

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

1

QUADRENNIAL ENERGY REVIEW

PUBLIC MEETING #11:

Infrastructure Siting

Thursday, August 21, 2014

Little America Conference Center

Cheyenne, Wyoming

Reported by: Roger Meyers,
Capital Reporting Company

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

2

1 A P P E A R A N C E S

2 Dr. Karen Wayland, Deputy Director for State,
3 Local and Tribal Cooperation in the Department of
4 Energy's Office of Energy Policy and Systems
5 Analysis

6 Peggy Welsh, Energetics, Inc.

7 Ernest Moniz, Secretary of Energy

8 Janice Schneider, Assistant Secretary of the
9 Interior or Land and Minerals Management

10 Matt Mead, Governor of Wyoming

11 Mike Easley, Chairman, Wyoming Infrastructure
12 Authority, and CEO, Powder River Energy
13 Corporation

14 Rick Thompson, Senior Manager, Transmission Land
15 Rights and Permitting, Tri-State Generation and
16 Transmission Association

17 Tom Sloan, Kansas House of Representatives,
18 on behalf of Council of State Governments

19 Johnathan Hladik, Senior Policy Advocate for
20 Energy and Climate Policy, Center for Rural
21 Affairs

22 Michael Cashell, Vice President - Transmission,
North Western Energy

Richard Loughery, Director - Environmental
Activities, Edison Electric Institute

Brian Jeffries, Executive Director,
Wyoming Pipeline Authority

Kathryn Clay, Ph.D., Vice President, Policy
Strategy, American Gas Association

22

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

3

1 A P P E A R A N C E S (Continued)

2 Brian Rutledge, Vice President of the National
3 Audubon Society, Policy Advisor Central Flyway,
4 Audubon Rockies

5 Michael Olsen, Senior Director, Statoil North
6 America

7 Tad True, Vice President, Belle Fourche Pipeline

8 Pam Eaton, Senior Advisor - Energy Campaign,
9 The Wilderness Society

10 Chris Scolari, Policy Advisor, Western Governors'
11 Association

12 Jeff Hamerlinck, Ph.D., Director, Wyoming
13 Geographic Information Science Center, University
14 of Wyoming

15 Ryan Lance, Counsel, Crowell & Moring LLP

16 Nicole Korfanta, Ph.D., Director, Ruckelshaus
17 Institute of Environment and Natural Resources,
18 University of Wyoming

19

20

21

22

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

4

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

2 MODERATOR WELSH: Good morning,
3 everyone, and welcome to the Department of Energy
4 and the Department of Interior's Quadrennial
5 Energy Review meeting #11 in beautiful Cheyenne,
6 Wyoming. We want to welcome everyone in the room
7 and welcome everyone who is joining us via
8 livestream.

9 My name is Peggy Welsh with Energetics.
10 Energetics is a technical support contractor to
11 the Department of Energy, and we have the distinct
12 honor of supporting the Department of Energy in
13 its Quadrennial Energy Review process.

14 I am the facilitator of the meeting
15 today, and so I will be asking the questions and
16 keeping time. However, I have a couple
17 housekeeping notes before we begin. I want to
18 talk about the purpose of this meeting today.

19 Pursuant to the Federal Advisory
20 Committee Act, the purpose of today's meeting is
21 to ask for your individual input or your
22 organization's input on fighting and permitting

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

5

1 and provide a forum to exchange information. To
2 that end, it would be most helpful to us for you
3 to provide these recommendations and information
4 based on your personal experience, your individual
5 advice, information or facts regarding the topic.

6 The object of today's session is not to
7 obtain any group position or consensus. Rather,
8 the Departments of Energy and Interior are seeking
9 as many recommendations as possible from all
10 individuals at this meeting.

11 It's now my honor to introduce to you
12 Dr. Karen Wayland. She is Deputy Director for
13 state, local and tribal cooperation in the
14 Department of Energy's Office of Energy Policy and
15 Systems Analysis.

16 Karen, the floor is yours.

17 DR. WAYLAND: Thank you, Peggy.

18 Secretary Moniz will be talking much
19 more about the purpose of the Quadrennial Energy
20 Review, but I just want to set the stage by saying
21 that President Obama issued a Presidential
22 Memorandum in January of this year directing the

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

6

1 Administration to conduct the first ever
2 Quadrennial Energy Review, which is an inner
3 agency process examining the threat to risk and
4 opportunities for energy infrastructure in order
5 to make recommendations to outline a Federal
6 energy policy objective to ensure that our energy
7 network and our energy system continues to provide
8 the affordable, clean, and secure energy that's
9 essential to the U.S. economy and our way of life.

10 Secretary will say much more about that,
11 but I wanted to note that the Presidential
12 Memorandum does include a paragraph that
13 specifically directs us to conduct extensive
14 stakeholder outreach because so much of the work
15 to manage and develop the energy resources in this
16 country are being done outside Washington.

17 So to that end, we have been going
18 around the country since the 11th, as Peggy said,
19 our 12th meeting that we've had and have several
20 more planned before we close the public comment
21 period on October 10th. And one of the main
22 reasons that we came to Wyoming to do this meeting

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

7

1 on Energy Infrastructure Siting is because of all
2 the good work that is being done here in Wyoming
3 through the Governor's Office and through the
4 Wyoming Infrastructure Authority.

5 I would like to thank Mike Easley and
6 Loyd Drain, and Tom Dennis for helping to arrange
7 this meeting and set the stage for us.

8 So, Governor, thank you very much for
9 all your help and your work on energy in this
10 country and in the state.

11 You all know the man here who is going
12 to kick off our meeting, so he doesn't need much
13 of an introduction. He was sworn in as Wyoming's
14 33rd Governor in January 2011, and he just had a
15 recent victory yesterday, so congratulations on
16 your primary.

17 He was raised on a ranch here in Wyoming
18 and went to law school. He practiced private law
19 and was your Attorney General before elected to
20 Governor. And he has had a significant role in
21 developing your energy strategy work, which is yet
22 another reason we were so interested to come here

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

8

1 and learn about what the state is doing and how
2 there might be some lessons for the work that the
3 Federal Government sets.

4 So, Governor, we look forward to hearing
5 what you have to say.

6 GOVERNOR MEAD: Thank you, Doctor.

7 (Applause.)

8 GOVERNOR MEAD: Thank you, Dr. Wayland.
9 Good morning, everybody. Thank you so much for
10 being here.

11 Doctor, I was pleased to hear that the
12 reason you are here is because of the work we are
13 doing on the energy strategy and the proactive way
14 Wyoming's addressing energy. Because at the
15 meeting that we had earlier this morning the
16 Secretary was talking about fishing, and I had a
17 suspicion that maybe fishing was high on the list.
18 The Secretary spied the fisherman, and we had a
19 great meeting this morning. But I welcome all of
20 you.

21 Secretary, delighted to have you here in
22 Cheyenne. As you know, Wyoming, we consider

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

9

1 ourselves the energy state. We export more energy
2 than any other state. We are number one in coal.
3 We are number one in uranium. We have the best
4 on-shore classified 6-7 wind. Always around the
5 top 10 in oil and gas production. Number one in
6 helium. Other minerals, bentonite, trona.

7 And so when we think about Wyoming and
8 we think about what we want to do in this state,
9 our energy strategy is how energy, economy,
10 environment, because we recognize all three are
11 inseparable, and all three we have to take a look
12 at and how we have a balanced approach to it. And
13 I think the (inaudible) in Wyoming shows that we
14 absolutely do, but we always know there is room
15 for improvement.

16 And when we developed the energy
17 strategy in the Government's office, we wanted to
18 see how we can look proactively at where we are
19 today and where the future is. And so I very much
20 appreciate you being here, and I appreciate the
21 eleven sessions that you have because this is
22 exactly what you are trying to do is take a

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

10

1 forward look.

2 And in particular when it comes to
3 corridors, energy corridors that is part of the
4 energy strategy. When we started our energy
5 strategy, Secretary, we looked at, you know we
6 have the resources, we know we're going to have an
7 opportunity to export some of those resources, we
8 know we're going to have the ability to produce
9 electricity.

10 We do these things now, but we recognize
11 that the challenges will continue to be in the
12 future, you know, how do we grow, how do we
13 continue to build upon what we have done? And so
14 we -- developing an energy atlas that we think is
15 going to be done at the end of this year.

16 And in doing that, we know as a state
17 that has so much Federal surface ground, that we
18 have to figure out a proactive way to work with
19 the Federal Government to make that happen. So as
20 I look out in the room I see a great amount of
21 expertise.

22 We have the state geologists here, we

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

11

1 have the PFC here, we have infrastructure
2 authority, we have people from the pipeline
3 authority. So we have a great amount of people
4 here that are going to be able to provide
5 expertise.

6 We know in Wyoming also that we have
7 great opportunities with our resources. And,
8 Secretary, when we think about our resources in
9 Wyoming we don't think that in a selfish way.
10 We're proud of the fact that we help fuel the
11 country. We're proud of the fact that we supply
12 coal to so many states. We're proud of the fact
13 that what we're doing with the coal, what we have
14 done with the coal with regard to reclamation
15 efforts, and certainly proud of where we are
16 trying to go with the integrated test center that
17 we've discussed. We think that is a great
18 opportunity for the future of coal. We have done
19 that, we have done work in the past, and will
20 continue to do work in the future.

21 As you have this discussion today, I
22 know part of it is we know where the energy can be

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

12

1 provided, where it can be used, and how you get it
2 to point A and point B. We look forward to this
3 opportunity to work with the Federal Government in
4 plotting out a course that is benefit to all.

5 So, Secretary, I'm sorry I'm not going
6 to be here with the rest of me. I'm actually
7 going to Jackson to speak on an energy panel about
8 coal, and as you know that is a big part of the
9 energy portfolio for the country, roughly 40
10 percent electricity. And it is certainly and issue
11 we talk a lot about here in Wyoming.

12 We have folks here from Interior as
13 well. Thank you very much. You know, we've just
14 recently had a great success in Lander RMP who
15 recorded a decision with regard to sage-grouse.
16 That has been difficult, but it has been a great
17 relationship with Interior. We thank you very
18 much for being here.

19 So for all of you here, we certainly
20 appreciate you being here and your participation
21 and comments that you will have on what we can do
22 in Wyoming and what we can do with the Federal

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

13

1 Government.

2 So with that, I will leave you, all of
3 you, very much enjoyed having some time with you
4 this morning to discuss some issues. And we very
5 much appreciate you being here and the travels
6 that you've made around the country to try to find
7 out what is the best future and path forward.

8 Thank you very much.

9 Good luck controlling all these folks.
10 Thank you and have a good day.

11 (Applause.)

12 DR. WAYLAND: Thank you, Governor.

13 It's now my pleasure and my honor to
14 introduce Secretary Moniz. a man with deep and
15 extensive knowledge, not just with science,
16 technology, and energy, but also policymaking. And
17 he also has the personality to go along with it,
18 which is not necessarily associated with
19 scientists. I say that as a fellow scientist.

20 Secretary Moniz was nominated last year
21 and confirmed by the Senate 97-0, which is quite a
22 feat in Washington these days. Prior to his

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

14

1 appointment, he was a professor at MIT and the
2 founding director of MIT's Energy Initiative.
3 From 1997 to January 2001, he was the
4 Undersecretary to the Department of Energy, so he
5 knows both the underlying science of energy, but
6 also how to maneuver Washington and the Department
7 of Energy.

8 In addition to his work at MIT, he
9 served on a number of boards, one of which was the
10 President's Counsel of Advisors on Science and
11 Technology. And it was during his capacity in
12 serving on PCAST, as we call it, that he worked on
13 a report that made some recommendations to the
14 President that included recommendation to complete
15 a Quadrennial Energy Review. So he developed the
16 concept in his work in PCAST and now as Secretary
17 is implementing the first ever Quadrennial Energy
18 Review, which he is going to tell you about.

19 So it is my honor to introduce you
20 Secretary Moniz.

21 (Applause.)

22 SECRETARY MONIZ: Well, thanks. Karen.

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

15

1 I'm now compelled to turn this into discussion on
2 quantum physics, but maybe we'll defer on that.
3 And it is also true that I co-chaired the group
4 for the President that led to the recommendation
5 of QER. I might add I also helped author the Blue
6 Ribbon Commission on America's Nuclear Future,
7 Reports on Coal, and other things. So it's either
8 the opportunity, or condemnation to, and now
9 trying to implement the various reports that I had
10 the chance to work on over these last years.

11 It's great to be here in Wyoming, as
12 already been said and I'll elaborate on this.
13 I'll talk a little bit about the process of the
14 Quadrennial Energy Review, what we're trying to
15 do, and frankly, the scale and magnitude of the
16 effort, but most important in this context is that
17 I'd like to from the beginning, our view is that
18 when we talk about energy policy, when we talk
19 about energy infrastructure, it does not frankly
20 make sense to think about this as some kind of
21 national one-size-fits-all approach.

22 Our challenges and our opportunities are

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

16

1 very, very regional in nature, and that's why we
2 are making a major effort to get out to different
3 parts of the country, get input to have each of
4 these meetings focused in areas where that
5 particular region has something very, very
6 important to offer. Today, as you know, this
7 whole question of siting of infrastructure:
8 pipes, wires, whatever. So this is actually the
9 11th in our series of regional meetings, and I
10 personally have been engaged now in nine of them.

11 It's really very, very important for us
12 to get your input. Not only today and through the
13 panels, but also we will have an open channel to
14 continue to receive input into October, by which
15 time we do have to start putting all of this
16 together for a January report out.

17 I want to thank the Governor. We
18 understand your schedule now takes him to Jackson
19 Hole. Tough duty. But again, as he said, we had
20 a terrific breakfast meeting today covering a
21 whole range of the issues of relevance to Wyoming
22 and the region in energy.

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

17

1 Let me say more about the Quadrennial
2 Energy Review. It was put forward, first of all,
3 last June initially in the President's Climate
4 Action Plan. The implications for it are clearly
5 cut across all of our energy issues: environment,
6 security, economy, jobs, all of those.

7 The motivation for the way we are doing
8 this as a multi-agency activity, and I know our
9 colleague from Interior, again exemplifies that.
10 A nature of the Quadrennial Energy Reviews
11 because, you know we are -- honestly, we are the
12 Department of Energy, but the fact is, almost
13 every department and agency across the Government
14 has major equities and roles in how we develop our
15 energy policy, how we take action, how we work
16 with states on energy issues. So the feeling was
17 that we need to find a way bringing together all
18 these threads of interest, be it -- well, we,
19 obviously, the Department of Interior, State,
20 Defense, Commerce, we could just go on and on in
21 terms of corporate roles in the energy future.

22 So therefore, the Whitehouse, the

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

18

1 Domestic Policy Council, and the Office of Science
2 and Technology Policy chair the overall effort
3 across the Administration. They are the convening
4 agents, if you like, but the Department of Energy
5 has a special role as, if you like, the executive
6 secretariat based upon the capability to bring
7 major analytical, for example, assets to bear, on
8 this effort, and that's where Karen, first of all,
9 is in the Energy Policy and System's Analysis
10 office, but also driven by this process. She
11 heads an organization that we created focusing
12 specifically on state, local, and tribal issues,
13 because again, it's those issues that will help to
14 organize much of what we actually do.

15 In my role now as Energy Secretary for
16 the last 15 months, I have both the opportunity,
17 and the challenge actually, of being in this
18 position in what is a very dynamic period in our
19 energy history. When I was last in the Department
20 in the late '90s, it was very much kind of an
21 attitude of growing dependence on energy.
22 Obviously, our oil imports were increasing

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

19

1 rapidly. The discussion was of -- and assets were
2 applied to building the capacity for major gas
3 imports. We have kind of forgotten that period
4 where dependence was the theme to what now we are
5 talking about a view of plenty, of exports even,
6 of our hydrocarbon. Assets at the least is the
7 major topic of discussion.

8 So in this context, greatly increased
9 oil and gas production, and of all the other
10 sources -- coal, nuclear, renewables, and demand
11 site management, energy efficiency, we have put
12 forward, the President has put forward, very much
13 a focus on all of the above. And let me be very
14 clear what that means.

