Mr. Morris, is to come in and join us in the  
7       mine ownership itself, and then you share all the risks with  
8       us.

9                       (Laughter.)

10               MR. WILLIAMS: Finally, I guess, I see on the  
11       environmental front. I won't address that. There's a  
12       couple of slides at the back. The technology is there that  
13       meets the laws that are out there and go well beyond the  
14       current care regulations that are out there. The technology  
15       is in place, not only IGCC, CFP is available. And as  
16       opposed to mandating a certain technology, you should let  
17       the market ultimately short out. If GE and company can  
18       deliver the performance and all the guarantees, ultimately  
19       gasification will be the winner, if they can deliver. But  
20       we don't start by mandating which technology and then hoping  
21       it actually delivers the economics.

22               With that, I've probably run over, and I  
23       apologize.

24               CHAIRMAN WOOD: You all are okay. You're the  
25       last panel. You can all overrun.

26

1 (Laughter.)

2 CHAIRMAN WOOD: Jerry?

3 (Slides.)

4 MR. VANINETTI: Thank you. Glad to be here  
5 today. I think a lot of my comments are going to be like  
6 preaching to the choir when you're following the Billy  
7 Graham of the coal-fired transmission industry here.

8 (Laughter.)

9 MR. VANINETTI: I largely agree with Jacob, I do  
10 believe in regional planning. I think blackouts are also an  
11 important aspect of getting transmission built, so please,  
12 more blackouts, okay?

13 (Laughter.)

14 MR. VANINETTI: I'm a management consultant that  
15 specializes in coal project development and building on my  
16 recent experience as principal of RDI's coal consolidation  
17 practice throughout the 1990s, and the last five years I've  
18 served as president of Great Northern Power Development in  
19 power development and power project development activities.  
20 Great Northern is the nation's private coal landowner and  
21 most of the reserves are in lignite. Jacob referred to  
22 lignite. That stuff is purely mine mouth because it doesn't  
23 make any economic sense to load it in rail cars. Mine mouth  
24 dictates that you have some transmission, so I've been  
25 confronted with transmission challenges, both in MAPP in the

26

1 North Dakota region and in Montana, as well as the WECC.

2 Most recently in the last six months my clients  
3 have included the Wyoming Infrastructure Authority -- where  
4 until recently I served as its interim executive director.  
5 I've watched the RMATS process, the evolution of the  
6 frontier line -- I think that's a positive development.  
7 With my experience and my perspectives on the transmission  
8 challenges of coal project development, it's based on hands-  
9 on experience.

10 I commend FERC and the Commissioners and FERC  
11 Staff for bringing us all together. From the perspective of  
12 us poor old developers out here dealing with these  
13 disconnects between coal projects and the transmission that  
14 go along with them -- or more often, doesn't go along with  
15 them. I, like Mike, have tried to organize my comments in  
16 response to questions posed to this panel regarding coal  
17 project development with regard to a regional transmission  
18 plan.

19 The personal comments that I will provide today  
20 do not necessarily reflect the views of any particular  
21 developer, project, or segment of the industry. These are  
22 my personal hard-earned views. I've got four major areas  
23 I'd like to touch on. I'd like to talk about regional  
24 planning. I'd like to talk about the deficiencies of the  
25 open access regulations in place. I'd like to talk about

26

1 clean coal and talk about the trade-offs of mine mouth  
2 versus near load. Then I'll wrap it up with some thoughts  
3 on what can be done.

4 First of all, with regard to regional planning,  
5 two points: regional planning is an essential component of  
6 coal project development required to secure the necessary  
7 public and stakeholder support for a project, particularly  
8 when transmission expansion is required. However, regional  
9 planning must be couple with a definitive approval and  
10 decisionmaking process in order for a coal project and its  
11 transmission requirements to proceed, a process which is  
12 lacking in regions not covered by RTO's, particularly in the  
13 west.

14 Second, coal project development generally  
15 consists of two major components: that's the coal plant and  
16 the fuel supply that goes with that, as well as the  
17 associated transmission and they are both big pills to  
18 swallow and it takes a heck of a lot of effort to put them  
19 together, as well as money and time.

20 They are separate issues but linked issues and  
21 those things you have to have the approval and the  
22 decisionmaking processes linked in order for each one of  
23 these comments to come to fruition. In order for  
24 transmission to proceed, clear cost recovery mechanisms for  
25 transmission investments must be designed. The mechanism is  
26

1       lacking in most regions of the country.

2               Secondly, I'd like to touch on the OATT open  
3       access process and how it influences coal project  
4       development. The open access process is well suited to  
5       distributing and administering the incremental capacity that  
6       remains in a given transmission system, although there are  
7       considerable differences between each transmission  
8       provider's system and their administrative requirements.  
9       However, the open access process is completely unsuited for  
10      aggregating load and expanding transmission capacity to  
11      serve coal projects. It is largely seen for coal developers  
12      as a deterrent to coal project development.

13             My experience in Montana and North Dakota, with  
14      rate pancaking you have a number of different entities  
15      involved in the transmission system. Going through the OATT  
16      process, in our case, with Great Northern, involved 19  
17      different applications to six different entities, some  
18      requiring deposits, some not requiring deposits. Trying to  
19      coordinate that and put that all together is effectively an  
20      impossible way to go when you're doing long-distance  
21      transport of coal energy. So open access just doesn't work  
22      for transmission expansion.

23             Alternate methods outside the open access process  
24      need to be developed to facilitate transmission expansion.  
25      Options include DOE's proposed NIECB process and the third-

26



1 party financing concept that has been batted around in the  
2 last couple of years worth of energy.

3 We have some successful Western precedents along  
4 these lines. First and foremost is Path 15, a  
5 public/private partnership involving WAPA and TransElect.  
6 It's really the open process out there to bypass the OATT  
7 process. And hopefully the Frontier line, which is proposed  
8 to take coal power and wind from Wyoming to California and  
9 drop it off in Utah and Nevada as well.

10 Next, I want to talk about clean coal. There's a  
11 perception out there in public -- maybe not in this room --  
12 that somehow the industry has the option of either putting  
13 clean coal on or putting dirty, nasty coal on. That's not  
14 the case. Make no mistake, any new coal project is  
15 required, underscored, to use clean coal technology,  
16 including the repowering of existing coal-fired power  
17 plants. There are no options here. You've got to go  
18 forward with best available control technology.

19 There are two primary commercial alternatives  
20 that exist. One is advanced pulverized coal that's been  
21 talked about here this morning. Roy from the East Kentucky  
22 Power Cooperative talked about circulating fluidized bit, or  
23 CFB, technologies. Both of these are proven technologies,  
24 they offer state of the art emission profiles and  
25 efficiencies using proven commercial technology. Pulverized  
26

1 coal generally comes in increments of 500 megawatts or  
2 larger to give it economies of scale. CFB, the largest  
3 built thus far is 300 megawatts in the U.S. So if you're  
4 adding small increments, CFB makes sense. But if you're  
5 given to economies of scale, like Jacob is looking at doing  
6 with Peabody in Western Kentucky in Illinois, you look at,  
7 what, a 750 megawatt pulverized coal unit.

8 Next IGCC, that's clearly the future for coal-  
9 fired generation but it has not yet been commercialized.  
10 It's being considered for a handful of installations in  
11 regulated states if the local PUC's can be convinced to pass  
12 on risk and the higher cost to ratepayers. Folks have gone  
13 down this path in a couple of places in Wisconsin and  
14 Arizona; in both cases, the PUC's there have not seen fit to  
15 saddle ratepayers up with these risks and uncertainties.  
16 We've talked in a number of cases today about penguins  
17 standing on the edge of the cliff, and I think the first  
18 speaker mentioned that there might be a shark in the water.  
19 Well who wants to go off a cliff first and find out if  
20 there's a shark there or if there's a whole mess of sharks  
21 there. There will be some people forced off the cliff, some  
22 of them will go willingly, but I think there are some sharks  
23 in the water, too. We've got to proceed carefully. Just so  
24 long as it's not my penguin going off the cliff.

