

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

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

2 (8:40 a.m.)

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

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

12 (Laughter.)

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

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

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

26

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 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 couple 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 you
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 ball park 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 along, 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 fact 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 SO₂ 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 staircase 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