15 As you all know, we remain committed to
16 the importance of driving towards a low carbon
17 economy. Within that stricture, if you like,
18 however, we believe that all of our fuels, all of
19 our technologies will and must have a role in that
20 dry to a lower carbon future.

21 That is not a political statement,
22 although it is helpful in that context, it is a

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

20

1 statement that if we look around the country,
2 again, look at the regional conditions, and
3 supplies for energy -- very, very beginning of
4 nature.

5 So when we think about the future low
6 carbon energy system, it will look very different
7 in different parts of our country. And so we
8 think that all the fuels, all the technologies are
9 going to have to have a role in the flexible
10 response, if you like, across our regions to the
11 challenge of low carbon.

12 Therefore, in the Department we are
13 backing that up with major investments in the
14 sources across the board. Clearly, we have and
15 will sustain major investments in renewables and
16 efficiency, major investments in nuclear, but also
17 major investments across the board in the
18 production and the use of our fossil fuels.

19 So with coal, for example, the Governor
20 mentioned coal, we're talking about \$14 billion
21 dollars on the table, so I just want to make it
22 clear, you know, we are really committed in this

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

21

1 area. Six billion dollars specifically on peak
2 demonstration projects for carbon capture and
3 sequestration. Six of those with enhanced oil
4 recovery as an inherent part of the project, so
5 CO2 utilization as well.

6 Many of you in this room, this is a more
7 sophisticated group than many, and other regions
8 around these issues of coal, and carbon, and
9 carbon utilization, but it bears repeating because
10 I think it's quite remarkable that in some sense,
11 under the radar today, we are already producing
12 300,000 barrels a day through CO2 EOR.

13 Most of that CO2 today is from natural
14 sources. We are employing about 60 megatons for
15 that EOR today. But, in fact, it was just two
16 weeks ago that the EIA, the Energy Information
17 Administration, put out a note looking to the
18 future, and expecting CO2 EOR to go to at least a
19 billion barrels a day, and that's talking about
20 200 megatons of CO2. In other words, we are going
21 have to look to power plants and to industrial
22 facilities as the sources of this scale of CO2.

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

22

1 And that in turn, and something we can come back
2 to, of course, in addition to oil and gas
3 pipelines, which we talk about, but we also get to
4 talking about a significant expansion of a CO2
5 pipeline infrastructure for EOR.

6 Certainly, an example is in Mississippi
7 with the Kemper Plant pipeline infrastructure has
8 been built out to supply CO2 for EOR, and just two
9 weeks ago we were in North Dakota at the Great
10 Plains Gasification Plant, and many of you know
11 there they have sent 25 megatons of CO2 to Canada
12 for EOR as well.

13 So I just want to emphasize that it
14 really is -- we are putting serious resources
15 across the board in terms of all of our sources.
16 And certainly, the Oil and Gas Administration we
17 continue to emphasize the importance of developing
18 those resources even further, doing it, of course,
19 in an environmentally sound way, not only
20 recognizing that the challenges are manageable,
21 but actually managing them with our companies,
22 with our states as we go forward. That this has

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

23

1 been a tremendous economic boom, for the whole
2 country, not just the producing regions, and yet
3 we are managing this while we track decreasing CO2
4 emissions at the same time. So again, very, very
5 much committed in this direction.

6 The renewables are also a great story
7 here in Wyoming, certainly wind is a major
8 resource. What I should emphasize is that our
9 focus on energy technology innovation and these
10 major investments that we are making in a variety
11 of ways I mentioned, the 6 billion for coal
12 demonstration projects, in our Loan Guarantee
13 program, which has two requirements for
14 applicants. One is it must lead to reduced
15 greenhouse gas emissions, and secondly, it must
16 push the envelope in terms of technology
17 innovation.

18 Otherwise, again we are across the
19 board, all of the above. We've got over \$30
20 billion dollars in play, and over 40 billion --
21 and roughly \$40 billion of remaining authority
22 that we are going forward with. So there is

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

24

1 tremendous opportunity here as well for companies
2 to come forward, with again, innovative, major
3 plants. And the goal of our programs, be they
4 loan programs or grant programs, basic research to
5 deployment assistance, it's all geared around,
6 frankly, one major objective, and that is cost
7 reduction.

8 That's what this is all about. We have
9 to keep driving down the costs of all of the
10 technology options as we drive to a low carbon
11 future. And as we discussed this morning with the
12 Governor, as we drive those costs down, and we are
13 having great success with that across the board,
14 that will in turn, enable policy advances to make
15 sure we have a robust energy system, a reliable
16 energy system, one that accommodates a growing
17 energy deduction in this country, and yet one that
18 addresses our environmental concerns.

19 So that's really kind of the big picture
20 about what we are trying to do. Now again, this
21 process -- the QER for this year -- Q is
22 Quadrennial, Quadrennial implies four years, but

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

25

1 this year, in the first year of this cycle, we
2 have somewhat narrowed the focus to make it
3 manageable. It still kind of highly focused in
4 the sense of narrow, but we are focusing on
5 specifically on energy infrastructure for
6 transmitting, storing, and distributing energy, be
7 that electricity or fuels. Looking at the many
8 infrastructure challenges that we have seen, just
9 in the last few years, be they from storms, Super
10 Storm Sandy on the East Coast for example, be they
11 cyber threats, be they threats such as
12 transportation bottlenecks.

13 For example, we were in North Dakota two
14 weeks ago, we all know the oil by rail story, and,
15 of course, in this part of the country I think we
16 also know the competition for rail these days
17 which has grown up, be it for coal, be it for
18 agricultural products, etc. So all these inter-
19 dependencies are a very, very major part of what
20 we are doing.

21 In electricity transmission, again,
22 very, very important role of the states, Western

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

26

1 Government's Association has been very active. I
2 will also say that the Administration, the
3 President created the rapid response team for
4 transmission. This is again an example of bringing
5 together the interagency process so that we can
6 try to speed up and streamline the approach to
7 getting siting done for wires. There are similar
8 issues with regard to oil and gas pipelines, maybe
9 CO2 pipelines as well. I won't go into that.
10 Certainly for public land siting. Our colleague
11 Janice Schneider will address that from the
12 Department of the Interior perspective.

13 Another very important point is getting
14 data, good data. I might say again we have an
15 interagency process that's just starting to
16 identify the cross-agency data gaps, and frankly,
17 in some cases, data inconsistencies.

18 So, this is going to be a very, very
19 important part of it, and today's third panel, in
20 fact, is going to focus on data. And again, in
21 Wyoming there are certainly important advances,
22 and you will hear what we need to do in terms of

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

27

1 upping the game, in terms of transparent publicly
2 available data to inform states, regions, and the
3 Federal Government on our energy system
4 requirements.

5 Finally, I do want to just return
6 briefly to the climate challenge. Again, it
7 certainly is a very important part of our overall
8 approach to energy infrastructure. A few, maybe
9 two months ago, the Administration published the
10 third National Climate Assessment.

11 If you haven't seen that, I think it is
12 worth looking at. Done over several years by
13 hundreds of American scientists coming together.
14 And I think the major focus there was a very much
15 heightened focus on the issues of what we are
16 already suffering in many parts of the country
17 from warming, the challenges lying ahead, the
18 importance, frankly, adapting to this even as we
19 try to mitigate future consequences. And very
20 important messages and they go through this in
21 great detail, no part of our country will escape
22 the consequences.

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

28

1 I just came from a few days in Alaska,
2 and as expected for decades we see that the
3 warming in the arctic regions is roughly double
4 that at latitudes more typical of the lower 48 and
5 it's unmistakable what is seen in terms of the
6 impacts from such warming.

7 So I believe it's very important that we
8 all work together in addressing the mitigation and
9 adaptation challenges, but in doing so to remember
10 that we will continue to develop our energy
11 resources. We will continue to grow the economy,
12 to grow jobs with this, and we will lead with
13 innovation in technology, innovation in policy,
14 working relationships with the Federal and state
15 governments we can manage to bring all of these
16 things together for our energy future.

17 So thank you very much and we really
18 look forward to input from this meeting.

19 (Applause.)

20 DR. WAYLAND: We are very fortunate to
21 have our next speaker with us particularly because
22 the subject of infrastructure siting and I don't

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

29

1 think you could find somebody in the Federal
2 Government who has deeper experience in that area.
3 I am going to introduce to you the Assistant
4 Secretary for Land and Mineral Management of the
5 Department of the Interior. We always use acronyms
6 in Washington, so the acronym is ASLM, if I slip
7 into that, you know why I'm using that term.

8 The Assistant Secretary provides
9 oversight to the Bureau of Land Management, the
10 Bureau of Ocean Energy Management, the Bureau of
11 Safety and Energy Enforcement, and the Office of
12 Surface Mining Reclamation and Enforcement.

13 These are agencies that have over 12,000
14 employees and a budget of \$1.5 billion dollars
15 helping to manage a huge diverse set of onshore
16 and offshore public resources. You are all
17 familiar with a lot of the work they do managing
18 oil and gas, coal, hard rock, but also working in
19 the areas of recreation, rangeland, timber, water
20 shed, fish and wildlife, and other things.

21 Janice Schneider came to us in the
22 administration from a career as an attorney at

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

30

1 Latham Watkins, and also working in the Federal
2 Government in various legal capacities, and has
3 decades of experience working in various renewable
4 and conventional energy infrastructure
5 development, including oil and gas projects, coal,
6 mineral and hard rock mining, solar, wind,
7 geothermal projects, electric transmission
8 projects, and hydropower project licensing. So
9 there's a huge fleet of things that you are
10 working on in Wyoming that Janice Schneider has
11 worked on, and we are very fortunate to have her
12 here, and she'll be working very closely with us
13 as we develop recommendations in the Quadrennial
14 Energy Review on infrastructure siting.

15 So with that, it's my pleasure to
16 introduce to you the Assistant Secretary of the
17 Department of Interior, Janice Schneider.

18 (Applause.)

19 ASSISTANT SECRETARY SCHNEIDER: Karen,
20 thank you.

21 Good morning, everyone. I really
22 appreciate the opportunity to participate in

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

31

1 today's session and have an opportunity to come
2 out to Wyoming.

3 It is a pleasure to be out here and see
4 the great expanses. We are going to Casper later
5 today. We'll be visiting a coal mine there, as
6 well as a wind facility, so I'm really interested
7 to see what's going on on the ground out here.
8 It's been a little bit of time since I've last
9 been in Wyoming, but I always enjoy coming out
10 here.

11 I know the Governor had to go, but I
12 just want to take a moment to acknowledge him for
13 all the work that he is doing to supply energy to
14 the country in a balanced way to protect the
15 environment.

16 He is truly a leader across the country
17 in this regard, and we at the Interior are looking
18 forward to working with him in, particularly in
19 light of his recent primary win. Hopefully he'll
20 be around a bit longer, so we're looking forward
21 to that.

22 I also want to acknowledge Secretary

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

32

1 Moniz, particularly in efforts to support the
2 President and his goals to grow the economy, to
3 enhance energy security, which is critically
4 important from our perspective, as well as
5 protecting the environment.

6 I won't spend too much time on the
7 purpose of the QER because the Secretary did such
8 a good job, and obviously one of the reasons I
9 wanted to be at this session in particular is
10 because of its focus on infrastructure siting,
11 particularly transmission and distribution, and
12 really to acknowledge and to recognize this is not
13 the sort of thing that we in the Federal
14 Government can do by ourselves, but rather it
15 really needs to be a collaborative effort with all
16 of the interested stakeholders, with the states,
17 with American Indian Tribes, as well as our local
18 partners.

19 I had the opportunity to do a lot of
20 large infrastructure work in my career, both in
21 the private sector as well as in the Federal
22 Government, but, you know, what is very clear to

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

33

1 me is that in order to get these projects done in
2 a smart way, you have to collaborate. You have to
3 reach out to stakeholders, and you have to work
4 with local interests. You know, as we all know,
5 pipelines, transmission lines, distribution
6 systems, roads, these long linear facilities, they
7 just cross all kinds of jurisdictional boundaries,
8 political boundaries, social boundaries, physical
9 boundaries, and so you've got to work together
10 with everyone on the ground and really make sure
11 we are planning to do these things in the right
12 way, that we are planning ahead, and that we are
13 planning together because when we do that I think
14 we are in a position to make much better, smarter
15 decisions that benefit all of us.

16 So I am also looking forward today to
17 hearing your ideas on all of that, and how we in
18 Interior can do a better job. I am going to just
19 spend a little bit of time giving a little
20 background to those who are less familiar with
21 what we do in Interior.

22 But we play a major role in the

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

34

1 President's all-of-the-above energy strategy
2 because we are the largest -- at the Bureau of
3 Land Management, the largest Federal land manager
4 in the west, and Wyoming really is an all-of-the-
5 above energy state with an abundance of oil, gas,
6 wind, coal, uranium. The Governor ticked through
7 all the various mineral assets that are so
8 abundant in this state.

9 And it's really, you know, just the
10 amount of opportunity here is really incredible
11 and what's really interesting is just how
12 important the people of Wyoming feel about their
13 state and the need to protect the resources, the
14 environmental resources, while still developing
15 the energy resources.

16 From the Bureau of Land Management's
17 perspective, obviously, we administer about 17 and
18 a half million acres in total lands here in
19 Wyoming, so we're a major player in this state as
20 well, as nationwide, and over 40 million acres of
21 Federal mineral stake here in Wyoming. We do a
22 lot of oil and gas, obviously. Domestic oil and

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

35

1 gas production is growing each year that President
2 Obama has been in office, and renewable generation
3 has doubled.

4 Since last year alone, BLM offered 5.7
5 million acres for lease for oil and gas by the
6 industry, the most in a decade. And since 2008,
7 we processed more than 27,000 applications for
8 permits to drill while reducing the processing
9 time for those permits, the lowest level in either
10 years.

11 So we're doing a lot of work.
12 Obviously, we're doing a lot mineral leasing as
13 well as mining land development work and approvals
14 for our hard rock and leasable mineral resources.
15 And we're also moving out in the renewable energy
16 area. The Administration has already approved 52
17 renewable energy projects across the country.
18 That's enough to power 14,000 megawatts of energy
19 to communities across the country and create tens
20 of thousands of jobs.

21 And including some pretty large ones
22 here in Wyoming that we're still in the process of

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

36

1 working through. But, of course, all this energy
2 needs transmission and pipelines, the Secretary
3 said it too, to actually get to market. And so
4 those types of facilities, which in my experience
5 are among some of the really most challenging
6 energy projects to develop because of the host of
7 issues that they raise, and they meander sometimes
8 hundreds and hundreds and hundreds of miles across
9 different land jurisdictions.

10 So, we are fully committed to working as
11 hard as we can in collaboration with our partners
12 on these projects. I will tell you that the
13 current demand for energy corridors across BLM-
14 managed land is at an all time high. We play a
15 vital role in the President's rapid response team
16 for transmission, as the Secretary noted, and
17 we've actually made some progress on those, a fact
18 that surprised me a little bit.

19 Since 2009, BLM has approved over 2300
20 miles of large transmission projects on public
21 land, and obviously, we're working on some big
22 ones here in Wyoming. Pipelines, you know, huge

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

37

1 numbers there as well in the thousands of miles.

2 So, you know, as I said in the onset,
3 you know, it's important that we do this in a
4 smart way. It's important that we incorporate
5 level planning to identify the places where energy
6 development makes sense, so there are fewer
7 conflicts with other important environmental,
8 cultural, and historic values and activities. In
9 order to be successful, we need to work and I'm
10 looking forward to hearing from you, your ideas on
11 how we may interface better with the folks of
12 Wyoming.

13 And at that point, I think I'm going to
14 step down and see if you guys have any questions
15 and continue the program. Thank you.

16 (Applause.)

17 MODERATOR WELSH: We do have just a few
18 minutes for questions. Please come up to the
19 standing mics and identify yourself. The
20 Secretary and Assistant Secretary kindly said they
21 are open and available for questions, so please
22 don't be shy.

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

38

1 SECRETARY MONIZ: They're shy.

2 MODERATOR WELSH: Questions? No

3 Questions? Okay. Well, let me ask, Mr. Secretary,

4 if you have any --

5 SECRETARY MONIZ: Did you find some?

6 MODERATOR WELSH: Do you have any final

7 thoughts, Mr. Secretary, that you want to share

8 with us?