25 Lastly let's talk about mine mouth generation.

26

1        Jake's touched on that somewhat already but I've got a lot  
2        of experience in mine mouth projects. From my perspective,  
3        they offer low fuel costs largely insulated from markets and  
4        price fallouts. You don't have the railroads in the middle  
5        taking all they can out of the markets.

6                A mine mouth operation can be set up for a long-  
7        term captive situation and provide a lot of insulation from  
8        these market risk issues and also provide economic stimulus  
9        in thinly-populated regions where coal is generally found  
10       and where they are supportive of developing new coal-fired  
11       power plants.

12               All of these issues are moot if you can't put the  
13       transmission together. Most mine mouth projects are at  
14       greenfield sites. That's a challenge, because you have to  
15       develop the infrastructure, i.e., transmission. Examples  
16       abound in the West and the Midwest, particularly Peabody,  
17       Great Northern's got a couple of projects in combination  
18       with Keawitt. Black Hills has got a couple of projects with  
19       the North American Power group in Wyoming and Sipe-Dine down  
20       in the Four Corners region. There are a number of others,  
21       but these are all greenfields operations at mine mouth.

22               Now near load projects, they trade the  
23       elimination of transmission uncertainties for greater  
24       exposure to coal market and rail transportation risks,  
25       provided that the local airshed will allow generation  
26

1 emissions. Most near load projects are in brownfield  
2 situations; they might have been built 20 or 30 years ago.  
3 It needs to be retrofitted with modern pollution control  
4 facilities. It's probably an easier circumstance to develop  
5 a brownfields site, despite the fact that you're exposing  
6 yourself now to coal market price risks, price volatility,  
7 and getting worked over by the railroads.

8 Western examples include XL's Comanche plant,  
9 looking at retrofitting and adding an additional unit, and  
10 Pueblo, Colorado, the tri-state G&T's operation at  
11 Springerville and Arizona. There are a number of other  
12 examples. Duke just announced a couple of similar  
13 facilities in their service territory. Upgrading existing  
14 old facilities creates some airshed and creates generating  
15 by retrofitting with larger facilities.

16 While the economics of mine mouth generation tend  
17 to be substantially more favorable than near load  
18 generation, transmission uncertainties and the difficulties  
19 in expanding the transmission grid tend to force the higher  
20 cost option of near load coal-fired generation, because you  
21 can't put the transmission together, that means ratepayers  
22 pay more. That's an unfortunate situation, so what can be  
23 done?

24 I've got a David Letterman list of the top 10.  
25 I'm not quite sure what the order is. But first and  
26

1       foremost, regional planning is important for both generation  
2       and transmission, particularly in regions that aren't  
3       covered by RTO's.

4               Secondly, the open access process has got to be  
5       worked over or just bypassed; it just doesn't work for coal-  
6       fired generation where you're adding big chunks of  
7       additional generation to the transmission grid where there  
8       isn't any capacity. You need consistent open access  
9       procedures to the extent you've got to use it. Some  
10      companies, some transmission providers require deposits up  
11      front, others don't. They've got different ways of handling  
12      their system planning and their feasibility studies. When  
13      you're doing multi-state work through three or four  
14      pancakes, you know -- if you knew you were up against this  
15      when you were starting to develop a coal project, you'd just  
16      go home, put your money in the bank or invest it  
17      internationally or something.

18             Other alternatives to third-party financing  
19      should be considered. It's interesting to see a number of  
20      states, particularly those in the West, have jumped into the  
21      void left by the problems of transmission by forming state  
22      transmission authorities. The Wyoming Infrastructure  
23      Authority has taken the lead there. They're the first  
24      organization out of the chute to create a transmission  
25      authority. They've got a billion dollars in bonding  
26

1 authority. Steve's got a budget this year of \$6.6 million  
2 to spend to effectively do development in the void left by  
3 vertically-integrated utilities jumping into that void.  
4 That's a positive development. Wyoming started it. Montana  
5 has given it some thought. North and South Dakota, the path  
6 there. Kansas got there. I think New Mexico is in the  
7 process of creating one as well, and there are some other  
8 places in the country that that's going on. So I view that  
9 as a process of development in the absence of complete  
10 transmission regulatory reform.

11 I would echo some comments about giving FERC  
12 back-stop citing authority for transmission projects  
13 involving multi-state corridors. Another important one is  
14 the elimination of the jurisdictional issues between public  
15 and private entities.

16 Next on the shopping list is helping develop some  
17 new transmission products that more fully utilize existing  
18 capacity. I'm talking about priority firm or contingent  
19 firm and priority non-firm transmission products that will  
20 help not only wind but some of the other generation  
21 resources. We ought to get the best uses we can out of our  
22 existing transmission system before we've got to go out and  
23 throw money at inventing new transmission.

24 Next on the list is coal and wind. Chairman  
25 Wood, that's probably where you remember me. I've been the  
26

1 coal and wind guy up in North Dakota. We had coal, we got  
2 wind, and we think there's an element where the two fit  
3 together.

4 I think one of the previous speakers touched on  
5 the fact that these intermittent resources can justify their  
6 own transmission, so we're in a situation here where coal is  
7 effectively creating the transmission path that wouldn't  
8 otherwise be available to wind. Coal is wind's golden  
9 goose.

10 Regional standards for cost recovery so the  
11 financing can proceed; that's probably number one on the  
12 list.

13 Then last is provide incentives for independent  
14 entities to develop transmission. There are at least three  
15 independent transmission companies that have come forward:  
16 TransElect, National Grid, and ITC have all gone out there,  
17 they've all bought transmission companies. Only TransElect  
18 has gone ahead and done a greenfield project on Path 15. I  
19 think they're all poised to be able to do something, but the  
20 stars have to be aligned.

21 And I'll leave you with a final thought: it is  
22 that transportation is required to move our nation's vast  
23 and cost-effective energy resources, any resource, from  
24 remote regions where these resources are generally located  
25 to domestic customers located in population centers. The  
26

1       hurdles of transporting natural gas, oil, and coal have been  
2       largely overcome as the siting and construction of pipelines  
3       and railroads is a relatively uncomplicated project-driven  
4       process, it just requires money. However, the most cost-  
5       effective energy transportation mode of all, transmission,  
6       has not been expanded due to the void left in regional  
7       transmission planning resulting from the mid-1990s efforts  
8       of utility deregulation.

9               Consequently I would encourage FERC and the state  
10      utility commissioners to stay the course in your efforts to  
11      facilitate regional transmission planning and to complete  
12      transmission policy reform.

13             Thank you.

14             CHAIRMAN WOOD: Thank you, Jerry, for all those  
15      good concrete suggestions. I think that's fertile ground  
16      for us to work on.

17             Diane?

18             (Slides.)

19             MS. LEOPOLD: Thank you, Mr. Chairman.

20             Fuel diversity is an important factor in  
21      promoting overall system reliability. The generation market  
22      design and the transmission planning processes both can play  
23      important roles in facilitating this goal. The ability to  
24      permit and construct a new coal-fired facility is very  
25      difficult and gets more challenging. For certain loads,  
26



1 economies of scale normally dictate that a developer build a  
2 larger plant. However, the ability to interconnect large  
3 new generation in the right place is challenging.  
4 Transmission interconnections are often 5 to 10 percent of  
5 the total plant capital cost.

6 I'll try to give an appreciation for a few of the  
7 issues faced when choosing between different sites. First,  
8 closer to load. The ability to obtain required air permits  
9 is normally more difficult and it's more likely to be in  
10 non-attainment or severe non-attainment areas. Public  
11 opposition is often higher. Traffic is higher, being closer  
12 to population. There are likely fewer coal delivery options  
13 and transportation is much more expensive to the load area  
14 on a delivered-price basis. There's greater difficulty  
15 getting land access for transmission and rail  
16 interconnections. The plan design itself is often much more  
17 costly. Land costs, space issues -- including ash and  
18 scrubber byproduct disposal costs, labor costs, and noise  
19 control are just a few examples. Access to water is usually  
20 much more difficult. However, the plant is more likely to  
21 have a minimal or positive effect on the transmission system  
22 with less costly upgrades and the value of the plant from an  
23 LMP perspective is likely to be much higher closer to load.