9 SECRETARY MONIZ: Well, I think we

10 pretty much said it again that we are very

11 interested in finding all the ways in which we

12 can, the Federal Government, assist with the

13 development of our infrastructure. Now again,

14 clearly the Department of the Interior has its

15 very direct role in terms of public lands and

16 certainly in this part of the country, that is as

17 we all know, an enormous requirement. But more

18 broadly in terms of again lines and pipes and any

19 other kind of infrastructure, which includes other

20 parts of the country. For example, there are

21 major issues of congestion in terms of inland

22 waterway transportation, the changing patterns of

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

39

1 energy production in the country has clearly led
2 to major infrastructure challenges that we know
3 about. And frankly, I think the infrastructure has
4 not really in many, many ways caught up to the new
5 production levels and the new production
6 geographical paths. So that's a very important
7 part of what we are doing.

8 And again, just repeat the desire for
9 your input today, and subsequently at least until
10 October when we need to start moving towards our
11 formulation of recommendations for better action.

12 MODERATOR WELSH: Any final thoughts,
13 Madam Secretary?

14 ASSISTANT SECRETARY SCHNEIDER: I would
15 just agree with what the Secretary said. We're
16 looking forward to hearing from you. Your
17 comments matter, and the more and the sooner you
18 can get to us the better. I'm going to be hanging
19 around a little bit longer today to listen to some
20 of the other panel, so feel free to come up and
21 chat.

22 SECRETARY MONIZ: I might just add to

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

40

1 that, a little footnote that I think is obvious.
2 As I mentioned, the multi-agency part is so
3 critical, to say that in addition to Secretary
4 Schneider being here today, that Secretary of
5 Interior Jewell and I chaired a QER jointly, and
6 just last -- I think it was last week, hard to
7 keep track of time -- and also Secretary Foxx of
8 Transportation and I chaired two meetings
9 recently. So again, that input, it can come in
10 through our EPSA, which is kind of a central
11 gathering point, but also to any of the
12 departments because we all have big equities here.

13 MODERATOR WELSH: One last chance for
14 any questions. Then, please join me in thanking
15 the Secretary and Assistant Secretary today and
16 Dr. Wayland.

17 (Applause.)

18 MODERATOR WELSH: As we set up for the
19 next panel, let me follow up on the Secretary's
20 comments and urge everyone to submit written
21 comments. The official inbox for that is
22 QERComments@hq.doe.gov. Again,

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

41

1 QERComments@hq.doe.gov.

2 Let us now prepare for our next panel.

3 Give us just a moment to change out tent cards,

4 and I'd ask the panelists to join me up here on

5 stage.

6 (Panel 1 takes the stage.)

7 MODERATOR WELSH: Thank you for staying

8 with us, both here in the room and our guests via

9 livestreaming.

10 Before I introduce the panel, let me

11 just say that the views expressed by the panelists

12 today are their own views and not the views of the

13 U.S. Department of Energy or the U.S. Department

14 of Interior.

15 So let me now turn to introducing our

16 distinguished panel.

17 Mike Easley to my left is Chairman of

18 the Wyoming Infrastructure Authority and CEO of

19 the Powder River Energy Corporation.

20 To his left is Rick Thompson, Senior

21 Manager, Transmission Land Right and Permitting at

22 Tri-State Generation and Transmission Association.

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

42

1 To his left is the Honorable Tom Sloan,
2 Kansas House of Representatives, on behalf of the
3 Council of State Governments.

4 Then Johnathan Hladik -- excuse me, I
5 did not pronounce that correctly. Hladik, is that
6 how it's pronounced?

7 MR. HLADIK: It's Hladik, and don't feel
8 bad, because you're in the majority.

9 MODERATOR WELSH: Okay, my apology.

10 Senior Policy Advocate for Energy and
11 Climate Policy at the Center for Rural Affairs.

12 And Michael Cashell, Vice President
13 Transition, North Western Energy.

14 And finally, Rick Loughery, Director of
15 Environmental Activity at the Edison Electric
16 Institute.

17 It's my pleasure to welcome all of you
18 here today. I want to remind you that we are
19 asking you for a five-minute summary. There's a
20 timing clock over here to your left.

21 And so, Mr. Easley, the floor is yours.

22 MR. EASLEY: Thank you.

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

43

1 Good morning, everybody. My name is
2 Mike Easley. I am the CEO of Powder River Energy
3 Corporation, Wyoming's largest electric
4 cooperative. We're based in Sundance.

5 PRE Corp provides 400 megawatts of power
6 to 28,000 meters over 10,000 miles of power line
7 across a 16,000 square mile territory. Our member
8 owners are a diverse group ranging from the world
9 class PRB Coal Mines to oil and gas development,
10 to ranchers, and some rural urban residents and
11 small businesses.

12 PRE Corp is part of the nation's network
13 of electric cooperatives which covers 75 percent
14 of the nation's land mass. Our mission is to
15 deliver high quality competitively priced electric
16 power and service to our members while enhancing
17 the quality of life by providing leadership and
18 service in our communities.

19 I also serve as chairman of the Wyoming
20 Infrastructure Authority and instrumentality of
21 the state of Wyoming. The WIA's mission is to
22 diversify and expand the state's economy by adding

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

44

1 value to Wyoming's energy resources and
2 infrastructure for the benefit of Wyoming and the
3 region. The goals included in the January 9th
4 Presidential Memorandum are affordable, clean, and
5 secure energy, and energy services to improve U.S.
6 economic productivity, enhance our quality of
7 life, and ensure our nation's security.

8 President Obama's Memorandum also states
9 that a comprehensive and integrative energy
10 strategy is required. I could not agree more.

11 I doubt I could add much value to this
12 conversation by retelling the challenges in
13 building electric infrastructure. This was well
14 described in the briefing memo for this
15 conference. So I'd rather spend my time talking
16 about alignment.

17 In 2009, the DOE and eight other Federal
18 agencies entered an MOU to improve coordination
19 among project applicants, Federal agencies, states
20 and tribes that were involved in the siting and
21 permitting process for electric transmission
22 facilities on Federal land. This MOU led to the

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

45

1 formation of the Rapid Response Transmission Team,
2 which is meant to expedite the siting of new
3 transmissions facilities and renewable energy
4 projects.

5 Were these initiatives good ideas? Yes.
6 Did good people work very hard to move the ball?
7 Yes. Could things work better? I think the
8 results from the TransWest Express and the Gateway
9 projects tell the story. Currently, the TransWest
10 Express Line was 30 months behind schedule for the
11 record of decision from Interior. This project
12 was identified as a priority project supported by
13 the RRDT and in an interstate transmission line
14 that was meant to deliver 3,000 megawatts of 100
15 percent renewable energy to California, with
16 savings to rate payers of up to a billion
17 annually.

18 The Gateway West Project has experienced
19 multiple years of delays. In November 2013, the
20 BLM issued a partial record of decision for eight
21 of the ten segments, deferring the decision on the
22 two western most segments into the Hemingway

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

46

1 Substation in southeast Idaho. PacifiCore just
2 met with the Idaho State Director, and was
3 informed that two more years would be required to
4 complete a supplemental EIS.

5 This project is now in the eighth year
6 of Federal permitting, and if the current schedule
7 is achieved, the 1,000 mile project will have
8 taken ten years. Just a permit. I hope this is
9 not the best we can do to permit and build
10 regional interstate transmission.

11 We also have issues with permitting and
12 maintaining distribution facilities. In May, I
13 appeared before the House of Representatives
14 Oversight Committee on Natural Resources. The
15 witnesses provided compelling testimony as to the
16 challenges of acquiring and maintaining power line
17 easements on Federal lands and coordination among
18 Federal agencies.

19 The lack of progress since May on these
20 issues is disappointing to all the electric
21 cooperatives in Wyoming.

22 Albert Einstein is credited as saying,

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

47

1 "Insanity is doing the same thing over and over
2 again, and expecting different results."

3 Well, I'm not sure that he actually said
4 that, but I am sure that saying could be helpful
5 to this process. Our need to permit, site,
6 construct, operate, and maintain electrical
7 infrastructure has never been greater. Our
8 ability to do so has never been more doubtful due
9 to new and existing Federal regulations and
10 initiatives that are often misaligned or even
11 conflicting.

12 I hope the QER process will point out
13 that we need alignment and leadership. Call it
14 organizational alignment, call it strategic
15 alignment, or just call it getting your ducks in a
16 row.

17 A compelling vision is needed to capture
18 the hearts and minds of the people doing the work,
19 but leadership must be more than create vision.
20 It must create a system that is capable of
21 executing that mission, a system where all the
22 moving parts understand a mission and understand

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

48

1 their role in accomplishing that mission. There
2 must be clear objectives and cascaded initiatives
3 with goals that support the mission. The goals
4 must be measurable. Progress on these goals must
5 be reported, and finally, everyone must understand
6 what accountability means and to whom and what
7 they are accountable.

8 Strategic alignment requires systems
9 thinking. That is something that the DOE should
10 be very good at. In this model, once the President
11 has set a key policy objective, every Federal
12 agency should line up and shoulder their fair
13 share of the workload to achieve that objective.
14 They should not be more concerned with the
15 traditional jurisdiction and statutory charges
16 than putting forth their best efforts in achieving
17 the President's objectives.

18 Finally, we should not allow activity to
19 be our measure. Rather, we should insist on
20 results and accountability for those results. I
21 would suggest you look at Wyoming's energy
22 strategy and the state of Wyoming as an example of

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

49

1 how a system of strategic alignment can be
2 deployed in government, and how the state's
3 progress in executing this strategy is reported to
4 its citizens.

5 Thank you.

6 MODERATOR WELSH: Thank you.

7 Mr. Thompson.

8 MR. THOMPSON: Thank you. I appreciate
9 the opportunity to participate today's siting and
10 permitting transmission. It is a difficult topic.
11 We could spend days discussing the different
12 issues around the subject area.

13 Knowing our time is limited I want to
14 mention a few important areas of the company I
15 work for. I am a practitioner in this field.
16 I've done it for over 21 years, so I'm a person
17 that lives and dies siting permitting
18 transmission, as well as acquiring land rights,
19 just for perspective.

20 Little bit about Tri-State. Tri-State's
21 a not-for-profit association founded in 1952. We
22 generate and deliver electricity to 44 member

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

50

1 consumer-owned cooperatives and public power
2 districts. We have about a million and half
3 consumers within approximately 200,000 square
4 miles of our service territory. We're located
5 primarily in the more rural areas of Wyoming,
6 Colorado, New Mexico, and Western Nebraska. We're
7 spread out. Our loads are spread out, and we're
8 surrounded by Federal property.

9 Tri-State has an all the above
10 generation portfolio with base load facilities
11 primarily coal and natural gas. Our primary
12 mission is provide a reliable, cost-based supply
13 of electricity while maintaining a sound financial
14 position in accordance with cooperative
15 principles.

16 We manage over 5300 miles of
17 transmission line extending from various
18 generation sources to our member systems. We
19 cross a variety of federal, state, city, county,
20 and private lands to reach our member's systems
21 locations.

22 The nature of our business model

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

51

1 requires that we have great familiarity with our
2 service territory to effectively operate. We are
3 staffed internally with experienced professionals
4 to site permit utility facilities within the
5 complex regulatory framework that we live in.

6 Tri-State and its member cooperatives
7 staffs are embedded within the communities we
8 serve, and we have several new transmission
9 projects in various stages of development
10 currently.

11 It's important to note that over 35
12 percent of our service area involves Federal
13 lands, so we have direct experience siting
14 permitting transmission and a vested interest in
15 the efforts designed to streamline the process.

16 We've also historically borrowed money
17 from the rural utility service within the U.S.
18 Department of Agriculture, and therefore, have
19 triggered NEPA for almost all of our transmission
20 projects.

21 Tri-State is very appreciative the
22 Department of Energy and Interior's efforts over

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

52

1 the last few years to streamline transmission
2 siting and permitting processes. We also think
3 that agriculture should be involved. They're not
4 here today. The world that we live in, the BLM
5 lands, agriculture, Forest Services are a very
6 important part of what we do, and they are a part
7 of the equation that we're not talking about
8 today.

9 The continued dialogue on this topic is
10 helpful and hopefully educational to those new to
11 this subject area. When the opportunity arises we
12 are always willing to provide input from our real
13 world experiences.

14 In 2012, written comments were provided
15 to response to the Department of Energy's Rapid
16 Response Team for Transmission, known as the RRTT
17 request for information, and we also responded to
18 the Integrated Interagency Pre-Application process
19 known as the IIP request for information, that was
20 last October.

21 Couple of highlights. In the RRTT
22 Letter, we discuss the need for coordination

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

53

1 between Federal agencies, the need for consistent
2 implementation of NEPA, the use of knowledgeable
3 and unbiased national project managers on projects
4 involving Federal lands, the need for recognition
5 and consistency and Federal land management plans,
6 and the need for priorities in staffing, and
7 increased funding at the local Federal level for
8 those folks out in the field.

9 Our IIP Letter described Tri-State's
10 belief that the pre-application process as
11 proposed added time and duplication to existing
12 approval processes covered by NEPA. Our view is
13 that the direction should focus on improving
14 existing Federal programs and processes, while
15 targeting appropriate budget and staff to
16 concentrate on critical infrastructural projects.

17 We acknowledge the hard work and
18 dedication of the Federal employees in the field.
19 Their workload is heavy, and their priorities are
20 consistently changing depending upon the political
21 nature -- the activities going on back in
22 Washington.

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

54

1 I'd like to submit again today the
2 copies of our RRTT and IIP Letters as previously
3 submitted to the Department of Energy for the
4 record.

5 Also wanted to note that Federal
6 policies and decisions have an impact on siting
7 and permitting of new transmission and our service
8 territory. We are seeing new potential exclusion
9 areas from possible T&E species designations,
10 national monuments are being created covering vast
11 areas of land, and there is concern about
12 compatibility with the monuments. Federal
13 conservation easement designations are real, and
14 tribal right-of-way issues are ongoing as well.

15 An example of the impact. In June --
16 and this is of a recent decision in a real
17 situation -- in June of 2012, past Department of
18 Interior Secretary Salazar approved the largest
19 single conservation easement in the United State's
20 history along with the Eastern edge of the San
21 Luis Valley in Southern Colorado while Tri-State
22 and Xcel Energy were actively siting transmission

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

55

1 in that area. The preferred route across the
2 politically connected land owner's property and
3 Interior designation of the Federal conservation
4 easement encompassing this landowner's 90,000 acre
5 parcel effectively created a roadblock for the
6 project.

7 This was a project to improve
8 reliability and would have provided potential
9 transmission path for renewable energy projects
10 contemplated nearby. During that same timeframe,
11 Interior and Department of Energy were jointly
12 moving forward on the solar energy programmatic
13 EIS establishing policies to allow solar
14 development to occur on BLM lands in the Western
15 United States. 16,300 acres of BLM land within
16 the San Luis Valley with the potential for over
17 1,800 megawatts of renewable energy generation
18 capability were identified.

19 Secretary Salazar approved the
20 programmatic EIS four months after that decision
21 was made essentially isolating this energy, and we
22 couldn't move forward -- and development couldn't

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

56

1 occur because the lack of transmission in the
2 area.

3 Now I'm running out of time, and I have
4 other things to say, and I'll get to the end here
5 very quickly.

6 We're seeing confusing with our
7 constituency over private transmission proposals
8 versus incumbent utility load serving projects.
9 We ask those that are in the business of doing
10 private development to make sure that they're
11 communicating effectively about their projects, as
12 well as how they interact with incumbent
13 transmission projects that are load serving for
14 folks like Tri-State and incumbent utilities.

15 It's a difficult subject siting
16 transmission. I'm happy to answer any questions,
17 and I thank you for the opportunity to participate
18 today.

19 MODERATOR WELSH: Thank you. Sorry to
20 cut you off. There will be lots of time for
21 discourse.

22 Representative Sloan.

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

57

1 REPRESENTATIVE SLOAN: Thank you.

2 And thank you, Mr. Secretary and Madam
3 Assistant Secretary, for being here and the
4 opportunity.

5 MODERATOR WELSH: Can you pull the
6 microphone closer to you?

7 REPRESENTATIVE SLOAN: On behalf of the
8 5,000 State Legislators across the country, we're
9 going to try and offer some specific
10 recommendations to you. You're aware of the
11 larger issues, and we'll try and help you solve
12 them.

13 The Counsel of State Government has
14 developed an interstate high voltage electric
15 transmission line siting compact. It was put
16 together by state legislators, regional
17 transmission organizations staff, environmental
18 advocates, utility transmission operators,
19 regulatory folks, other key stakeholders,
20 supported by the FERC staff and DOE staff over
21 this two-year period. And it is designed to do
22 several things -- compacts language included with

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

58

1 our formal statement, and documents that provides
2 that streamline siting, filing, hearing, public
3 input, appeals processes for proposed multi-state
4 electric transmission lines addresses the Federal
5 Energy Policy Act 2000 language enacted by
6 Congress that provides states may avoid Federal
7 backstop siting practices by forming one or more
8 compacts, provides a framework through which
9 regions may address reliability, economic
10 development, movement of energy to meet
11 environmental protection agency clean air
12 standards, and provides a clear mechanism through
13 which Federal agencies and tribal governments can
14 participate as equals with stakes in evaluating
15 proposed electric transmission routes and decision
16 making processes used to determine whether an
17 application is approved, approved with changes or
18 rejected for cause. The compact provides a firm
19 timeline for hearings, the public as well as the
20 decision-making hearings on common record for
21 administrative and judicial review. And it clearly
22 establishes the decision maker shall consider

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

59

1 regional and national energy needs when evaluating
2 the value of a transmission project.

3 In other words, unlike most state public
4 utility commission decisions that are only
5 concerned with the value to that state's
6 population, the compacted vision's a national
7 focus, or at least a regional one. And after
8 reviewing the land the DOE, the Interior, Ag, and
9 the rest of them, see a value in having this
10 federal-state partnership. We are open to
11 modifying the compact languages that exist to
12 accommodate your particular interests and needs.

13 There are other infrastructure
14 opportunities that the Department may or may not
15 be adequately supporting. Recognizing the
16 Secretary's comments about the millions and
17 billions of dollars invested in research, pilot
18 projects and such, a lot of times the Department
19 is accepting applications, and I think that they
20 may do a better job of driving public policy and
21 investment by identifying opportunities in
22 specific areas.

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

60

1 One of these may be that if we're going
2 to have renewable energy, non-hydro renewable
3 energy, being more base-load like or whatever,
4 that we need to integrate, I will say wind, solar,
5 storage, biodigestors, you know any other thing,
6 but if the DOE would put out an RFP inviting
7 solicitations or proposals in those areas, it
8 would demonstrate that storage for the sake of
9 this meeting can provide a shoulder between the
10 various types of renewable generation. But also,
11 can have the economic benefits of providing
12 ancillary services for voltage control and support
13 and such, so that the currently high cost of
14 storage can be spread out over more functions at
15 the same time we're establishing that the wind,
16 solar, and other renewables can be more reliable,
17 can have more than just an energy value.

18 Third suggestion. I think the country
19 of Iceland had a competition for engineers to
20 design new types of transmission structures, and
21 there were some very fascinating things developed.
22 Also, if you have been down in Orlando, there's a

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

61

1 Mickey Mouse head transmission structure down
2 there. I would encourage the Department to have a
3 similar competition in an attempt to reduce view
4 shed impacts as transmission lines cross public
5 lands. And in that same context to look at
6 studies that show if you reduce the height of the
7 structures and widen the rights-of-way, that you
8 can again address the view shed issues while
9 maintaining reliability, safety, and the public
10 service.

11 The DOE's Electricity Advisory
12 Subcommittee on Energy Storage and the full EAC
13 have recommended that the Department explore a
14 private sector -- with the private sector
15 financial community, ways to ensure new technology
16 performance. Now, public utility commissions are
17 basically reluctant to approve storage or other
18 new technologies because the risk of failure and
19 result in cost to consumers. We think that there
20 are ways that you can address that.

21 Thank you.

22 MODERTATOR WELSH: Thank you much,

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

62

1 Representative Sloan.

2 Mr. Hladik.

3 MR. HLADIK: Thank you. I direct the
4 Energy and Climate Program at the Center for Rural
5 Affairs. We use policy, outreach, and advocacy to
6 advance renewable energy systems. In the Upper
7 Midwest and the Great Plains, and lately, a really
8 big part of that has been pioneering new models of
9 cooperation between effective communities and
10 effective landowners and transition developers in
11 the siting process. And I think maybe the least
12 boring part of that work is following opposition
13 groups.

14 We started this about four years ago
15 where there was one slightly organized opposition
16 group in the upper Midwest, and today there are
17 anywhere from six to ten to maybe twelve pretty
18 well organized anti- transmission groups in the
19 upper Midwest and in the Great Plains. And to us,
20 this deserves attention, because we can all think
21 in our lives of promising projects that have been
22 derailed by public opposition, and that's

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

63

1 especially true when combined with legitimate
2 environmental concerns, and bureaucratic
3 inefficiencies.

4 So as we sit here today and we think
5 about how renewable energy providers can overcome
6 those obstacles that lead to project delays or
7 distracting projects all together, we think a
8 really big part of that needs to include public
9 engagement. And that public engagement should
10 happen at a very localized level. We're big
11 believers in the idea of making change in the
12 institutional process that's now in place.

13 And so, we found a fair amount of
14 success through action alerts and local media
15 pieces that talk about the transmission project in
16 a way that maybe the utility is not talking about
17 it. We try to bring it home a little bit and
18 demonstrate why it's really important to them, and
19 we make that connection between wind energy, which
20 remains fairly popular in the areas that we work
21 and transmission, which isn't so popular.

22 In addition, we use these tools to let

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

64

1 people know when events are taking place so they
2 can go there and participate. We let them know
3 what those events are going to be like. A public
4 hearing can be intimidating for some, so
5 explaining that can make a difference.

6 We help offer LTE's, and public
7 comments, and letters to the Public Service
8 Commission, and we spend a lot of time at these
9 meetings so we can socialize with individuals that
10 are most affected and find out what about
11 transmission concerns them, or what about
12 transmission they support.

13 A second bit part of what we're doing is
14 focus on education. We have a transmission data
15 base which covers the 15 or 20 transmission lines
16 currently in the construction or permitting stage
17 in the FTRC micro region. And on our data base we
18 provide the absolute basic information, so we'll
19 talk about the developer, we'll talk about what
20 the line is going to look like, we'll talk about
21 how far the line is going to go, and we'll also
22 include information about how this line will

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

65

1 really open up rural areas to wind integration,
2 and we'll talk a little bit about what the
3 community is saying about that line, not just your
4 community, but a lot of these lines cover 300
5 miles or 400 miles. And so if you can talk about
6 what those further down the path are saying about
7 it, it can give you a little bit of perspective.

8 In addition to that, we include links to
9 the docket filings, and we also include a fairly
10 comprehensive set of news articles on the topic of
11 this line. So any article that's been published
12 in a 24- to 36-month period can be on the database
13 for people to find and to read and then get an
14 idea what others are saying.

15 In addition to the data base, we use
16 this as a foundation for a series of fact sheets
17 we release. And it covers a lot of the same
18 content, but what's important is that we're able
19 to put these fact sheets in the hands of the
20 decision makers such as local elected officials.
21 And in the hands of maybe the news media so they
22 can understand that project from a different

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

66

1 perspective, and write about it in a way that
2 maybe the utility's not sharing or not really
3 showcasing. And also in the hands of those people
4 on the ground who we need to depend on to support,
5 or at a very minimum, not dramatically oppose a
6 project.

7 The second piece of our education work -
8 - let me go back a second -- involves white
9 papers. We don't have a lot of success in peaking
10 the interest of those grassroots community members
11 with a white paper. Those of us in the room would
12 be interested in some of those topics, but those
13 people are not. Grassroots leaders on the other
14 hand do seem to appreciate those because they can
15 developed a more nuanced understanding of our
16 project before they take it to the supporters or
17 the membership and ask them to support or at least
18 not opposed to projects.

19 One paper we released recently is called
20 "From the Ground Up." We, and you may agree, have
21 noticed there's a significant girth of information
22 and research done on what those main concerns are

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

67

1 with that most communities have when it comes to
2 project siting.

3 And so we went back to that database,
4 and we came up with about 300 news articles over
5 the past 24 to 36 months that talk about
6 transmission projects. And we whittled that down a
7 little bit. We stripped away all the pieces that
8 talked about opinions. We stripped away all the
9 pieces that were alluding to LTE's or (inaudible),
10 and we stripped away all those pieces that weren't
11 covering the substance of the line. And we came
12 up with about 100 articles on 18 different
13 transmission projects spanning from Kansas to
14 Wisconsin. And there we were able to identify six
15 clear-cut -- without having to exaggerate --
16 clear-cut concerns that each community has every
17 single time.

18 And those are ag, conservation, eminent
19 domain, health, need, and transparency, and then
20 we developed a list of best practices to respond
21 to those.

22 So the first is to engage landowners

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

68

1 early and often. We hear all the time landowners
2 saying that they didn't know about the project
3 until the utility was at the front door wanting to
4 use eminent domain. And that's because when we
5 reach out we do it in, I think the statutorily
6 minimum way. This tells us we need to do that in
7 a more meaningful way, and go above and beyond the
8 connection.

9 Improve your online presence. Questions
10 remain before and after the public hearing, and
11 before and after the open house that they're going
12 to go to, so this allows you to answer those
13 questions then. The regulatory process intimidates
14 a lot of people. You can build up a lot of trust.

15 If you can explain that in the right
16 way, ag is a big opponent of all the lines that
17 we're looking at, so showing that you've created
18 an ag mitigation agreement, and you understand
19 those terms and you care, makes a big difference.

20 Open resources databases to community.
21 Most developers do a good job of responding to
22 environmental concerns, but there always things

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

69

1 that you don't know unless you're part of the
2 community:

3 special places, special flora, special
4 fauna, increase setback distance from homes,
5 health, we all know about it.

6 And alternative compensation methods.

7 In America's Power Plant and a couple other peer
8 review publications, we've looked at the need to
9 move past them as a domain and look some
10 alternative compensation methods. I think as we
11 have more lines in different places, that's
12 becoming more and more apparent, and we can
13 certainly talk about that more later.

14 MODERATOR WELSH: Thank you.

15 Mr. Cashell.

16 MR. CASHELL: Good morning and thank
17 you. I'm Mike Cashell, the Vice President of
18 Transmission for North Western Energy. I've spent
19 28 years in utility business with Montana Power
20 Company, now North Western Energy. And I will say
21 that linear siting, siting of linear facilities,
22 is one of the most complex issues I've ever dealt

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

70

1 with.

2 A little bit about North Western Energy.
3 You've got about 675,000 customers, you have about
4 125,000 square mile service territory in Montana,
5 South Dakota, Nebraska, and Yellowstone National
6 Park. We have over 6,900 miles of Montana -- I'm
7 going to focus mostly on Montana, that's where a
8 lot of the MSTI occurred -- 6,900 miles of Montana
9 Electric Transmission lines, over 17,000 miles of
10 distribution lines, 5,000 miles of natural gas
11 distribution lines, and over 2,000 miles of gas
12 transmission lines.

13 I'm going to focus today on two
14 projects. One turned out to be a failure in
15 siting, and one was more of a success story. But
16 I'm going to start out by telling a story about
17 why we started our transmission project referred
18 to as the Mountain States Transmission Intertie.

19 Like Wyoming, Montana's rich in
20 resources. We export lots of things, including
21 energy. Wind generation is as popular and
22 significant, and the possibility of wind

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

71

1 generation in Montana is enormous.

2 Yet there are lots of challenges in
3 developing wind generation, including
4 infrastructure to move that wind generation to
5 load centers like the West and the Southwest that
6 have growing demand.

7 So in 2006, we embarked on a process to
8 -- based upon transmission service requests in our
9 heavily manned interconnection and transmission
10 service view -- we embarked on a project, 500
11 kilovolt project, that would go from Southwestern
12 Montana to South Central Idaho, Mountain States
13 Transmission Intertie.

14 The project was intended to carry about
15 1,500 megawatts of electricity, 450 miles in
16 length, the routing was about 70 percent on state
17 and Federal lands. We went through over 1500
18 miles of alternatives that we reviewed in the
19 process. The public siting and reviewing process
20 began in 2007. Our major facilities siting act
21 application went in in July 2008. We did get in a
22 1500 megawatt path rating through elect process,

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

72

1 but that was a little bit of an advance of when
2 the siting could get there.

3 Project was about a billion dollars in
4 estimated cost. The purpose of the project again
5 was to provide a pathway delivering renewable
6 energy generated in Montana to areas throughout
7 the Western United States.

8 What were the challenges? Well, again,
9 I mentioned in May 2006 we started this process,
10 so for two years we did the pre-regulatory
11 applications, engineering, environmental studies,
12 governmental consultations, public scoping
13 meetings. And I will, by the way, note,
14 Johnathan, that we terribly underestimated the
15 public opposition that we were going to receive
16 with this project. And we did many of the things
17 that were listed in your best practices, but it
18 was -- I'll get to that -- but it was probably too
19 little too late when we really had a cooperative
20 and coordinated process with third parties.

21 In June 2008, we filed the application
22 with the state of Montana. The Montana Department

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

73

1 of Environmental Quality was the co-lead along
2 with the BLM since this went across Montana and
3 into Idaho.

4 And from June 2008 through August 2012,
5 we had over 20 agency sponsored scoping meetings.
6 We had 120 plus North Western Energy sponsored
7 public meetings, so we were four and a half years
8 into the regulatory process, and by this time over
9 six years into the overall process.

10 In May of 2010, Jefferson County Montana
11 actually filed suit against Montana of
12 Environmental Quality for failure to adequately
13 consult with the county. This led to an 18-month
14 delay, and in October 2011, ultimately Montana
15 Supreme Court overturned the lower court's
16 decision.

17 In January 2012, the Idaho BLM office
18 decided that we had to really -- essentially redo
19 all the routing in Idaho due to the sage-grouse
20 issues. That really, after 50 months of analysis,
21 three administrative draft EIS's, and no draft
22 EIS, that was basically the straw that broke the

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

74

1 camel's back for us as a company.

2 At that time we called a time out and we
3 said the unending scoping with regard to both the
4 BLM, the Montana Department of Environmental
5 Quality, and all the cooperating agencies, along
6 with this latest request for sage-grouses reroutes
7 was just too much for us to bear financially.

8 By that time we had extended over \$24
9 million in development costs, and we decided at
10 that point in time we would halt the project, and
11 we ultimately wrote that \$24 million off. So that
12 capital project became expense, was obviously a
13 hit to our shareholders during that particular
14 year.

15 Now, the decision to call the project
16 off wasn't all because of siting and permitting, I
17 need to be fair about that. There are lots of
18 challenges out here with regard to projects of
19 this nature.

20 Some of the things that we ran into that
21 I'll talk about. I touched on this, the ever
22 changing scoping process, continuing to develop

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

75

1 alternative plans, lack of cooperation and
2 coordination between the agencies, in this case
3 the BLM, the DEQ from Montana, United States
4 Forest Service, DOE. We had the United States
5 Department of Agriculture sheep station in Idaho
6 involved. Those are kind of coordination issues.

7 From a Montana Major Facilities Siting
8 Act standpoint, its outdated, it doesn't really do
9 the kind of things that we were trying to do with
10 this export transmission.

11 Sage-grouse became a huge issue. I
12 think everyone is kind of behind the eight ball
13 with regard to that particular issue.

14 And also declining renewable energy
15 markets. The market itself changed significantly
16 during that period from 2008 through 2014.
17 Developers in Montana who had big dreams and hopes
18 to develop very large projects have had difficulty
19 in finding customers.

20 I'm wrapping up, so...

21 One of the things I will note is that
22 while we've had this type of difficulty with this

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

76

1 very large project, more regional projects within
2 our service territory, we've had more success.
3 Shorter projects by far. One is a project that
4 goes from the Bozeman area in Montana to the Big
5 Sky area in Montana. And we had to go through an
6 environmental impact statement process with the
7 Gallant National Forest in that case. And while it
8 took a long time, over six years, the Gallant
9 National Forest was a good partner in that
10 process, a strong partner. We're in the middle of
11 construction on that project.