24 Closer to mine mouth, siting issues are far more  
25 likely to be with the transmission than the plant. There's  
26

1       often greater than 50 miles of transmission needed to get  
2       onto the high-voltage system and obtaining the needed  
3       rights-of-way can be difficult. Multi-state route permits,  
4       as we've heard already today, are more likely to be required  
5       with related potential for schedule delays. Additional  
6       reinforcements will likely be required on the high-voltage  
7       system in order for the generation to be able to serve the  
8       desired load area. Mines are often located in mountainous  
9       terrain, leading to high transmission construction costs.  
10      However, fuel transportation, of course, should be less. A  
11      plant owner can eliminate at least one wheel of  
12      transportation costs, and the likelihood of interruption  
13      from transportation is less.

14               On the other side, the plant owner may have a  
15      risk of being the sole supplier. An issue in the mine that  
16      the plant is dependent upon can shut down the entire plant.  
17      Higher electrical losses are generally incurred when the  
18      generation is located remote from load. This may mean  
19      greater overall fuel usage and plant emissions for each  
20      kilowatt-hour generated. Reactive power is generally  
21      provided more effectively close to load, so remote  
22      generation may have less value in this respect. The value  
23      of the plant being sited far away from load can be  
24      considerably diminished. Like any power plant development  
25      project, choosing a site is a function of minimizing the  
26

1 capital costs and maximizing the long-term plant value and  
2 flexibility, and this can be a very complex process.

3 Clear and open regional transmission planning  
4 procedures are key benefits of RTOs. Without proper market  
5 signals and a properly-planned transmission system  
6 generation will not be built at the right time where it is  
7 needed. RTOs see the big picture and can determine which  
8 upgrades contribute the most adequate reliable and economic  
9 expansion plan to reduce congestion and improve reliability  
10 for the entire region. Since an RTO has its regional view,  
11 it is able to provide a comprehensive independent generation  
12 interconnection process that is integrated with the overall  
13 regional plan.

14 Regardless of the economic justification for the  
15 new generation built, a strong transmission expansion  
16 planning process can enhance access to existing coal-fired  
17 generation and improve fuel diversity. However, better  
18 aligning the generation market design and transmission  
19 planning processes would help promote future fuel diversity.  
20 The transmission planning process, quite understandably, is  
21 focused on reliability issues on the grid rather than issues  
22 of generation and fuel diversity normally. New generation  
23 normally directs what the transmission provider -- through a  
24 queue request for a specific plant, interconnection of new  
25 facilities is typically sufficient to access the grid in a  
26

1       reliable fashion but may not serve to truly improve access  
2       of the transmission grid to load.

3               Capacity markets and the RTEP processes are in  
4       many ways similar but are not necessarily sufficiently  
5       linked. Both processes are looking to find the most  
6       efficient way to meet reliability needs through transmission  
7       generation or load solutions. Real-time operation of  
8       wholesale markets and the transmission system depend upon  
9       development of a necessary infrastructure in advance.

10              There's a great deal of uncertainty in building  
11       new coal-fired power plants, including future environmental  
12       and capital risks. Meanwhile, we have yet to see a clear  
13       path to recover the costs. In addition, it remains very  
14       hard to predict nodal price. A plant owner must be willing  
15       to take merchant risk with a substantial amount of  
16       uncertainty surrounding when and where congestion on the  
17       transmission system may change over time.

18              We support the continued evolution of capacity  
19       and energy markets as a means to provide signals for  
20       generation, but longer-term forward signals would allow for  
21       more certainty regarding the long-term high-capital  
22       commitment to a power plant. Current proposals are a step  
23       in the right direction but need to be strengthened over  
24       time.

25              Thank you.

26

1                   CHAIRMAN WOOD: I guess I'll hold that thought  
2 before I'll comment, but the current proposals --

3                   MS. LEOPOLD: On the capacity market design,  
4 LICAP, RPM, as they relate to some of these.

5                   CHAIRMAN WOOD: Thank you, Diane.

6                   Last, but certainly not least, Mr. MacCourt.

7                   MR. MAC COURT: Thank you.

8                   First of all, Chairman Wood, Commissioner  
9 Brownell, thank you for inviting the Dine Power Authority, a  
10 Navajo Nation enterprise, to this meeting to discuss the  
11 critical role of Indian tribes in the United States -- in  
12 particular, the Navajo Nation -- in meeting the needs of our  
13 nation's high-voltage transmission infrastructure to  
14 facilitate fuel diversity and, in particular, clean coal  
15 development.

16                  Before I get going, just a couple of notes. Our  
17 general manager, Stephen Begay, sends his regrets that he  
18 was not able to be here today. His daughter is graduating  
19 from Northern Arizona State University and asked me should  
20 he be in West Virginia or in Flagstaff, and I said be in  
21 Flagstaff, for sure. But he doesn't express any lack of  
22 interest.

23                  A couple of notes on some of the comments that  
24 our panel dealt with, then we'll dive into really the  
25 subject that I want to talk about, and that is some projects  
26

1 from Indian country that I think both answer many of your  
2 questions and demonstrate how a partner like an Indian tribe  
3 can help meet both of these needs, infrastructure that will  
4 facilitate development.

5 Jacob talked a little bit about modeling and I  
6 can't underscore that point enough. Modeling that doesn't  
7 track actual current conditions can sometimes be worse than  
8 no modeling at all. It's something that shows up in so many  
9 different regulatory processes that it's critical that we  
10 keep our eye on how to keep track of what current conditions  
11 are. That's not to say that today's spot prices are going  
12 to reflect what happens next year, but we have to have a  
13 balance between the probable models and the deterministic  
14 models.

15 Partnerships are happening out there, public and  
16 private, and a variety of different mixes in all of that.  
17 Hopefully today you'll learn about one between Indian  
18 country and the private sector. Somebody else remarked, and  
19 I apologize, I can't remember who it was, but building on  
20 successes is probably one of the best ways to influence  
21 regional planning. I couldn't agree with that more.

22 Lastly, just a note about penguins. If we're  
23 talking about penguins in the Pacific Northwest, I'd just  
24 modify the metaphor a little bit. If you jump off the  
25 iceberg, you'd be eaten by a killer whale instead of a  
26

1 shark. But, you know, when you've giving that talk, use  
2 that appropriately.

3 CHAIRMAN WOOD: Didn't even catch it.

4 MR. MAC COURT: I think in the southern  
5 hemisphere there's a lot of sharks.

6 Okay. We've heard a lot today about the  
7 potential benefits of the Frontier project and the  
8 limitations of that project from costs, time permitting, and  
9 regulatory hurdles. Dine Power Authority has launched what  
10 is known as the Navajo Transmission Project, which brings  
11 the benefits from a policy perspective like Frontier without  
12 the hurdles. And I'm going to go through some of that  
13 first, then get into a little bit broader perspective  
14 briefly about why Indian country can bring these benefits to  
15 the transmission and generation system of coal.

16 The Navajo Transmission Project is a 470-mile,  
17 500 KV alternating current line from Northern New Mexico to  
18 Southern Nevada to first serve the Southwest, not only the  
19 fastest growing region in the United States, but two of the  
20 fastest growing demand centers in the United States, Phoenix  
21 and Las Vegas -- basically a pipeline into Southern  
22 California.

23 The Navajo Transmission Project is already  
24 permitted, it's closer to market, and has spurred the  
25 development of a 1500 megawatt mine mouth coal-fired  
26

1 generation project known as Desert Rock, which was mentioned  
2 here earlier. Dine Power Authority is partnered with Sipe  
3 Global to build the Desert Rock project. Desert Rock  
4 received administrative completeness for its air permit from  
5 EPA Region 9 one year ago. Desert Rock will be the cleanest  
6 coal project permitted in the United States to date, using  
7 existing proven technology to reduce emission of sulphur and  
8 nox particulates, mercury, and greenhouse gases.

9 An important point here -- we can get into this  
10 more if we want later: several people on the earlier panel  
11 talked about using proven technology, and I can't underscore  
12 that more. This is not CFP, this is not IGCC, this is  
13 basically stacking existing proven pollution control  
14 technology, including limestone injection, selective  
15 catalytic reduction, flue gas reduction and desulphurization  
16 -- excuse me -- combining that with something the Europeans  
17 have done for decades, primarily because they can't afford  
18 to burn fuel like we can afford to burn fuel in this  
19 country, and that is use supercritical boilers. Stacking  
20 the traditional pollution control technology in a smart way  
21 with high-efficiency boilers. We are producing 3,000 tons  
22 of SO<sub>2</sub> per year on a 1500 megawatt plant. That's roughly 10  
23 percent of what the existing plants in the Four Corners are  
24 currently producing.

25 Now I don't want to make that sound like I'm  
26



1 knocking them because for the last 15 years they've been  
2 reducing the SO2 dramatically. We were at a meeting two  
3 weeks ago with the National Park Service air quality folks  
4 at Fort Collins and they admitted that they are actually  
5 seeing the difference in the Grand Canyon because of those  
6 reductions. That is really, really important.

7 Wind developers are asking to utilize the NTP.  
8 The EPA is working with-- and I said the EPA a little  
9 quickly -- our Dine Power Authority is working with the  
10 Western Governors Association to integrate the Navajo  
11 Transmission Project into WGA's planning for renewables.

12 I would be remiss if I didn't point out one other  
13 thing, which is somewhat unique to Indian country but it  
14 gets lost in the shuffle a bit. When we talk about power  
15 projects, and it really does apply really in all of our  
16 communities. I think the Governor really hit on it best  
17 this morning for the State of West Virginia. Navajo  
18 Transmission Project and Desert Rock have the added benefit  
19 of promoting significant economic development to the Navajo  
20 Nation. A few statistics here I think are important.

21 In 2004, 48 percent of the population on the  
22 Navajo reservation was unemployed. 43 percent of the total  
23 population was living below the poverty level, compared with  
24 18 percent below the poverty level in New Mexico. And in  
25 2004 the per capital income on the Navajo Nation is \$7,412.

26

1 Desert Rock has projected alone to generate approximately  
2 one-third of the Navajo Nation's currently declining budget  
3 from projected operations commencement in 2009 through the  
4 year 2033.

5           There's something really significant, you know,  
6 aside from the money. Anybody that's ever worked with  
7 Indian tribes or worked in Indian country knows that one of  
8 the things that the federal government has hoped it could  
9 get over time with its investments with Indian tribes and  
10 its trust responsibility is attracting the private sector  
11 and building on that initial seed money. That's exactly  
12 what's happening with this project. Desert Rock will create  
13 between 2- and 3,000 construction jobs at peak development  
14 on commercial operation. It will create 200 new family wage  
15 jobs at the plant and 200 new family wage jobs at the Navajo  
16 mine. That's my ad for Desert Rock and Navajo Transmission  
17 Project. It's one example of what tribes are doing that  
18 happens to have the benefit of significant land areas and  
19 significant fuel reserves. For sure, not all tribes in the  
20 United States are blessed with that, but many tribes are  
21 looking at participating in energy development.

22           And I have to commend FERC for its outreach most  
23 recently in the dialogue its starting to create through its  
24 program of working with tribes there. You know about the  
25 successes in renewable energy partly spurred on by the  
26

1 Department of Energy in other areas, and that's great.

2 By the way, I have to tell you that Raleigh  
3 Wilson, your person that assigns you to the tribal dialogue,  
4 did a fantastic job out in Las Vegas last month when we had  
5 our Tribal Energy Southwest conference. She's the reason  
6 I'm here. It was very well received. It's on the tip of  
7 the iceberg of something very big and it's a dialogue the  
8 tribes understand is at the beginning, but they really,  
9 really appreciate you showing up and caring to actually  
10 engage them in conversation.

11 We urge FERC to support the efforts of tribes  
12 with significant transportation and generation  
13 opportunities. A couple of facts you might find  
14 interesting. The Navajo Nation is roughly the size of West  
15 Virginia, has hundreds of years worth of low-sulphur coal  
16 reserves. My technical people pick on me when I say that  
17 lower sulphur coal reserves and is in a key location to  
18 remove one of the big red arrows that Jeff Wright showed on  
19 his slide in his presentation today in the direction of Four  
20 Corners to Southern California.

21 Now specifically from a regional transmission  
22 planning perspective, the Navajo Transmission Project stands  
23 to improve operational flexibility and reliability of the  
24 high-voltage system to allow increased economic power  
25 transmission to sale and purchases in the region and, as we  
26

1       mentioned, will facilitate additional coal-fired generation  
2       to serve growing demand in an area that's relying and  
3       suffers from overreliance on natural gas.

4               Lastly, I just think at a discussion like this  
5       we'd be remiss if we didn't remember that the tribe -- and  
6       we're still trying to develop a national energy policy to  
7       which these projects fit in very well. Modernizing energy  
8       infrastructure, increasing energy supplies and fuel  
9       diversity, accelerating environmental protection and  
10      increasing U.S. energy security is all of what we've been  
11      talking about on this panel, as well as the Navajo  
12      Transmission Project and Desert Rock.

13             The Western Governors Association has done a good  
14      job in trying to take the planning process into a more  
15      focused regional look and trying to identify where the  
16      bottlenecks in the system are, how to understand and improve  
17      the timing of transmission and generation projects, how to  
18      promote fuel diversity at the state level but add kind of a  
19      regional planning overlay to that, and how to guarantee --  
20      or at least help guarantee long-term generation adequacy are  
21      all again futures of these projects.

22             I'll end my remarks there. I want to thank you  
23      for specifically, as I mentioned, including Indian tribes in  
24      this discussion. We look forward to working with you and  
25      answering your questions.

26

1                   CHAIRMAN WOOD: Boy, they just get better and  
2 better. You all are a great panel.

3                   Let's start, Mike, with you. IGCC. Certainly,  
4 Jerry, your speech to the choir kind of left a mark, and I  
5 think, Jacob, you said it too: let the market pick which  
6 technology is going to be the outcome. If the government  
7 says we want it to be this clean or cleaner, which it has  
8 recently done, that's the bogey under which you have to  
9 shoot.

10                  I know some of your states are bundled, some are  
11 unbundled. How do these unbundled states, which do kind of  
12 go here -- not including West Virginia, but go up toward the  
13 Northeast, how in an unbundled state would a utility or even  
14 a Peabody type make a long-term investment that has some  
15 high costs up front. I'm thinking about nuclear power, too,  
16 actually.

17                  MR. MORRIS: Pat, that's an excellent question.  
18 I don't know. Let me back up for just a minute and say I'm  
19 sorry I didn't include nuclear in my diversity of fuel,  
20 because we do believe in that, although that's not in the  
21 recipe for American Electric Power. I've had a conversation  
22 with the John Roes of the world and the other major nuclear  
23 players. Every one of them are saying is if they were --  
24 could apply for a new station, they would do it in a  
25 jurisdiction that has rate of return. What we're asking in  
26

1       our jurisdictions -- fortunately, in Kentucky it's still a  
2       bundled state. West Virginia is a bundled state. Ohio is,  
3       however, an unbundled state.

4               We've asked the Public Utility Commission of Ohio  
5       to step out of the box and find under the provider of last  
6       resort authority, the opportunity to approve a regulated  
7       rate of return power plant going forward. First off, in  
8       today's world, I don't think you can raise the capital for a  
9       billion dollar merchant plant. I think the capital  
10      investors, working off of a bad model of natural gas being  
11      \$2 a million Btu's as far as the eye can see, went into a  
12      real heavy storm, and I don't think you'd see them repeat  
13      that performance. I don't think you'll see a major megawatt  
14      breakthrough clean coal and/or new nuclear built into a  
15      jurisdiction that does provide for that kind of regulatory  
16      treatment. That is just, I think, the reality that we all  
17      face.