12 So along with the major attempt and
13 failure, we have had successes and I want to make
14 sure the folks in this room understand that as
15 well.

16 Thank you.

17 MODERATOR WALSH: Mr. Loughery.

18 MR. LOUGHERY: Good morning. Secretary
19 Moniz, Assistant Secretary Schneider and all of
20 the audience and the panel, the Edison Electric
21 Institute appreciates the opportunity to be up
22 here today.

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

77

1 I've got the advantage, or maybe the
2 disadvantage of being last. I think everything
3 has been covered I had in my notes to the point
4 that like Tri-State, I was also founded in 1952.

5 In all seriousness, EEI and its member
6 companies, which make up the investor-owned
7 segment in the U.S., encourage the Federal
8 Government to continue efforts to substantially
9 improve the existing Federal permitting process
10 for energy infrastructure. Substantial improvement
11 to the transmission permitting process will
12 benefit all utility customers who depend upon
13 adequate, reliable, and reasonably-priced
14 electricity to enhance their lives and support
15 economic growth.

16 In that light, EEI commends the
17 Administration for initiatives in recent years to
18 improve the siting and permitting, such as the
19 Rapid Response Team for Transmission, Executive
20 Order 13604, and the Steering Committee on Federal
21 Infrastructure Permitting and Review Process
22 Improvement. You could probably streamline that

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

78

1 title.

2 These efforts should continue and be
3 result oriented at all levels of the Federal
4 Government. However, more work needs to be done.
5 Even as the need for new and upgraded transmission
6 facilities has accelerated for reasons already
7 expressed this morning, obtaining Federal permits
8 for the facilities remains difficult and time
9 consuming. We've seen the example already
10 mentioned several times with Gateway West. It's
11 going to be at least ten years before they get all
12 their permits.

13 In many cases, Federal permit decisions
14 for transmission projects lag behind siting
15 processes at the state level. In fact, we hear
16 from many of our member companies that their
17 states won't even start to consider a project
18 until the Federal agencies complete their work
19 just because of all the uncertainty that ensues.

20 Our interagency coordination and
21 cooperation has improved at the Federal agencies
22 headquarters level, it's lacking at the local

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

79

1 level where many of the siting and permitting
2 decisions are made.

3 EEI expressed support for DOE's proposed
4 Integrated Interagency Pre-Application IIP
5 process, which focused on enabling early
6 engagement and coordination among all the
7 stakeholders.

8 EEI recommends that the IIP process
9 should be applicant driven, allowing Federal
10 permit applicants to decide whether or not to
11 actually enter into this. All Federal agencies
12 with applicable permitting authority should be
13 required to participate in the IIP process.

14 The process must not be overly
15 burdensome. It has to solve problems not to just
16 add another barrier. And that the IIP process
17 should be codified in regulation, and I understand
18 that the DOE is drafting such a regulation.

19 The electric utility industry needs the
20 cooperation of Federal agencies to meet FERC and
21 NERC mandatory reliability requirements. The
22 industry can face significant fines and penalties

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

80

1 for non- compliance. Reliability failures can
2 cause harm to property and human life.

3 Once a transmission project has been
4 approved, constructed, and put into operation,
5 Federal land management agencies must allow
6 utilities to have timely access to perform routine
7 maintenance and emergency repairs. The fact that
8 they approved the project in the first place
9 should make that obvious.

10 EEI is working with Federal land
11 management agencies on a renewed national
12 memorandum of understanding for utilities to have
13 timely access to perform vegetation management on
14 the public lands. The challenge is getting agency
15 personnel in the field to understand the necessity
16 of vegetation management and national reliability
17 standards. Again, agency headquarters staffs
18 typically understand this need. Unfortunately, too
19 often, some agency personnel in the field do not.

20 The proposed Environmental Protection
21 Agency and Corps of Engineers "Waters of the U.S."
22 Rule could trigger substantial additional

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

81

1 permitting and regulatory requirements under the
2 Clean Water Act. The Rule could harm electric grid
3 resiliency by delaying critical new power projects
4 and making it more difficult to perform needed
5 maintenance on existing infrastructure.

6 As proposed, the Rule would make more
7 land and water features jurisdictional under the
8 Clean Water Act. These are lands and waters that
9 are not considered jurisdictional today. This
10 expansion of Federal jurisdiction will impede the
11 use of nationwide permits and result in having to
12 obtain individual Clean Water Act permits. These
13 individual permits can take years to obtain and
14 add significant costs.

15 The pending Endangered Species Act
16 listing decision for the greater sage-grouse has
17 major implication for power lines throughout its
18 range. EEI's Avian Power Line Interaction
19 Committee is developing best management practices
20 for companies operating power lines in greater
21 sage-grouse habitat. We urge Federal agencies to
22 accept these BMP's as an effective conservation

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

82

1 measure.

2 Beyond the great sage-grouse listing
3 decision, there is a significant increase in other
4 ESA listing decisions and critical habitat
5 designations which have the potential to further
6 impede siting and maintenance of lines.
7 Inconsistent agency interpretations for
8 implementing the Bald and Golden Eagle Protection
9 Act and the Migratory Bird Treaty Act only add to
10 the difficulty.

11 Finally, the process for obtaining new
12 and renewing existing rights-of-way on Indian land
13 raises a number of challenges. The current right-
14 of-way negation process takes years. More
15 variables than ever are being brought into the
16 negotiation process; again, increasing
17 uncertainty.

18 Companies are often faced with large
19 increases in fees for renewing rights-of-way on
20 Indian land. The duration of the rights-of-way
21 terms are getting shorter over time, and these
22 times do not reflect the long-asset life of

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

83

1 electricity infrastructure investments.

2 In conclusion, our society is demanding
3 more and more from the nation's electric grid. We
4 want more options for how we use electricity.
5 Reliability must be ensured. Electricity must be
6 affordable. We want it to have minimal impact on
7 the environment.

8 To accomplish this, we need to improve
9 how we site, permit, and maintain this critical
10 infrastructure. Utilities and their customers,
11 along with the Federal, state, and local
12 government agents must work as partners to make
13 this happen.

14 Thank you very much.

15 MODERATOR WELSH: Thank you all for your
16 concise comments.

17 Let me just recommend to our audience,
18 both here in the room and livestreaming, that all
19 of the comments of our distinguished guests are
20 available after this meeting on our website. And
21 that website is www.energy.gov/qer, and then you
22 would go to today's date and look for the

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

84

1 presentations.

2 I've heard very distinct couple of
3 threads amongst all of your presentations today.
4 One is that we need better collaboration with
5 better leadership. We need to expedite the siting
6 process. And we need to benefit from key lessons
7 learned.

8 One of the suggestions made by
9 Representative Sloan was to consider regional
10 compacts. Is that a way to better our
11 collaboration on siting and permitting, or do you
12 have other specific recommendations on how to
13 better collaborate?

14 Mr. Easley, you want to give it a try,
15 and then we'll go down the row?

16 MR. EASELY: I think if you take it back
17 to the context of my comments, regardless if it's
18 a compact, or if it's a memorandum, or if it's a
19 special team that is given the charge of a
20 responsibility, if you can't clearly define what
21 it is that they're going to do, if you can't
22 clearly define the responsibility of whose going

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

85

1 to do it, then give that group, whether it's a
2 team or whether it's a contract, or a compact, the
3 actual authority to accomplish what it is they're
4 given the responsibility to.

5 And then if you don't provide them the
6 resources in order to execute the authority to
7 deliver on that responsibility, it doesn't matter
8 what you call it, it won't work. We have to
9 figure out a way within the context of our
10 permitting and our siting and our infrastructure
11 development to have people agree on what needs to
12 get done, provide a clear definition of
13 responsibility, authority, and then give them the
14 resources to get the job done. Nothing is more
15 frustrating for really good people that are really
16 dedicated to not have the resources to meet their
17 responsibility. And I think that's probably
18 something that the Federal employees that are
19 working hard see a lot of that.

20 MODERATOR WELSH: Thank you.

21 Mr. Thompson, any comments from Tri-
22 State?

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

86

1 MR. THOMPSON: A few brief comments.

2 We would agree that regional
3 collaboration is always a good thing, be it at the
4 national policy level between the agencies that
5 are involved in transmission development. In the
6 world that we live in, it's even more important
7 that the policies and how the laws like NEPA and
8 other laws are implemented are consistent across
9 the agencies and also the local offices within the
10 individual agencies, because we see that
11 implementation and interpretation of the laws
12 differ which create complications for how we
13 conduct our business.

14 The other thing that we see besides the
15 Federal process is that are equally as important
16 because you can't build anything until you get all
17 the approvals is the state processes and the local
18 processes. And in our case, if we are bringing in
19 transmission to one of our member cooperatives
20 distribution system, which is on private land
21 generally, we have to get local approval. So you
22 can go through all the processes and you still at

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

87

1 the local level have to get approval which is just
2 as important as the Federal processes.

3 So until we get consistent, I guess,
4 some sort of way of getting consistent processes
5 and known timeframes, it's very difficult in the
6 world that we live in to see progress. We work
7 very hard at it because we have staff here and we
8 live in our own service territory, so that's
9 helpful.

10 And again, as Mr. Easley mentioned and
11 as I had mentioned, we feel that the local offices
12 sometimes are hamstrung. They really have good
13 intentions. They're trying to do they're job.
14 They're priorities constantly change, and they're
15 working with limited budgets. So it's very
16 difficult to get them, at times, to move in a
17 timely way.

18 Thank you.

19 MODERATOR WELSH: Representative Sloan,
20 you were the one that recommended from the council
21 and state government the concept of compact. We
22 know they work in other areas. Talk to us a

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

88

1 little more about that. And if you have any other
2 suggestions on how to improve our collaborative
3 efforts.

4 REPRESENTATIVE SLOAN: Compacts are
5 recognized by Congress in ways in which states and
6 Federal agencies know that groups can work.

7 A good example is we have a Great Lakes
8 compact where the states and Federal agencies are
9 trying to save the water quality and quantity in
10 the Great Lakes area.

11 The CSG compact specifically recognizes
12 that the issues in Montana, Wyoming, Idaho,
13 Washington State may be different than issues in
14 Kansas, Oklahoma, Texas; a different geography,
15 different public land issues and such. So there's
16 flexibility.

17 What it does though is it specifically
18 says that Federal agencies and the states in
19 effect are bound by the terms of the contract if
20 they ratify it, only if they ratify it. So it's a
21 way of trying to get around some of the problems
22 that exist. It also in effect says that there

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

89

1 will be one record for court challenge purposes,
2 which would expedite things tremendously in time,
3 deadlines for holding public hearings and such.

4 So it's an attempt to address the issues
5 that have been raised.

6 MODERATOR WELSH: Great, thank you.

7 Mr. Hladik, you've talked a lot about
8 collaboration and the need for education. Do you
9 want to expand on how your organization offers up
10 lessons on collaboration?

11 MR. HLADIK: Yes, and I'll do it in the
12 context of the earlier question.

13 I agree with the general sentiment of
14 Mr. Thompson's comments. I think we all know
15 siting across state lines adds a lot of cost and a
16 lot of delay to a lot of projects, and it's a
17 challenge, and there's definitely something that
18 needs to be done about that.

19 But, there's a trade-off. Land use has
20 historically and inherently been localized for a
21 very important reason. So when we talk about
22 streamlining that, it's so important not to forget

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

90

1 what is happening on the ground and people that
2 are affected.

3 And I think that this is one of the
4 biggest challenges that I face; I suspect others
5 on the panel do as well. It's transmission is not
6 sexy or interesting, but providing the context
7 gets you far. If you can get a group of people, or
8 a group of landowners, or a group of community
9 members to understand why we need it, what role it
10 plays, and how are transmissions different today
11 than it was 60 years ago when it just base load
12 focused.

13 You know, we're really opening up new
14 areas of development in places that frankly could
15 really use it, and that's a big part of what we're
16 doing when we update the transmission.

17 So providing that context, providing
18 education, and providing a place to collaborate
19 and find solutions on a local level that work,
20 while we know we need to streamline on another
21 level, I think can take us really far.

22 MODERATOR WELSH: Mr. Cashell.

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

91

1 MR. CASHELL: Well, a couple of things.
2 I would agree with Mr. Thompson's observations
3 about cooperation between the agencies and the
4 case, at least with Mountain States Transmission
5 Interties states and Federal cooperation, and who
6 is actually calling the shots was never clear. So
7 I totally agree with the fact that we have to have
8 better cooperation and a clear sense of who can
9 make a decision.

10 And also on the question on public input
11 and public opposition, one of the things that we
12 did that we probably should have done earlier was
13 form a group. It's called the MSTI Review Group,
14 and it was made up of Northwestern Energy and then
15 non-governmental organizations that basically
16 looked at the transmission siting path again in a
17 cooperative manner, parallel process, and I would
18 say if we had done that earlier, that portion of
19 the permitting may have been a lot easier to deal
20 with.

21 So can't say enough about the ability to
22 get out in front of the public opposition process

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

92

1 and make it more of a public participation
2 process.

3 MODERATOR WELSH: Mr. Loughery.

4 MR. LOUGHERY: From a high level, the
5 regional compacts make a lot of sense.

6 The other thing to point out is that the
7 Eastern Interconnect is a lot different than the
8 Western Interconnect. Despite some of the
9 examples from the panelists of getting stuff done
10 in the West being tough, I think there is a much
11 longer tradition of the Western states working
12 together. Again, the challenge in the West is
13 working with all the Federal land agencies that
14 also have statutory authorities to be involved in
15 this.

16 In the East, the challenge is a lot
17 smaller states and if you have longer interstate
18 lines than we've seen, how do we sync up to the
19 regional planning processes and what about the
20 states in between that do not see the benefit, the
21 direct benefit of the lines. And hopefully
22 regional compacts can help address that and

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

93

1 explain how the whole region will benefit.

2 It's tough. It's a tough communication
3 to the public.

4 MODERATOR WELSH: So we're running out
5 of time, but I want to give each of you a chance
6 to, if you have five minutes with the Secretary,
7 what would be the one specific recommendation you
8 would tell him needs to be included in the QER?

9 Why don't we reverse, and, Mr. Loughery,
10 you take the first stab at that.

11 MR. LOUGHERY: Okay. The Energy Policy
12 Act of 2005, passed nine years ago now, there are
13 provisions in there for DOE, 216(h), really gave a
14 lot of authority to try and coordinate within the
15 agencies. My recommendation would be to act on
16 those, act strongly. There's a lot of inertia in
17 D.C. from other agencies, but, you know, follow
18 through on that.

19 The other one is for all the agencies,
20 the headquarter staff, is somehow get these
21 national priorities down to field level for them
22 to understand how important it is to get this

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

94

1 infrastructure instead of their own BLM district,
2 their forest district, their part of a national
3 wildlife refuge, that they have to see a bigger
4 picture.

5 MODERATOR WELSH: Thank you.

6 Mr. Cashell.

7 MR. CASHELL: We actually have several
8 specific recommendations.

9 First of all, rather than an open-ended,
10 unending kind of process, we think that there
11 needs to be a streamline process with milestones
12 that are identified in terms of the siting.
13 Difficult to do, but that's our recommendation.

14 Better cooperation is needed among all
15 the entities -- Federal, state, local -- and a
16 methodology to make that happen.

17 Better communication and coordination
18 with other stakeholders, including the public.

19 And then, this has been touched on, but
20 many of the consultants at the agency level and
21 resource staff have little or no actual electric
22 transmission experience. And they have great

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

95

1 experience in their own areas, but not in electric
2 transmission experience or gas transmission,
3 whatever it might be. So consider having that
4 kind of experience brought on board with your
5 siting teams.

6 MODERATOR WELSH: Thank you.

7 Mr. Hladik.

8 MR. HLADIK: Out of organization was
9 part of the EIPC process two years ago, and there
10 were things that could have been better about that
11 process, and some things that worked really well.

12 And as I alluded to earlier, when we
13 talk about transmission today, it's quite a bit
14 different than it has been historically. We need
15 more lines in different places for different
16 reasons.