18             I guess I say that in one sense. If you went  
19      back to PURPA and you could demonstrate through a PURPA  
20      process that you've got a contract, that really is the  
21      Wisconsin model. Wisconsin Electric Power Company is not  
22      going to be the owner of the power plant that's built there,  
23      and one of the panelists was right in that they chose not to  
24      go IGCC only because they didn't have enough data in front  
25      of them, if you listen to Wisconsin commissions. What they  
26

1       are doing is building an unregulated plant with a 20 year  
2       contract that has a stairstep in the rate structure of the  
3       energy delivered from that plant.

4               So there are ways to do it. I just think that's  
5       the kind of assurance we're going to need. There aren't any  
6       more, I don't think, \$200-, \$300 million power plants that  
7       you can build and they will come. I don't think that model  
8       is there.

9               MR. WILLIAMS: I'd like to kick that around a  
10       bit, because Peabody will build what I call an unregulated  
11       plant; I will call it merchant. You build it and have no  
12       forward sales to support it. Peabody is partnering with an  
13       entity that represents a partner in the project. If you  
14       have load-serving entities taking ownership positions in a  
15       project, the share that Peabody will own will be forward-  
16       sold from 10 to 30 years. That will support financing with  
17       load-serving creditworthy entities. So it isn't  
18       unregulated. I divorce it from the word "merchant," which  
19       is purely speculative with no long-term contracts. That can  
20       be done.

21              CHAIRMAN WOOD: Those entities you're mentioning  
22       that don't have unbundled retail service, how does the  
23       retail competition model work with these?

24              MR. WILLIAMS: The one interesting thing is we're  
25       building a plant in Illinois -- Illinois is going through  
26

1       its deregulation process and I will point out their auction  
2       mechanism excludes any new plants like our from ever bidding  
3       in until we're built. It's a three-year auction. How can a  
4       plant that isn't going to come on-line for five years or  
5       four years even bid in and help support financing? You  
6       can't do it. The only way you can is if the industrials  
7       underneath there look out and realize the problem that's  
8       occurring -- and some of them are -- and say look I need to  
9       lock in for long-term supply at a fixed price. You're not  
10      going to have small consumers, it's going to be an  
11      industrial customer who recognizes the energy problem this  
12      country's facing. Otherwise, the major of consumers in  
13      Illinois continue to buy power, whatever the gas prices  
14      yield to them in heat rate, that's it. So you're right. It  
15      does exclude most of the market unfortunately. But in our  
16      case there are enough municipals and cooperatives who need  
17      power and there are enough parties looking to lock down  
18      long-term fixed prices and that's something we can do.

19               CHAIRMAN WOOD: Are there any -- you all are --  
20      all the panels were practical but I'll say you all are the  
21      co-developers, companies of various sorts who have certain  
22      specific interests in this -- or Jerry, in your case,  
23      certainly knowledge about it. What are some kind of low  
24      hanging fruit opportunities here? I've kind of been waiting  
25      for 10 years for us to have a national energy policy that's

26



1       actually other than an announcement of one.

2                       (Laughter.)

3                       CHAIRMAN WOOD: I just think we've got to start  
4       making it happen, and I do think this is what we talked  
5       about in North Dakota with a renewable coal mix perhaps.  
6       What the crowd out in the West is doing with the frontier  
7       line, which has got some state muscle in the arms of four  
8       governors behind it.

9                       With regard to the infrastructure authority, the  
10       old mechanism, it's working against the new mechanism. The  
11       Southwest Power Pool said this is exactly how we're going to  
12       pay for it and there's this big long laundry list and not  
13       major projects, but altogether they will certainly help us  
14       reduce a lot of congestion within that system.

15                      You've got some specific projects out there -- we  
16       heard one this morning from PJM. Wanting to drill deeper on  
17       that, I expect in the coming weeks and months, we will. But  
18       from this panel, are there any specific thoughts of things,  
19       opportunities we can start talking about with state  
20       commissioners and federal agencies that are involved or  
21       stakeholders that are going to help you pay for it, any  
22       particular things that come to mind here that anybody wants  
23       to kick out? Our last speaker did that in the Navajo region  
24       but it's one we've heard about before. What could be done?

25                      MR. WILLIAMS: I won't be shy in terms of the  
26

1 projects. I think the mountaineer concept, if you go back  
2 to my Nike swoosh and all of that, that means solving  
3 exactly that problem and jumping on. There's the build all  
4 the way across Pennsylvania -- which is a big project, there  
5 are actually small pieces from West Virginia to Virginia or  
6 inside Virginia -- that actually attack part of that problem  
7 immediately. It frees up existing coal plants. There's  
8 lots of ways coal plant can be built. They're sitting in  
9 ECAR.

10 CHAIRMAN WOOD: Are those the ones you referred  
11 to, Jacob, that have the lower capacity?

12 MR. WILLIAMS: Absolutely. That's right. You've  
13 got the same issue, frankly, going on. You've got the big  
14 AEP system and the TVA system separated by about 70 miles of  
15 low-voltage stuff that don't tie Rockport to Paradise  
16 together, a big, big interstate waiting to be built, the  
17 Rockport and the TVA Paradise system. It essentially  
18 bridges the gap. There's some gap bridging that could be  
19 done that frees up existing coal and gets them into the  
20 other regions. So I think from a project perspective there  
21 are some things that can be done. Whether, you know, we  
22 have the ability to actually bring the states together to  
23 make that happen, I don't know.

24 MR. MORRIS: I would argue that part of what you  
25 heard today from the PJM is again the appropriate way to go

26

1 through this. It is the regional transmission planning  
2 concept to identify those bottlenecks that are there. And,  
3 as you really did, Pat, you and I and ISO New England with  
4 the Southern Connecticut problem, it was identified as one  
5 of the regions that had to be de-bottlenecked, as was Path  
6 15, and people came forward to build the answer. It's taken  
7 time, because in New England everything needs to be  
8 underground. It's taken a tremendous amount of capital.

9 But the facts remain, you identify those places -  
10 - and again, I think it's fair for the incumbent to have an  
11 opportunity to de-bottleneck that system themselves. If the  
12 process begins through the RTO, with the FERC standing  
13 behind an application to build it, I think you're going to  
14 see a lot of people step into that space.

15 I know there's been almost a national fear that  
16 we've all stepped away from transmission investment for any  
17 one of a number of reasons, some nefarious, some not. I  
18 really think -- and you've heard me say this many times  
19 before, I think it's simply two things happening. One, the  
20 road map was unknowable, and so what we did for a decade is  
21 we collectively put our capital to work in environments  
22 other than the United States. And what most of us found out  
23 was that was a really bad bet and we're all now back home  
24 and eager to put capital to work to continue to build out  
25 the infrastructure because at the end of the day I really  
26

1 believe that we all want this system to be open.

2 The beauty of an open system -- and this is  
3 something we had before in every one of the old NERC regions  
4 or the power pool regions, you always dispatch your lowest-  
5 cost transfers and your highest-cost transfer and everybody  
6 got the benefit of that. What we're trying to create and  
7 what I think we're trying to create in the competitive  
8 marketplace is what you get in a competitive marketplace:  
9 General Motors needs to buy 2500 megawatts nationally.  
10 They're going to get someone to bid into that supply process  
11 because they know the grid's open and they can satisfy those  
12 demands from any one of a number of points of supply. I  
13 think we'll get there. I know maybe you and I depart on the  
14 issue. I still don't think mom and dad at the retail level  
15 want to buy energy for anybody but their own town utility,  
16 and if we bid that out and we do it by auction or however we  
17 do that as we go forward, that may be another day.

18 I think when you get into environments where the  
19 provider of last resort, the average homeowner, the average  
20 real residential retail customer would just as soon play in  
21 that world and hope that the state regulator and those  
22 others who play into that cycle of rate control are doing a  
23 good job of helping to ensure that they're giving low cost  
24 supply.

25 CHAIRMAN WOOD: I would respectfully disagree on  
26

1       that, but my current job doesn't have to go to that level.  
2       But I think there's a lot that is left as far as low hanging  
3       fruit.