17 And I think going back to the drawing
18 board or creating a collaborative situation where
19 we can talk about how the situation has changed
20 and what we can do to react to that, that would be
21 very beneficial.

22 And I mentioned EIPC because I think a

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

96

1 model of a task force where you bring a variety of
2 individuals to the table, not that much different
3 than the panel today, to talk about all the
4 different perspectives that have to go into it,
5 and develop recommendations that we can follow,
6 not just where the transmission is going to go,
7 but how it's going to get there, and what the
8 process looks like, could be, I think quite an
9 asset.

10 So I think maybe if the Federal
11 Government or others could step up and facilitate
12 that sort of conversation, we'd be in a really
13 good place.

14 MODERATOR WELSH: Great.

15 Representative Sloan.

16 REPRESENTATIVE SLOAN: Thank you. In
17 addition to recognizing that regional and national
18 energy needs are to be considered by the compact
19 states, it should help state PUC's and local
20 offices of Federal agencies recognize the bigger
21 picture.

22 And secondly, that the compact language

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

97

1 can still be modified to meet Federal agency
2 needs, because the states have basically put it on
3 hold. We can have all the agreements we want, but
4 as you well know, up to 80 percent of the lands in
5 some of the Western states are Federally
6 controlled, and we can't keep putting corridors
7 through the private lands. We need to have that
8 cooperation.

9 MODERATOR WELSH: Thank you.

10 Mr. Thompson.

11 MR. THOMPSON: I would make just a
12 couple of points, and somewhat I've already
13 reiterated. And that would be consistent
14 implementation of NEPA through the field from
15 Washington down to the field offices. Give those
16 folks the tools to do their jobs and try to keep
17 consistency in those field offices.

18 These projects take years sometimes to
19 get done, and a lot of times those staffs
20 transition and you're just starting over with new
21 people when they show up. That's very difficult
22 to deal with.

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

98

1 Budgeting for infrastructure is
2 important. Consistency across Interior and
3 Agriculture, and the Department of Energy.

4 Prioritization with those staffs are important.

5 And another thing I think is important,
6 at least from what we see is that, and I only had
7 a brief chance to mention, was that the public
8 needs to know and those that are decision makers
9 that there are differences between transmission.
10 There's long haul transmission, it's interstate
11 oriented, it's specific to, say, a generation
12 type. The public doesn't always understand how
13 that works when you come to see them.

14 To Mr. Hladik's point, I think it needs
15 to be communicated that methods for acquiring
16 rights-of- way, which is one of the hearts of this
17 whole discussion, differ based upon your business
18 model. In the case of us our business model is
19 affordability, reliability, the people that we
20 cross with our transmission are our customers and
21 our consumers. We're not building interstate
22 transmission 600,000 1,500 miles across the

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

99

1 country to serve a load that's outside of our
2 service area, on the West Coast for example.
3 Those folks that are in our service area, when
4 someone proposes something like that, in a way
5 it's almost like telling someone we're going to
6 build an interstate highway across your property,
7 but not give you an off ramp to utilize it. And I
8 think that's very confusing to the public, and we
9 see that in the world that we live in.

10 MODERATOR WELSH: Thank you.

11 Mr. Easley.

12 MR. EASLEY: Mr. Secretary, Assistant
13 Secretary, I wrote my verbal comments summarizing
14 my written comments as if we were having a
15 conversation, so I feel very fulfilled in having
16 made those comments. I would however draw your
17 attention to two points within my comments.

18 And I hope the QER process, which as I
19 have learned more today, I believe it has even
20 more opportunity to make a difference than what I
21 had even thought going in, so thank you for your
22 clarifications.

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

100

1 I do think that my Albert Einstein quote
2 is worth listening to in this scenario, and I hope
3 that your QER process can find a different way to
4 look at things. And I believe the stakes are
5 high. In order to meet the President's and the
6 nation's goals on energy strategy, we're going to
7 need infrastructure. And the challenges before us
8 are great.

9 I am a champion of strategic alignment,
10 strategic execution, or getting your ducks in a
11 row. And rather than suggest that that's something
12 that you do, I'd like to offer my assistance.

13 Powder River Energy, our mission as you
14 recall from my initial statement, is to provide
15 service, leadership and service in our
16 communities. We have demonstrated that through our
17 coop support of my service on the Wyoming
18 Infrastructure Authority Board, and, Mr.
19 Secretary, given an opportunity for us to be
20 helpful from our coop from the state of Wyoming's
21 perspective, we'd be more than happy to do what we
22 can do to not only give you comments, but be

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

101

1 helpful.

2 In October, the Infrastructure Authority
3 is convening one of its quarterly energy
4 conferences. I think it would be very helpful to
5 convene a panel of developers like TransWest
6 Express, like the Gateway Project, and if there's
7 specific questions that you would like us to
8 answer, have answered in a public forum, which may
9 provide a sense of transparency that is beneficial
10 to your QER process, let us know. We will convene
11 that panel and will dig deeper into those issues
12 if you'd like our help.

13 Thank you.

14 MODERATOR WELSH: Well, thank you all.
15 I cut you off. I know we could sit here and talk
16 for four hours, if not longer.

17 Let me just remind you on the panel, and
18 in the room, and those watching us via livestream,
19 that your full written statements will be
20 available. We appreciate your input. We hope you
21 will continue to dialogue with the Federal
22 agencies. And we thank you for your time and your

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

102

1 thoughtful comments. Please join me in giving
2 this distinguished panel a big round of applause.

3 (Applause.)

4 MODERATOR WELSH: Thank you everyone.
5 We will now set up for our next panel. If those
6 panelists will please join me on stage, we
7 appreciate it.

8 (Panel 2 takes the stage.)

9 MODERATOR WELSH: Okay. I've asked
10 those of you in the room to please take your
11 seats. We have another very interesting panel to
12 join us.

13 Those of you livestreaming, thank you
14 for your patience in allowing us to get set up.

15 This next panel is going to focus on oil
16 and gas infrastructure, Federal, state, and local
17 permitting and siting issues.

18 To my left is Brian Jeffries, Executive
19 Director of the Wyoming Pipeline Authority.

20 Next to him is Dr. Kathryn Clay, Vice
21 President of Policy Strategy at the American Gas
22 Association.

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

103

1 Next to her is Brian Rutledge, Vice
2 President of the National Audubon Society and a
3 Policy Advisor to Central Flyaway Audubon Rockies.

4 Then we have Mr. Michael Olsen, Senior
5 Director of Statoil North America.

6 And next to him is Mr. Tad True, Vice
7 President, Belle Fourche Pipeline.

8 I'm going to ask Mr. Jeffries to go last
9 because he has PowerPoint slides.

10 So, Dr. Clay, the floor is yours.

11 DR. CLAY: Good morning. I am Kathryn
12 Clay, Vice President for Policy Strategy for the
13 American Gas Association. It's my pleasure to
14 appear before you today and to provide input from
15 our industry on the important issue of energy
16 infrastructure siting.

17 The American Gas Association represents
18 more than 200 of the investor-owned natural gas
19 utilities across our country serving more than 175
20 million Americans every day.

21 AGA has been an active participant in
22 the multi-agency process on permitting

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

104

1 modernization led by the Office of Management and
2 Budget, and also on the Environmental Protection
3 Agency's stakeholder process surrounding the Water
4 of the United States, or WOTUS rulemaking. We
5 commend the administration for actively seeking
6 stakeholder engagement in each of these efforts.

7 National gas delivery companies share
8 the goals expressed in the Presidential Memorandum
9 of May 17, 2013, and its follow on call to action
10 to modernize infrastructure permitting.

11 Our country benefits from an expansive
12 network of more than 2.4 million miles of natural
13 gas transmission and distribution pipelines. Each
14 year, natural gas utilities spend more than \$19
15 billion annually on infrastructure projects to
16 enhance the safety of natural gas transmission and
17 distribution systems to provide system upgrades
18 and expand service so that more Americans can have
19 access to this clean, affordable, and domestic
20 resource.

21 Natural gas delivery companies work with
22 Federal, State, local and tribal entities to

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

105

1 obtain necessary permits and authorizations for
2 this work. Unfortunately, many permit processes
3 currently impose cumbersome and impractical
4 requirements, and too often, multi-agency resource
5 reviews impose frequent and unanticipated delays.

6 The Federal Government can and should
7 play a critical role in coordinating and improving
8 these permitting processes, and indeed is working
9 to address them through the OMB led process. AGA
10 has submitted a number of recommendations to OMB
11 to assist it in developing best practices.

12 Many of these recommendations center on
13 improved communication and joint actions between
14 Federal, State, local and tribal authorities.
15 Common sense measures like requiring pre-project
16 consultation between these different levels of
17 government and the authorities at each level with
18 permitting responsibilities and allowing pre-
19 approval of mitigation techniques during early
20 rounds of permit applications could eliminate many
21 needless costs and delays.

22 Going forward, we urge the

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

106

1 administration to pursue policies that include the
2 following five dimensions as part of permitting
3 system modernization efforts.

4 First, demonstrating better leadership.
5 By encouraging Federal agencies to spearhead all
6 reviews involving authorities from multiple levels
7 of government, we can achieve a great deal.

8 Also, a key aspect of Federal leadership
9 should be improving enforcement of review
10 deadlines for agencies at all levels.

11 Second, give high priority to high
12 significance projects such as those addressing
13 pipeline safety. Allowing project applicants to
14 provide cost recovery to Federal agencies in these
15 circumstances could be a useful means for
16 prioritizing review with the recent
17 reauthorization of the Water Resources Development
18 Act, or WRDA, provisions to this point as a very
19 positive example.

20 Third, move away from a "one size fits
21 all approach" by establishing special permitting
22 processes for specific categories of projects such

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

107

1 as emergency work, replacements and repeat
2 projects in existing easements, and for routine
3 work.

4 Fourth, provide consistency across
5 regions. For example, varying requirements imposed
6 by the Army Corps of Engineers on similar projects
7 occurring in different districts should
8 reconciled.

9 Fifth and finally, consider Federal-
10 level adoption of innovative State approaches,
11 such as fee programs, third party liaisons
12 assistants, and other models for expediting and
13 prioritizing project reviews.

14 Another pressing issue with great
15 consequences of course for energy infrastructure
16 is the current EPA rulemaking regarding the
17 definition of the Waters of the United States.
18 AGA supports a rule that will better protect
19 environmental assets and produce better outcomes,
20 and encourages the development of natural gas
21 infrastructure to serve America's growing energy
22 needs.

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

108

1 However, we are concerned that the
2 current proposed rule would not provide the
3 regulatory certainty that natural gas distribution
4 companies need to conduct normal operations in a
5 timely and a cost- effective manner.

6 In closing, the American Gas Association
7 thanks and applauds the Department of Energy for
8 its leadership in bringing attention to the
9 critical issue of energy infrastructure
10 permitting, particularly through the landmark
11 Quadrennial Energy Review. And I thank you for
12 the opportunity to participate today.

13 MODERATOR WELSH: Thank you so much.

14 Mr. Rutledge.

15 MR. RUTLEDGE: First of all, thank you
16 for being here. Thank you for allowing me the
17 opportunity to speak to you all.

18 I want to begin by saying when you hear
19 Audubon you automatically think I'll start off
20 talking about birds, so I'm just going to not do
21 that.

22 I'm going to immediately talk about bats

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

109

1 and bees. We've talked about a series of issues
2 here today and listened to the favorite word sage-
3 grouse come up often. But I think it's important
4 sometimes to stop and take account of context in
5 which we are looking at things.

6 Every bite of food you take somehow or
7 another leads back to the honey bee, and because
8 of changes we're making in environment and changes
9 in the world, we're seeing them close to their
10 demise.

11 Most mammals in the world fly, they're
12 bats. And we're looking at potential of losing
13 that insect control and those pollinators as well.
14 So when we take a look at things like
15 infrastructure siting, it's important to recognize
16 it isn't just about the issue that you're facing
17 in getting the infrastructure on the ground and
18 getting the product to your consumer. It's about
19 what we leave behind for our grandchildren.

20 Several years ago at a meeting here in
21 Wyoming, I was told that this was the end of the
22 boom and bust era, that we weren't going to see

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

110

1 gas booms anymore. It would just be consistent
2 development and everything would rage ahead. And
3 I said I had a different definition of boom and
4 bust, and my idea of a bust was when I had nowhere
5 to take my grandkids hunting, fishing, or bird-
6 watching.

7 And so having that context is important.
8 That doesn't obviate the need for the commodity
9 that you bring to the public. It is incredibly
10 important that we have the energy that we need.
11 But I would also lay out for you that the subject
12 of my speech here has changed dramatically since I
13 started listening.

14 What is called for here beyond anything
15 else is leadership from all parties engaged. I
16 will use the sage-grouse because I have now been
17 involved with that delightful little bird for ten
18 years and working largely on gas and oil sitings
19 in Wyoming in regards to that species.

20 The reason Wyoming has an authorized
21 plan, the reason Wyoming has a heads up on all the
22 ten other states is because of leadership.

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

111

1 We've had a succession of very
2 aggressive governors. David Freudenthal and now
3 Matt Mead who saw the need to plan for the future
4 of more than their gas and oil economy, more than
5 their coal autonomy, but the economy that
6 stretches across Wyoming in recreation, in hunting
7 and fishing, in ranching, all those things that
8 make Wyoming, Wyoming.

9 He didn't just do this. He called on
10 leadership from throughout the industries and ag
11 that make use of the public lands here, and in
12 fact make use of Wyoming's lands. And they were
13 all brought to the table, sort of a Noah's Ark of
14 entities, everything from two gas folks, and two
15 folks from ag, and a couple of people from each
16 agencies, and a couple of lackey NGO's that come
17 in and have ideas that we might know something
18 about the birds we study.

19 We work together with an absolute
20 direction, not to come out with a bunch of
21 questions for the Governor, but to come out with a
22 plan that he can adopt that would move us forward.

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

112

1 This anticipated the changes that are now
2 contemplated in the listing decision around this
3 bird. There is an opportunity for industry here
4 to be a part of positive change.

5 To deal with those leadership questions
6 I hear you all bringing up, step up to your
7 governors, ask them to become fully engaged in
8 getting a plan for your sagebrush ecosystem.
9 That's really what the sage-grouse is about. We
10 can pretend it's just a single species issue, and
11 that this little brown bird gets in our way -- I
12 actually think he's far more dramatic than a
13 little brown bird -- but nonetheless, we can
14 pretend that that's the issue.

15 But I will tell you that there are three
16 species of birds alone in the sagebrush ecosystem
17 which face a demise much more quickly, probably
18 than the sage-grouse. And if they're petition for
19 listing, we may be in a very different atmosphere
20 as it comes to finding solutions.

21 Because the sage-grouse is busy telling
22 us that we're already in trouble. We've lost 50

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

113

1 percent of its habitat in the last 100 years, and
2 we've lost somewhere around 95 percent of the
3 sage-grouse that previously occupied that range.
4 That's not just about sage-grouse. It's about the
5 carrying capacity of that land and how we damaged
6 it.

7 So finding a leadership role in doing
8 this is key to you as well. We can have industry
9 run their end of the poles, and push the governors
10 not to collaborate and cooperate, or we can be
11 part of the solution. And it seems to me that
12 that's a far superior role.

13 So I would recommend that all who want
14 to be engaged, dive in, get involved, do something
15 about this issue, be a leader.

16 Thank you.

17 MODERATOR WELSH: Thank you very much
18 Mr. Rutledge.

19 Mr. Olsen.

20 MR. OLSEN: Thank you.

21 My name is Mike Olsen. I'm with Satoil
22 in Washington D.C. It's a pleasure to be here. I

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

114

1 also want to express our appreciation for what the
2 Administration has done thus far to streamline and
3 modernize infrastructure permitting.

4 Just a little background. Statoil is
5 multi-national oil and gas company headquartered
6 in Stavanger, Norway. Statoil was created or
7 formed by the Norwegian government in 1972 shortly
8 after oil was discovered on Norwegian Continental
9 Shelf.