4               Diane, you've been a little quiet. Anything that  
5       comes to mind as far as an early achievable to try to move  
6       this agenda forward?

7               MS. LEOPOLD: I guess the one thing I'd observe  
8       is really in many ways it has continued to move forward.  
9       There was a very large generation build that went on at the  
10      same time that LMP markets were just starting actually to  
11      provide signals to expose congestion in a more transparent  
12      way. While everybody was focused on building new  
13      generation, I'm not sure a lot of people were focused on  
14      where is the transmission congestion, because we didn't have  
15      the signals there. Meanwhile, I do think a lot of processes  
16      were developing: RTO's were getting larger, the regional  
17      planning process is getting more robust, and now it's time  
18      with enough generation and with the LMP signals to be able  
19      to expose where the transmission issues are, to be able to  
20      have the RTO's more effectively respond to it. That's the  
21      positive. The negative side is more the long-term clear  
22      certainty of those signals to be able to respond to it in  
23      large capital investments.

24              CHAIRMAN WOOD: Let's take one. There is this  
25      proposal from PJM today, there's a big swath that goes  
26

1 through Dominion's service area. I wonder what level of  
2 process needs to happen prior to Dominion going to the  
3 Virginia Corporation Commission and saying I want CCN to  
4 build this.

5 MS. LEOPOLD: From a regional transmission  
6 planning perspective, I'd like to defer to our transmission  
7 planning expert on that, if you're willing to. I'm not the  
8 regional transmission planner.

9 CHAIRMAN WOOD: Do you need me to repeat that, or  
10 do you have it?

11 MR. BAILEY: If you would, please.

12 CHAIRMAN WOOD: What needs to happen -- again,  
13 you're a transmission owner, the newest one in the club I  
14 think in PJM now. Congratulations on that. What does it  
15 take between like today's announcement and you guys or your  
16 company walking to the Virginia Corporation Commission to  
17 get a siting approval for a CCN to route this project across  
18 Virginia? What needs to happen, both kind of mentally as  
19 well?

20 MR. BAILEY: I think mentally, both for Dominion  
21 and for us to be able to express that to our state  
22 corporation commission, the siting and all that group, is  
23 what are we getting from it, what is the benefit? What is  
24 the benefit to the Virginia transmission system, what is the  
25 benefit to the Virginia customers? It's going to be proven  
26

1 to ourselves first what that's going to buy, so that we'll  
2 buy into it and we can convince our own state and local  
3 communities. What is this, you've got this big expressway  
4 now coming through this area, what are my benefits from it?  
5 It looks like it's starting over here in West Virginia and  
6 it's ending over here really, more out of Virginia, but  
7 along the way what is the benefit going to be to our local  
8 area and our local economy and how are they going to help  
9 the energy prices and so forth?

10 CHAIRMAN WOOD: What if -- if Virginia were an  
11 incidental beneficiary but the benefits may be over across  
12 the bay in Maryland and Delaware, does that make it  
13 impossible to get approval? Say there were some benefits  
14 but maybe not -- again, the predominant benefits go outside  
15 that state.

16 MR. BAILEY: That's a difficult question. I  
17 don't think it would be impossible. I think it would be a  
18 very difficult question.

19 CHAIRMAN WOOD: I think the types of things we've  
20 talked about all day are really multi-state regional type  
21 projects that would have to be dealt with.

22 MR. BAILEY: Even a project like this, if it does  
23 approve the superhighway, even though it may not drop along  
24 the way, there could be some long-term benefits if it does  
25 help alleviate some of those bottlenecks that we talked  
26

1       about earlier this morning. A superhighway could alleviate  
2       that, so there could be some residual impact that this  
3       facility would bring. So I think you might be able to find  
4       some benefits for something like this. Once you've  
5       convinced yourself that there was a regional impact, you  
6       could express to the stakeholders, that would help you with  
7       the signing.

8               CHAIRMAN WOOD: I agree. I think that's a fair  
9       response. At this stage, it's not a specific project. But,  
10      you know, I think I will just say I do remain concerned  
11      about the ability to get kind of over the finish line on  
12      some of these projects because the track record has not been  
13      really great on interregional transmission. I think all the  
14      ones we've talked about with the gentleman from SERC, those  
15      will get built, but local customers and generators, the  
16      interregional stuff, is really what is the potential  
17      economic development for this state and for Kentucky as far  
18      as the states that are producing, and there are some  
19      benefits in the states that are consuming. There may be  
20      states in the West.

21             MR. BAILEY: Fighting the local push-back is  
22      going to be difficult.

23             CHAIRMAN WOOD: But you all invested in DG for  
24      the short term.

25             MR. MORRIS: Again, Mr. Chairman.

26



1                   CHAIRMAN WOOD: Thank you very much for coming  
2 up.

3                   MR. MORRIS: This is going to take more time than  
4 any of us want. But that project, any one of those projects  
5 should be filed with your Commission and approved by your  
6 Commission and ultimately you move the rates through at the  
7 retail level, at the state level, if you must. If it's a  
8 single owner of that access route, you would do as we do  
9 with much of the revenues from the 765, you'd share it back  
10 as a credit to the cost of service so that the Virginia  
11 Corporation Commission could say our retail customers are  
12 getting some benefit from having done that. Set aside the  
13 benefit that as I heard this morning Governor Moore saw so  
14 many decades ago, that Governor Manchin talked about today,  
15 coal by wire out of West Virginia. And I appreciate that  
16 the model isn't there yet but I heard a great quote the  
17 other day: that is that good ideas will overcome opposition  
18 if you just hang in there long enough. These are really  
19 good ideas and it -- as you know, because we've had this  
20 conversation many times. You and I both grew up on the gas  
21 side. When you put an interstate pipeline taking gas from  
22 the Gulf of Mexico to New York City and it runs through  
23 Virginia, zero benefit, but it gets done because it's in the  
24 better interest of the coterminus 48 states.

25                   CHAIRMAN WOOD: Since you led with that -- she  
26

1       was there long before I was, I was a latecomer to the FERC  
2       primary siting jurisdiction --

3               MR. MORRIS: I apologize for that, Commissioner.

4               CHAIRMAN WOOD: All right. Other folks here on  
5       the panel, Commissioners and Staff, questions for these  
6       panelists?

7               MR. THOMAS: Just a couple. Mr. Vaninetti was  
8       going through a litany of 10 things that could be done.  
9       Down the path of low-hanging fruit, why don't you run  
10      through again the consistent OATT procedures? What could be  
11      done sooner rather than later if this helps move along the  
12      planning and expansion process?

13              MR. VANINETTI: I think you have to go away from  
14      the open access process. You've got Path 15 out there as a  
15      precedent. You've got some good discussions going on in the  
16      Congress, in the energy bill for third-party financing.  
17      You've got the NIETB process. I'd like to see any or all of  
18      those things move forward so you've got an alternative. I  
19      think that's where FERC plays a major role is in the  
20      interstate business and you have to take the big picture  
21      here. It can't be done with the individual transmission  
22      providers. You can't add up these pancakes and you can't  
23      get a decision made.

24              MR. THOMAS: That's what you meant by the  
25      consistent procedures between the OATT?

26

1                   MR. VANINETTI: You're never going to be able to  
2 hammer that -- well, maybe you can hammer out a consistent  
3 procedure. My view is that the OATT process just isn't  
4 suited to pipelines or transmission. This is something  
5 that's in a bigger issue, truly more in the lap of FERC.

6                   CHAIRMAN WOOD: Again that's primarily because of  
7 rate pancaking?

8                   MR. VANINETTI: No, again, we went through 19  
9 different applications to be able to take power from Montana  
10 to the Pacific Northwest. You've got six different entities  
11 in our case that filed on it. Each one has a different  
12 procedure, a different way of processing you through the  
13 feasibility studies, the system impact studies. And none  
14 of this stuff correlates. It's not done simultaneously;  
15 it's two steps forward, one step back and collectively you  
16 have nothing. You've spent a bunch of money putting deposit  
17 money down and you don't have a clear path for  
18 decisionmaking.

19                  CHAIRMAN WOOD: It's the one-stop shop type of  
20 aspects that you need within the larger region. That could  
21 be done without an RTO.

22                  MR. VANINETTI: Yes.

23                  CHAIRMAN WOOD: That's helpful to hear that. We  
24 actually haven't heard that from the specific people who  
25 have to live, not just paying the pancakes, it's the  
26

1       pancaking of procedures and applications.

2               MR. VANINETTI: Chairman, you're trying to divvy  
3       up whatever remaining capacity is left on the existing  
4       system. That's where I think open access fits, when you're  
5       talking about major expansion. None of that stuff should  
6       apply. But in the absence of any completely formulated  
7       transmission reform, that's what you're left with.

8               CHAIRMAN WOOD: I think the Commission kind of  
9       hit that brick wall in 1999. That's why they went the RTO  
10      route.

11              We'll open it up to the audience. Any questions  
12      for this panel here?

13              MR. DOUGLAS: My name is Stratford Douglas. I'm  
14      a professor of economics at West Virginia University and I  
15      at one time was on the FERC Staff, too.

16              Hearing the remarks of Mr. Morris and the  
17      questions you asked also, Chairman Wood, about how can we  
18      possibly leave it to state ratepayers to provide the  
19      necessary guarantees? You've got to get comfort where you  
20      can, it's a cold world out there, and these are big  
21      projects. But, you know, one of the reasons why we did this  
22      whole open access market-driven process was to try to get  
23      big plants built. I remember that as being one of the  
24      reasons why, in the wake of Public Service of New Hampshire  
25      and the fact that states can't provide the guarantees -- or  
26

1       they won't -- if the project goes south. And I wonder,  
2       these are regional projects and I'm not sure if West  
3       Virginia ratepayers want to guarantee a project when we're  
4       already exporting three-quarters of our power anyway. Why  
5       should West Virginia ratepayers take on any risk to build  
6       new power plants? This is more of a regional issue and  
7       shouldn't we be thinking creatively about how many regional  
8       entities, if not national regulators, can shape a new kind  
9       of regulatory compact, which is what we talked about, I  
10      think.

11               CHAIRMAN WOOD: The potentials of jobs and  
12      property tax benefits from having those plants here rather  
13      than exporting the extracted coal by rail to some other  
14      place, are those not significant?

15               MR. DOUGLAS: They certainly are, but where do  
16      the benefits flow to. If what you're looking at is a  
17      traditional rate of return regulatory process, what you're  
18      looking at is how do we keep rates low? We've already got  
19      just a huge stock of generation here. We're producing much  
20      more than we need in the state. Why should we be building  
21      new, more expensive capital and rolling that into our rate  
22      structure? I can certainly see that I think the previous  
23      governor -- that we're saying about building power plants  
24      and sending it out by wire, actually states financing that,  
25      as I recall, I wasn't here at the time but I think that  
26

1       there may be ways for states that would like to provide  
2       guarantees and certainly we're going to dig up the coal,  
3       we're going to clean it up, and we're going to burn it. We  
4       expect to do that. We know that's what's good for West  
5       Virginia business. But do you guarantee it through the  
6       traditional process or do you do it in new ways?

7               CHAIRMAN WOOD: Any thoughts on that?

8               MR. MORRIS: You really could do it a new way if  
9       that would be the choice of the state. You could take the  
10      approach that Peabody is taking, you, the State of West  
11      Virginia, would build a power plant for the benefit of  
12      mining your coal and taking your coal to market. For you to  
13      create the capital to do that, no different than anyone  
14      else, you'd have to have some contractual relationship with  
15      some creditworthy buyer so that you could get bonding or  
16      whatever done and you could get the kind of rating on it  
17      that you would need.

18              Having been a FERC staffer -- and I don't know  
19      how familiar you are with the way that the AEP eastern fleet  
20      operates, but a plant built in West Virginia would dispatch  
21      into the eastern pool of the AEP customer base and West  
22      Virginia-Appalachia Power would get the benefit by way of  
23      capacity credits by having capacity that they don't need to  
24      satisfy capacity that Kentucky might need or that an Ohio  
25      might need. That's how the benefit works of the way the  
26

1 pool operates here as well as the assets that AEP owns in  
2 the Southwest, the same kind of pool dispatch and sharing  
3 cost arrangement. But as to your question, there is no way  
4 you could go ahead and do that, just as Peabody has done.

5 MR. MC CLELLAND: I think I could take a shot at  
6 that, too. I think it's a good question and I think it's a  
7 fair question but the interconnectivity of the grid itself  
8 requires that the regions cooperate and work together.  
9 Redundancy, in essence -- when you think about the capacity  
10 of the grid and the interdependency of the grid itself, half  
11 the requirements have been reduced because of that  
12 interconnectivity. If you fundamentally changed that  
13 interconnectivity to go to more of a localized basis, you'd  
14 require a significant investment in the grid itself. So  
15 some of the savings have already been reflected back to the  
16 individual entities connected to the grid.

17 Mr. Williams made an excellent point earlier on  
18 and it goes to the theme of the conference. As you move  
19 towards coal-fired generation, you move away from dependence  
20 on foreign oil and you also move away -- you move to a more  
21 competitive position with other fuel types, such as natural  
22 gas. I think Mr. Williams point, at least it wasn't lost on  
23 me, what would be the reflection of the reduction in natural  
24 gas prices for all consumers? Traditionally there have been  
25 other ways that utilities have benefited by interregional  
26

1 transport through transmission lines. There have been  
2 utilities that have used interregional commerce for  
3 transmission of energy. And there have been premiums  
4 associated with that transmission of energy that actually  
5 reflect back to a reduction of retail rates, which benefited  
6 the players themselves.

7 The fundamental issue that you propose is do you  
8 want to build redundancy back into the grid, do you want to  
9 isolate the grid to the point where additional redundancy  
10 and major expenditures are then necessary in the grid  
11 itself? I think it's an interesting question, but it's  
12 certainly one that I think can be addressed and I think the  
13 economic benefits to the regional folks, not just the  
14 interregional folks, the folks on each end of the  
15 transmission line, I think it can be demonstrated -- I  
16 believe it can be demonstrated very plainly, not to mention  
17 the impact on reliability in which everyone suffers in all  
18 regions of the grid. The Northeast blackout, for instance,  
19 50 million folks were interrupted. The cost of that  
20 interruption -- one day for some cases, up to three days for  
21 others -- the cost of industry and consumers for that one  
22 interruption was between \$5- and \$10 billion. You can pay  
23 for a lot of transmission investment. It's worth the cost  
24 for an interruption.

25 CHAIRMAN WOOD: Thank you.

26



1           I just want to, before we close out this panel,  
2       say one particular point and it's one I know the members of  
3       the Congress are interested in as they're looking at gas:  
4       how can we really offload demand on gas so that it won't fly  
5       back down the price curve?

6           Jacob, what you mentioned was very helpful. I  
7       haven't seen it in our forum yet. How we think it would be  
8       intellectually remiss for us going forward to not include  
9       that in cost benefit. That's for that thoughtful and  
10      correct contribution to the debate. But I think one of the  
11      things that our push for economic dispatch on behalf of the  
12      region here and the other regions in the Northeast where you  
13      do use the most efficient plants and dispatch them properly,  
14      in those gas-fired regions of the country -- including my  
15      home state and much of the South, California as well --  
16      where we're not maybe efficiently using the gas resources,  
17      we're getting .5 to 1.5 Tcf in a given year, which sure  
18      takes a lot of steam out of \$7 gas. We won't see \$3 gas  
19      again, but it would be nice to force it back down the curve  
20      a little bit.

21           It's a good point. I appreciate your bringing it  
22      up.

23           MR. WILLIAMS: One thing that struck me -- and I  
24      attended all the natural gas hearings in the Senate -- no  
25      one actually pointed out by expanding coal into the  
26

1 Northeast and another wire into the Pennsylvania area that  
2 knocks gas off, that would do something. We talked about  
3 LNG. We talked about drilling more and all those things are  
4 good. But at the end of the day it's our own resource and I  
5 didn't hear that. It was a bit of a shocker to me.