10 Today we have operations in over 30
11 countries and production of about 1.9 million
12 barrels of oil equivalent per day. In the U.S.,
13 Statoil has operations in the deep water belt of
14 Mexico, as well as in the Eagle Ford Shale, which
15 is in Texas; the Marcellus in Ohio, Pennsylvania,
16 West Virginia; and in Bakken Shale Play in North
17 Dakota. We also have an offshore wind business,
18 and we installed the world's first floating wind
19 turbine offshore Norway.

20 So as a major producer of oil and gas in
21 America, Statoil is very interested in ensuring
22 that our production gets from the field to market,

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

115

1 and that the regulatory and permitting process
2 works as efficiently and effectively as possible.

3 So when it comes to permitting of energy
4 projects, delays can be costly, particularly in
5 the oil and gas business where capital investments
6 are large and projects often compete for funding
7 inside the company, not to mention the competition
8 with other industry players. So transparent and
9 prompt permitting therefore is crucial.

10 So what I want to talk about today very
11 briefly and just share are some of our views on
12 the steps the Government can take to improve
13 infrastructure permitting and siting processes,
14 many of which, in fact most of which, you probably
15 already heard today.

16 In our experience delays in permitting
17 primarily come in three forms: delays resulting
18 from a lack of interagency coordination, delays
19 resulting from what I will call
20 disproportionality, and delays caused by
21 litigation.

22 In our written submission we made

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

116

1 several recommendations addressing each of these
2 types of delays, but I will just briefly touch
3 upon a couple of those that cover lack of
4 coordination and disproportionality.

5 To address problems with interagency
6 coordination, we suggest that permitting agencies
7 do two things. The first is to enter into
8 interagency MOU's or similar commitments to
9 coordinate decision- making among multiple Federal
10 agencies. While not restricting agency
11 discretion, these MOU's could establish specific
12 expectations for the agencies involved.

13 For example, MOU's could provide
14 specific timelines for approvals and responses,
15 along with incentives for meeting those deadlines,
16 or perhaps minimal or substantive penalties for
17 missing those timelines.

18 MOU's could also provide protocols for
19 the elevation of interagency disputes, at the
20 district or regional level, to senior policymakers
21 within those agencies.

22 Second, permitting agencies could enter

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

117

1 into MOU's with the key states where there is
2 significant duplication or delay. For example,
3 California has stringent environmental review
4 processes under the California Environmental
5 Quality Act that covers much of the same ground
6 that the Federal National Environmental Policy Act
7 process covers. To better facilitate Federal
8 state collaboration with California, the
9 Administration has negotiated a series of MOU's
10 with the state regarding their respective
11 responsibilities, and these have worked very well.

12 Where both Federal and state permitting
13 and environmental review is required, a project
14 may endure multiple, duplicative proceedings and
15 appeals even if largely Federal in nature. The
16 Natural Gas Act, for example, provides that FERC's
17 final approval largely precludes inconsistent
18 state conclusions. This principle deserves wider
19 application and could be memorialized in Federal-
20 State agreements, premised on the shared desire to
21 foster economic activity and investment.

22 Let me touch just briefly on addressing

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

118

1 delays caused by disproportionality of review. At
2 times, the first energy project of a particular
3 type can trigger a massive impact analysis that
4 can be wholly disproportionate to the project's
5 scale and purpose.

6 This burdens early adaptors and pilot
7 projects impeding development and beneficial use
8 of energy resources. There are a couple of ways
9 to address this.

10 First, permitting agencies could adopt
11 additional, and more nuanced, categorical
12 exclusions under the National Environmental Policy
13 Act. The Administration, with public input, could
14 identify circumstances when even large projects
15 are unlikely to cause a significant adverse
16 environmental impact and therefore would not
17 require NEPA analysis.

18 The Administration could add a category
19 for pre-defined, what I'll call, mitigated
20 categorical exclusions, or findings of no
21 significant impact, in which the mitigation
22 reduces the environmental impacts below the level

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

119

1 of significance.

2 The Administration could also undertake
3 programmatic Environmental Impact Statements for
4 policy-level decisions. The NEPA process can
5 result in duplicative and uninformative analysis
6 that bogs down environmental reviews and provides
7 additional handholds for litigation. Much
8 duplication would be avoided if the Administration
9 performed an analysis of key issues of wide
10 applicability. Under NEPA, programmatic-level
11 reviews of these policy issues can be prepared and
12 simply referenced in later project- level
13 analyses.

14 My mic is off. I'm done.

15 (Laughter.)

16 MODERATOR WELSH: That was not on
17 purpose.

18 MR. OLSEN: Yes, that totally was.

19 (Laughter.)

20 MODERATOR WELSH: Mr. True.

21 MR. TRUE: Okay. Thank you.

22 Good morning my name is Tad True. I am

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

120

1 the Vice President of Belle Fourche Pipeline. I
2 want to thank everybody for considering me to
3 speak in front of you today, and I also want to
4 welcome the Secretary and the Assistant Secretary
5 to Wyoming, and everybody else that's not from
6 Wyoming, welcome to Wyoming.

7 Our pipeline company is actually a
8 collection of pipeline companies from the oil and
9 gas industry that we own and operate. The
10 pipeline company that I manage actually has about
11 3,800 miles of pipe in the Northern Rocky
12 Mountains. We focus exclusively on crude oil, and
13 I want to -- before I get into the meat of what I
14 want to talk about, I want to just state a simple
15 fact that pipelines -- notwithstanding some of the
16 recent headlines, pipelines are the safest, most
17 efficient form of transportation for liquids in
18 the world. That is a fact proven by data, year in
19 and year out.

20 So, I want to start with a project that
21 we consider a great success within our pipelines.

22 About five years ago, we commercially

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

121

1 contracted and started working on a project in
2 North Dakota to support the Bakken Oil
3 Development. In doing so, we went through the
4 state siting permit. We did all the biological,
5 ecological, archeological studies. And within a
6 year in a half from commercial contracting to
7 actual completion and startup, we had that
8 pipeline up and running.

9 Today that pipeline is full. It is
10 transporting about 110,000 barrels a day, and by
11 our estimates it has taken about 300 trucks per
12 day off of North Dakota's highways. That is a
13 form of success we'd like to replicate. In fact,
14 if you translate that into truck miles, that's 25
15 million miles a truck would travel on North Dakota
16 state highways. That's a form of success we'd
17 really like to replicate.

18 However, that type of success is
19 becoming more and more difficult as the Federal
20 permitting, especially when you start introducing
21 Federal lands.

22 And I have another example I'd like to

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

122

1 introduce. One of the projects we're currently
2 working on is what we call the Butte Loop Line.

3 That would loop an existing line of
4 ours, or parallel an existing line of ours through
5 a corridor crossing some of the Federal property.
6 Any time you cross Federal property, you introduce
7 -- you know, requires a permitting process.

8 Since this proposed line was going to
9 parallel an existing line, and another gas line
10 actually went through the same corridor, our
11 experience working with the BLM actually told us
12 that the permitting process should take about six
13 months. And this is actually backed up with
14 discussions with BLM staff that said, yes, that
15 this should probably -- you know, the studies are
16 still fresh, and you know, everything is -- you
17 should be able to rely on the existing corridor
18 and the permits that were recently done.

19 With that assumption, we developed
20 commercial contracts for our customers, meaning,
21 our customers needed this pipeline to go through
22 in a timely manner. We based our project on a

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

123

1 six-month permitting process. And in the process
2 of doing this, an unrelated project called
3 Keystone XL was in the headlines, and at the
4 request of BLM staff, they asked us if we would go
5 through an environmental assessment.

6 We agreed to do that. So we spent a
7 tremendous amount of money and resource in hiring
8 contractors, getting them out on the field, doing
9 all the necessary studies, and then developed a
10 plan of development and submitted it in November
11 of 2011.

12 Part of that plan of development also
13 relied on some of the Federal Government's own
14 resource data. When we submitted that data, or
15 when we submitted that plan, the BLM office came
16 back and told us that actually the data we gave
17 you was inaccurate; you're going to have to go
18 back and correct it.

19 So we had to wait another six months,
20 and finally after seven months we resubmitted the
21 plan of development in July of 2012. At the same
22 time, the BLM office received an instructional

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

124

1 memorandum suggesting or instructing the BLM
2 office to revise a resource management plan. What
3 this triggered was that what we initially thought
4 would qualify for a categorical exclusion, since
5 we were going down an existing corridor, triggered
6 a full blown EIS on our part.

7 Knowing that our customers and the
8 American consumers wouldn't stand for another
9 delay, and that they would look for some other
10 type of route, we developed a plan B, which we're
11 moving forward with right now.

12 We are still hopeful though that we can
13 ultimately get that permit to fulfill the
14 operational capabilities that we promised our
15 customers. To date as of three years later after
16 initial POD submission, we still have not received
17 it.

18 So with that, my three suggestions are
19 timeliness, with more resources for the agencies.
20 I also believe in common sense decision making,
21 delegating authority down to the local offices,
22 and at some point we have to have some certainty

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

125

1 in the regulatory process. The goal posts have to
2 stay in the same place.

3 Thank you.

4 MODERATOR WELSH: Thank you.

5 Mr. Jeffries.

6 MR. JEFFRIES: Good morning. Thank you.

7 I am Brian Jeffries, and I'm the
8 executive director of the Wyoming Pipeline
9 Authority. I'm going to use four quick slides out
10 of our five comments to highlight Wyoming's
11 experience with infrastructure, our experience
12 with identifying problems, and a cooperative
13 approach to resolving infrastructure issues.

14 If you take EIA data of all of the
15 products produced in Wyoming, energy products
16 being exported, it converts into common units. If
17 Wyoming were a foreign country, it would be second
18 only to Canada as a foreign source of energy to
19 the United States. So Wyoming has always
20 appreciated the consequences of infrastructure to
21 its economy and to the United States' economy.

22 The slide you're looking at is a graph

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

126

1 that covers a little over 20 years of the price of
2 natural gas in Wyoming as contrasted with the
3 price of gas in Louisiana, actually the NYMEX
4 settlement price for each month represented on the
5 graph.

6 Owing to a lack of pipeline
7 infrastructure, Wyoming for quite a number of
8 years suffered a reduced price for the value of
9 its natural gas. If you actually take the price
10 differential by month in this graph and apply it
11 to the monthly production, you find that natural
12 gas over this horizon suffered \$32 billion worth
13 of lost value owing to a lack of pipeline
14 infrastructure. And at the state level, that
15 translated into \$5 billion worth of lost tax and
16 royalty income.

17 Five billion dollars goes a long way in
18 a state with a population of roughly 500,000
19 people. But you can also see the impacts of
20 infrastructure additions in this graph because
21 each time that differential in price narrows, that
22 reflects a new pipeline is being built. And if

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

127

1 you'll look at the last few years, it represents
2 success that we now have adequate infrastructure
3 for natural gas.

4 This chart takes us to a reminder that
5 there are other parts to consider in Wyoming. We
6 have carbon dioxide pipelines. We have petroleum
7 pipelines. And a few years back, the Wyoming
8 Pipeline Authority and Enhanced Oil Recovery
9 Institute at the University of Wyoming did a
10 little study on carbon dioxide to just try to
11 develop what a comprehensive CO2 pipeline grid for
12 Wyoming would look like.

13 Our goal was to determine whether you
14 could have a cost effective system, and whether
15 there was a fatal flaw in trying to move carbon
16 dioxide to the many eligible fields in the state.
17 The answer was yes, that you could build a system
18 out that would have reasonable rates and work.

19 Fast forward a couple years, there were
20 revisions to the Big Horn Basin Resource
21 Management Plan and the Lander Field Office
22 Resource Management Plan where we discovered that

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

128

1 the prospect of enhanced oil recovery with CO2
2 hadn't been fully considered. We provided
3 comments, others had provided comments.

4 That led us to take a look though at
5 whether there was a depreciation for future
6 infrastructure needs that might be lacking in
7 other field offices.

8 So if we take this same chart and we
9 remove the pipelines from it -- and I'm sorry that
10 it comes across a little faint in this -- these
11 are several different field offices in Southwest
12 Wyoming. The light blue segments you see are the
13 corridors identified in their resource management
14 plans, as they exist today. Clearly, they don't
15 match across boundaries and in some places they
16 don't connect with other corridors at all.

17 As part of Wyoming's energy strategy,
18 we're looking for a solution in trying to fix
19 problems, and that's taken the form of the Wyoming
20 Pipeline Authority with the support of the
21 governor and the legislature filing an application
22 for a comprehensive set of corridors in Wyoming

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

129

1 for CO2 pipeline network. This is using the
2 application by the Pipeline Authority as a tool to
3 go through and correct these corridor mismatches.
4 It gives us the opportunity to rather than deal
5 with individual field office deficiencies as to
6 corridors without the context of understanding how
7 they affect the state-wide effort, we can make an
8 application at the state level and try to get
9 these corrected and in resolve, in context,
10 through the NEPA process in a cooperative way
11 where data is collected, analyzed, public comment
12 received, and you get something that's coherent
13 when we're done.

14 And we sincerely appreciate the
15 affirming response that we have so far received
16 from the BLM to this approach. Because I want to
17 make it clear the Pipeline Authority is not
18 actually planning on constructing a pipeline, but
19 this is a tool to use the process to deal with
20 these corridor mismatches in a comprehensive way.

21 Thank you.

22 MODERATOR WELSH: Well, thank you all

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

130

1 very much. Clearly, we've got some issues that I
2 heard in terms of how to deal with permitting and
3 siting delays. A couple of really interesting
4 facts, and I'd like you all to give us some
5 further comments and guidance.

6 We heard that reviews are
7 disproportionate, sometimes triggering NEPA, that
8 we need to move away from a one-size-fits-all
9 approach, that we need to include all players in
10 this process, including ecosystem representatives,
11 that comprehensive applications may work and they
12 speed up the process.

13 Amongst all the other good
14 recommendations that you all put forward, those
15 are all great comments for the QER Task Force to
16 consider. Can you talk about other gaps that
17 exist or other lessons learned that you'd like the
18 Task Force to consider with regard to oil and gas
19 pipeline permitting and siting?

20 Mr. Jeffries, do you want to tackle that
21 one first?

22 MR. JEFFRIES: The first thing that

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

131

1 comes to mind for me is in that chart we showed
2 that we've achieved success in getting adequate
3 natural gas pipeline capacity out of Wyoming and
4 out of the Rocky Mountain Region to the rest of
5 the country. That was due, I think in very large
6 part, to the fact that interstate natural gas
7 pipelines are regulated by the FERC, and they have
8 siting authority over them, and that the ability
9 to have a single agency manage and have siting
10 authority over projects across state lines was
11 absolutely essential to success in natural gas,
12 and needs to be seriously considered for other
13 means of energy transmission and other products.

14 MODERATOR WELSH: Dr. Clay.

15 DR. CLAY: One aspect of good public
16 policy is the premise that you can't change what
17 you don't measure, and I think we heard certainly
18 from our member companies, and I heard from others
19 on the panel that the uncertainty with timelines
20 and deadlines. So, for example, applying for a
21 permit and having a deadline on paper for an
22 authority to respond to that base of permitting.

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

132

1 Sometimes those deadlines are not met, and in fact
2 too often they are not met.

3 I think one innovative idea would be the
4 Federal Government could help bring some sunlight
5 to that by instituting, perhaps a kind of, agency
6 scorecard for their success in meeting the
7 deadlines in their permitting process. That's
8 something that could occur in all levels of
9 government, but again, Federal leadership could
10 show us the way. And we could begin with the
11 Federal Agencies that have authority for
12 permitting for resources, and perhaps use that
13 then as a model for state and local authorities as
14 well.

15 MODERATOR WELSH: Mr. Rutledge.

16 MR. RUTLEDGE: I guess on that front,
17 the place I would be going is by saying we need to
18 recognize the speed with which we expect change,
19 and the complexity of the issues we face as we
20 make these changes. Much has been made of the
21 fact that there have been 6.5 issues per
22 application contending with sage-grouse, and the

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

133

1 fact is that we've seen the science change
2 dramatically just in the last couple of years that
3 gives us a leg up.

4 I would suggest that there's a trap out
5 there right now that we should all recognize, but
6 we seldom recognize it when it relates to our
7 particular field. We have a press that delivers
8 polarities on anything they report on. They start
9 way off to the far end of conservation, to the
10 people who demand an immediate listing of just
11 about everything. Or they start way off to the
12 right of industry who has said that everything
13 that needs to be done is being done, just get out
14 of our way, or let's do away with the Endangered
15 Species Act, it makes us think too much.