6 CHAIRMAN WOOD: We didn't. Thank you for  
7 pointing it out here.

8 Other items for these folks before we go to the  
9 general sum-up?

10 (No response.)

11 CHAIRMAN WOOD: I want to thank you all first.

12 (Applause.)

13 CHAIRMAN WOOD: You all have been making notes  
14 for the day, is that right? Do you want to just summarize  
15 what we've heard? Let's do that.

16 MR. YAKOBITIS: Thank you, Chairman Wood.

17 Coal is available as an economical fuel resource.  
18 Regional planning efforts will increase generation and  
19 transmission and reduce bottlenecks. I have put together a  
20 few points from the discussion at today's conference that  
21 were mentioned as necessary. When determining which  
22 technology or resource to use for electric generation, the  
23 focus needs to be what technology fits the location best. A  
24 major factor that permeates all topics is cost allocation.  
25 Cost allocation is key to assuring grid development. There  
26

1 needs to be an agreement in which there is surety of cost  
2 recovery and that the beneficiary pays. Also, benefit  
3 studies need to be clear so that all parties understand the  
4 benefits of building generation and transmission from the  
5 planning stages.

6 ISO's and RTO's need to have more planning  
7 authority. There needs to be more governance in the  
8 structure of voluntary regional planning groups. State and  
9 federal collaboration is necessary at the early stages of  
10 the planning process to drive expansion rather than waiting  
11 for approval first. And lastly, reliability councils  
12 support and participate in regional planning efforts but  
13 need more coordination to ensure generation development and  
14 transmission expansion.

15 Thank you.

16 CHAIRMAN WOOD: Thank you, John. Again, is there  
17 anything anybody else -- not just responding to the last  
18 panel but just as a general topic of debate? This is a  
19 great time for you to volunteer any thoughts you may want to  
20 share for the public record.

21 Yes, sir.

22 MR. FESSLER: Mr. Chairman, Dan Fessler again. I  
23 have listened with great interest to the two panels this  
24 afternoon, and the last panel, particularly, penguins came  
25 in for a rather difficult time. I suggest if the penguin  
26

1       jumped in the ocean it would be eaten alternatively by a  
2       tiger shark or by a killer whale. I would point out that  
3       the penguins live on fish, so if they all just stand there  
4       and watch, they will all surely starve to death.

5                       (Laughter.)

6                       CHAIRMAN WOOD: He's been like that as long as  
7       I've known him. He needs to be writing for this vast  
8       cultural wasteland called television. What a gift it would  
9       be.

10                      I think as we kind of sum up today then, I  
11       appreciate that we had some state folks here -- it's always  
12       good to collaborate with them -- and we heard much today  
13       with the need to work with states on a regional ratemaking  
14       approach, a regional planning approach.

15                      And I think when I get back to the shop I will  
16       ask the Department of Energy, whom we work closely with,  
17       we'll be meeting next week, to update their national bionic  
18       constraint study, which the prospective legislation would  
19       require them to do on a periodic basis, and agree that the  
20       regional planning, which we've talked about here today,  
21       would be for the planning model. That is something  
22       certainly we could take a way from here.

23                      The efforts we talked about, again in the absence  
24       of getting a national energy strategy adopted into law, even  
25       a mild one, the commitment to move projects forward can

26

1        resolve some of these issues. I don't think projects solve  
2        every issue, but it's something our Commission is committed  
3        to do, working again with the states and with the grid  
4        operators and the utilities as well, particularly supporting  
5        these regional processes as well with strong emphasis on the  
6        organized market regions.

7                    I do appreciate the type of information we get.  
8        I don't know how many of you all got Mr. Williams' study  
9        from Peabody. It's good to have facts and figures to base  
10       it on and I just want to encourage, as the Commission and  
11       Staff go forward into the future, that you really do ask  
12       people and ask the industry to bring us facts and figures so  
13       we can identify where things are needed, where the strengths  
14       are and where the best expenditure of ratepayer dollars  
15       ought to be had.

16                   I appreciate again the thoughtfulness of the  
17       Staff in inviting representatives of the tribes here. From  
18       my experience of the recent tribal events in North Dakota,  
19       there's a lot of potential -- particularly in the Western  
20       part of the country, not so much over here but in the  
21       Western and Southwestern parts of the country to build some  
22       relationships with those who have significant territory and  
23       land under their jurisdiction, as well as a strong interest  
24       in proper utilization of our nation's natural resources.  
25       That's good, and I appreciate that.

26

1                   Siting issues, again as a former state regulator  
2       -- Mark, you're in this view now -- you know, you can't  
3       handle siting well. You're the first state regulator I've  
4       seen since I left the job in Texas. You give me hope for  
5       the future.

6                   MR. GOSS: It's mighty interesting.

7                   CHAIRMAN WOOD: Interesting is good, but we  
8       should get them done. That's what we get paid to do as  
9       public officials. Thanks for inspiring me there. There may  
10      be a need for some back-stop authority along the lines that  
11      the legislation has called for, quite frankly. That's what  
12      we need if the current model doesn't work, so thank you for  
13      that approach.

14                  Generation planning and transmission planning  
15      we've heard -- is not only here today. Marry those two  
16      things up. We've heard the response from the stakeholders  
17      that are working through PJM's RPM replacement to the ICAP  
18      model. We hear this in different regions of the country.  
19      It's probably one of the toughest boundary lines regulators  
20      have between competitive generation and regulated  
21      generation. Regulated generations has overlaid the  
22      competitive ones but we've also got to fix the problem. We  
23      haven't quite figured out a fix yet. Unfortunately, we shy  
24      away from solving either problem. Marrying up the  
25      generation planning concepts with transmission planning  
26

1 concepts is important here.

2 I really was inspired -- was it Jerry that raised  
3 this about the pancaking of the pancakes? I think that was  
4 great. I've sat here almost four years and that's the  
5 first time I've heard it's not just about the rates, it's  
6 about having to go to so many different shops and having to  
7 translate back into Chinese what it is you're trying to eat.  
8 That's tough, but I think we're looking forward to Order 888  
9 reforms. We'll be putting out another inquiry in a few  
10 weeks on things that we want to look at to update the Order  
11 888 by its 10th anniversary, which is the open access  
12 rulemaking. When that's done I certainly think this ought  
13 to be something in there that is a front-page item.

14 I just appreciate again the folks who got here,  
15 some of them from -- certainly, Mike, I think the biggest  
16 utility in the country on down to some of the more creative  
17 entrepreneurs we heard about this morning, some of those,  
18 Dan, that you represent and some of those folks who are  
19 trying to do creative things with small level cogeneration  
20 of coal.

21 Technology has always been our nation's savior;  
22 as an engineer, I guess I can say that with a true ring in  
23 my heart. But I do think that as we try to explore more  
24 technology for solutions here, I think it was great to have  
25 the head of the West Virginia Institute of Technology,

26

1 Charlie Bayless, and his folks here today as well. That  
2 ability to think kind of outside the box I think it an  
3 industry that will be one of the great things. We'd like to  
4 invite anybody here -- and we'll make this transcript  
5 available I guess in about five business days and we'll make  
6 that available for the public as well. We'd invite any  
7 comments, follow-up comments or advice that you folks and  
8 your companies or organizations or yourselves may have in  
9 two weeks from today. That will work -- and, of course,  
10 they're welcome any time -- actually get them closer to the  
11 document and make policies and decisions.

12 Nora, any thoughts?

13 COMMISSIONER BROWNELL: Great to be here, can't  
14 wait to get back.

15 MR. THOMAS: We'll be posting all the  
16 presentations that not everybody was able to get on the  
17 website as soon as we can.

18 CHAIRMAN WOOD: The meeting is adjourned. Thank  
19 you.

20 (Whereupon, at 3:55 p.m., the meeting was  
21 adjourned.)

22

23

24

25