16 Somewhere down the middle is the work
17 that's being done by the majority of us, including
18 the agencies who are trying to face all these
19 issues as they arise, because we seldom have the
20 liberty of doing the study necessary to reach
21 concise conclusions. So, in this process we can
22 all get lost, or again we can work together and

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

134

1 find ways to better resolve these issues.

2 MODERATOR WELSH: Thank you.

3 Mr. Olsen.

4 MR. OLSEN: Very briefly, see now my mic
5 isn't even on, nobody trusts me anymore. Let's
6 try this one.

7 I would like to second what Brian said
8 about FERC. FERC has done traditionally a very
9 good job of taking the lead in NEPA analyses. You
10 know, consulting with other agencies, but also
11 setting very strong deadlines and playing a strong
12 leadership role.

13 The other thing I would just mention is
14 basically everything that I said is already stuff
15 that the Administration has done or does now. And
16 so I guess my recommendation would be to look at
17 some of these things and make them more
18 institutional, more engrained in the decision
19 making processes that are ongoing. Because really
20 nothing that I said, with maybe one or two
21 exceptions, are things that aren't already being
22 done or haven't already been done.

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

135

1 MODERATOR WELSH: Thank you.

2 Mr. True.

3 MR. TRUE: I think, you know, everything
4 that's been said here has been great ideas,
5 especially in terms of addressing the timeliness.

6 I also want to stress one of the
7 components today, in terms of, even if you're
8 dealing with a single agency, you need to be able
9 to delegate authority down to its lowest level,
10 primarily because there is no one-size-fits-all
11 solution, and allow them, and help them make the
12 right decisions based on what makes sense for this
13 specific field office.

14 MODERATOR WELSH: Thank you. So I want
15 to dig again a little deeper. On the last panel
16 we talked about regional compact. One of the
17 questions in our background memo -- and if you
18 have not read the background memo on this meeting
19 it is posted on the website, it's quite good, I
20 recommend it to you all -- but it talks about
21 considering the need to change jurisdictional
22 boundaries. Is that doable in this industry? Is

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

136

1 it needed? Is something like regional compact a
2 good idea, or are the agencies just needing to
3 expedite their processes?

4 Dr. Clay, do you want to start? We'll
5 get right down in the middle.

6 DR. CLAY: Actually, I'll be very brief.
7 I'll largely defer on that question. Our
8 membership represents distribution companies,
9 local distribution companies, and so by our
10 nature, we are by and large looking at more
11 confined territories, and so it's not the priority
12 for our industry that perhaps it is for others.

13 MODERTATOR WELSH: Thank you.

14 Mr. Jeffries.

15 MR. JEFFRIES: I think I would defer to
16 the answers given on that by the last panel
17 because that's, I think, a question that pertains
18 more to electric transmission than it does to
19 pipelines, because we don't seem to face the same
20 issues merely crossing the boarding creating the
21 impediments to pipelines, that it appears to
22 create in transmission.

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

137

1 MODERATOR WELSH: Well, then, let me
2 rephrase and ask if there is a more formal
3 coordination process that you'd recommend that is
4 not currently being used or implemented?

5 MR. JEFFRIES: Off the top of my head,
6 it's hard to come up with an answer to that
7 because it's sort of sifting through how do you
8 get all the appropriate stakeholders on board,
9 because if you miss one then your formal process
10 will fail, then the left out party objects.

11 MODERATOR WELSH: Good point.

12 Mr. True.

13 MR. TRUE: I'd like to offer something
14 that's actually -- even though I'm going to speak
15 about the frustrating project that I had -- but
16 this is actually a good thing that I saw come out
17 of our process with them, was that we were
18 crossing state border dealing with multiple
19 offices, and between those -- between the -- I
20 believe there's four offices involved -- one
21 office decided to take the lead and all other
22 offices to say yes, you know, this one office will

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

138

1 take the lead. And that actually worked really
2 well. It is within the BLM, but I think that
3 could be a good example of how other interagency
4 could work together.

5 MODERATOR WELSH: Anyone else want to
6 tackle it?

7 MR. RUTLEDGE: Obviously, our
8 jurisdictional interests are slightly different
9 than the pipelines, but I think it would be
10 important to maintain the same standards across
11 jurisdictions when it comes to dealing with
12 specific ecosystems and species.

13 MODERATOR WELSH: Okay. Well, I'm going
14 to ask you the same question that I asked the
15 other panel. And that is if you have the
16 opportunity to have five minutes with the
17 Assistant Secretary, what would be the one
18 specific recommendation that you have not already
19 put forward that the QER Task Force should include
20 in this first year report on infrastructure?

21 Mr. Jeffries, I'll let you start.

22 MR. JEFFRIES: Well, I'll cheat and have

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

139

1 two firsts. I adopt by reference everything that
2 the Governor may have said in private to the
3 Secretary over breakfast.

4 (Laughter.)

5 But second, in specific, given our experience with
6 identifying that corridors didn't match across
7 field offices, we, of course, only looked at
8 Wyoming. I would suggest that someone undertake a
9 review of that issue in other states with
10 significant Federal ownership of surface, and see
11 if there isn't an agency in those states that can
12 step up like the Pipeline Authority in the state
13 and see if those can be rectified before projects
14 runs headlong into those mismatches.

15 MODERATOR WELSH: Thank you very much.

16 Dr. Clay.

17 DR. CLAY: Well, darn, I was not sure we
18 were going to get that question, so I used my
19 answer already. Actually, I will also do two, but
20 my first response is the agency score card.
21 Holding agencies accountable for the timeliness of
22 their responses for permitting deadlines. This is

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

140

1 a technique that has been used in other areas of
2 government. For example, with the use of
3 alternative fuels or meeting carbon reduction
4 goals for agencies. It's a powerful tool, and I
5 think the QER is the right kind of platform for
6 it.

7 And then just quickly, secondly, as I
8 noted in my remarks, the very innovative approach
9 that began at the state level is allowing private
10 companies that have applications for permits to
11 offset the cost of that permitting process,
12 provide costs to the agencies to help prioritize
13 those projects, and that was included in a
14 provision in word that was reauthorized this past
15 summer, and it's a good model to look to for other
16 Federal permitting authorities.

17 MODERATOR WELSH: Thank you.

18 Mr. Rutledge.

19 MR. RUTLEDGE: I'd make my comments to
20 the Assistant Secretary. I would ask for
21 continued heavy engagement in getting these plans
22 done across the 11 states, and making these

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

141

1 communicable so that the folks on the ground
2 understand where they are and work hard on getting
3 our messaging in a clear, and frankly back to my
4 former theme, the leadership fashion that we need
5 to see.

6 I'd also want to clear up just exactly
7 how things are going on the Wyoming front. With
8 this our early measures on the Sage-Grouse Area
9 Plan have shown that in the 15 million acres
10 designated as core, we have reduced conventional
11 drilling by 60 percent, but we have seen an
12 increase in directional drilling of almost 1500
13 percent. So we have achieved the limitation on the
14 goal of reducing surface fragmentation, while
15 maintaining or increasing the output.

16 MODERATOR WELSH: Mr. Olsen.

17 MR. OLSEN: I have a couple thoughts on
18 offshore oil and gas development, but that's
19 probably not relevant for this meeting, so I'll
20 hold that. But I would say just -- I'm sorry? I
21 think I've tried every single one of the
22 microphones up here.

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

142

1 Okay. I would say that, I would, I
2 guess encourage the Administration to continue the
3 dialogue with stakeholders. To continue to meet
4 with everyone across the board. And having spent
5 some time in the Interior Department myself, I can
6 really appreciate having the Assistant Secretary
7 here and her staff, and others from the Department
8 of Energy recognizing that their schedules are
9 completely full all the time, and so having them
10 here is great. And so my recommendation to have
11 them do more of this, I know I take my life in my
12 own hands, but this is incredibly helpful to know
13 that you are interested in hearing from us and
14 sharing any dialogue.

15 I would also say that as we move forward
16 and there's an implementation phase, I think that
17 that dialogue could continue, and that we can work
18 together as we implement some of these things
19 together and work to make sure these things
20 actually happen. Whether that's seeking funding or
21 whatever it is, there are going to be
22 opportunities to work together in the future.

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

143

1 MODERATOR WELSH: Thank you.

2 Mr. True.

3 MR. TRUE: If I had five minutes with
4 the Secretary or the Assistant Secretary, I think
5 what I would do is simply clarify what my goal is.
6 And I want to say, share a common goal, that I
7 also want to bring my -- I don't have grandkids,
8 but I have kids -- I want to be able to be sure to
9 take my kids hunting and fishing as they get
10 older.

11 But I also want them to be able to drive
12 a car and turn on the light in an affordable
13 manner. And our goal -- the reason I think I'm up
14 here right now, is I want to eliminate the
15 uncertainty and the confusion that's caused by
16 existing process and create a permitting process
17 that we know what we're getting into and takes all
18 the correct ecological mitigation steps to achieve
19 what I believe is ultimately everybody's goal.

20 Thank you.

21 MODERATOR WELSH: All right. We have
22 five minutes left. Does anyone have any final

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

144

1 thoughts for the QER Task Force that you haven't
2 had a chance to articulate here today? Now is
3 your time.

4 MR. RUTLEDGE: I'm happy to take the
5 time.

6 MODERATOR WELSH: Give others a chance,
7 but just briefly, your final thoughts.

8 MR. RUTLEDGE: Very briefly, I would
9 suggest that one of the questions I would have
10 asked earlier if we hadn't all been so shy was
11 what can we do to encourage some of the
12 suggestions -- I think it was Representative Sloan
13 made about developing competitions and so forth to
14 increase and improve technology. And I'm thinking
15 right now particularly around renewable energy
16 development. Doing more to encourage that we have
17 less in the way of barriers for wildlife, and less
18 in the way of barriers of siting so that we don't
19 imitate our previous function of damming all of
20 our rivers and spending the last 100 years trying
21 to recover from that.

22 MODERATOR WELSH: Final thoughts?

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

145

1 DR. CLAY: I'd just like to add one more
2 thought. At the end of my remarks I touched
3 briefly on the Waters of the United States Rule.
4 And I did want to take a moment to express AGA's
5 appreciation to EPA for the decision to extend the
6 comment period. It's another example of the
7 Administration really taking the stakeholder
8 process seriously. And that was probably a tough
9 decision to make, but it was the right one that
10 will allow us to have a more meaningful
11 engagement, a chance to really analyze the rule.

12 The Waters of the U.S. Rule is very
13 relevant to natural gas utility companies because
14 there is some question whether the new definitions
15 would consider temporary trenches that would be
16 par for the course during any kind of repair work.
17 If it were to rain and there were to be water
18 accumulating, would that then be a water to the
19 United States.

20 These are certainly not intended
21 consequences of that kind of rule, but we need to
22 get the language right, and we applaud the EPA for

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

146

1 allowing us the time to continue to work with
2 them.

3 MODERATOR WELSH: Anyone else?

4 Well, I know I've learned a lot this
5 morning from each of you. I want to thank you so
6 much. I want to just mention again that your full
7 written statements will be a part of the official
8 QER record.

9 And please join me in thanking this
10 stellar panel.

11 (Applause.)

12 MODERATOR WELSH: We have our final
13 panel today, and so please join me on the stage if
14 you will. Thank you.

15 (Panel 3 takes the stage.)

16 MODERATOR WELSH: Thank you all for
17 being patient as we prepare for our final panel.
18 Let me remind everyone again that the panel's
19 views are their own, that full statements for each
20 panelists will be on the website shortly at
21 www.energy.gov/qer , and look for today's meeting
22 date, scroll all the way down, because there's

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

147

1 lots of material there.

2 And for those of you listening
3 livestreaming, we want to hear from you as well,
4 so please submit your comments to us at
5 qercomments@hq.doe.gov.

6 So today we are very honored and pleased
7 to have several experts to talk about data needs,
8 mitigation methods, and tools for siting and
9 permitting.

10 On my left is Pam Eaton, Senior Advisor
11 at the Energy Campaign at the Wilderness Society.

12 To her left is Chris Scolari, Policy
13 Advisor for the Western Governors' Association.

14 Then Dr. Jeff Hamerlinck, Director of
15 the Wyoming Geographic Information Science Center
16 at the University of Wyoming.

17 Ryan Lance, Council with Crowell &
18 Moring.

19 And Nicole Korfanta. Dr. Korfanta is
20 Director of the Ruckelshaus Institute of
21 Environment and Natural Resources at the
22 University of Wyoming.

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

148

1 Several of our speakers have
2 presentations today, but let's start with Ms.
3 Eaton. Thank you.

4 MS. EATON: Thank you, and I appreciate
5 the opportunity to be here today. I think these
6 questions are really critical. We already know
7 that the pace, and scale, and intensity of energy
8 development, especially in the West, is having
9 profound impacts on our communities, our wildlife,
10 our land, and our waters. And if we're going to
11 have the kind of clean energy future that we need
12 to meet the challenges of climate change, both
13 trying to minimize this impact and deal with those
14 impacts, we're going to have to do a much better job
15 of how we site and develop energy and
16 infrastructure so that we can have the change we
17 need in that sector, but at the same time
18 protecting the things that Brian talked about, and
19 that we care about and need to be living in the
20 West, and elsewhere.

21 I want to talk today about how we can
22 move forward in developing infrastructure in a way

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

149

1 that avoids, minimizes, and when we can avoid,
2 mitigate the impact to environmental and cultural
3 values.

4 I'm focused on primarily incorporating
5 environmental considerations much earlier than the
6 siting and permitting process. I think some of
7 the frustration we heard today is related to
8 coming into a place, and I'm trying to pursue a
9 project that is of a scale, case, and intensity or
10 type that has not been anticipated.

11 And we need to do more to get
12 information much earlier in the process. There
13 have been a number of processes that I have been
14 engaged in, The Wilderness Society, and other
15 NGO's with the folks in the energy sector to try
16 and start to develop those early. Incorporation
17 of information, one is the Western Governors'
18 Association, Crucial Wildlife Habitat Corridor
19 Initiative, which was intended to look at how we
20 could reduce the impact of infrastructure
21 development on wildlife habitats. The Western
22 Renewable Energy Zones process which was trying to

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

150

1 identify developable renewable energy resources
2 with an early consideration, at least a
3 fundamental first consideration of environmental
4 risks in those areas.

5 We're now working with the Western
6 Electricity Coordinating Council on regional
7 transmission expansion, and incorporating
8 environmental considerations in that process.
9 That is a fundamental shift in thinking about
10 these issues with the BLM.

11 The Solar Energy Plan to identify low
12 risk areas for renewable energy development. That
13 work is already paying off.

14 There was an option just this month, a
15 successful option for solar development sites in
16 Nevada in those low conflict zones that we hope
17 will expedite permitting and getting those
18 projects online.

19 And then the West-wide Energy Corridor
20 Process that's been supported jointly by BLM, DOE,
21 and then the other agencies to try to identify in
22 advance corridors that will be needed for energy

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

151

1 development. And while we think that's a good
2 first step, and we are working hard with the
3 agencies to improve that so it works better for
4 the environment, better for developers, and better
5 for renewable energy.

6 I wanted to just focus specifically on
7 one process, a type of tool for the early
8 incorporation of environmental information and to
9 decision making, and that decision support system
10 tools. And the Department has been encouraging
11 the development of these kinds of tools that bring
12 together geospatial information about the quality,
13 nature, expanse, status of different landscape
14 attributes in a way that can help decision makers
15 understand the risks and the tradeoffs, the value,
16 and then make better decisions about them.

17 And one place where this kind of tool is
18 being developed and used is at the WECC. When I
19 first went to a transmission planning meeting, as
20 a Wilderness Society person, I had a
21 representative of DOE come up to me and say, "We
22 will never use spatially explicit geospatial

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

152

1 information in transmission planning.

2 Transmission planning is a bubble and pipe

3 process."

4 And today WECC has one of the best

5 tools, databases, and tools for looking at the

6 region for the planning scale at environmental

7 risks and opportunities.

8 You know, some of the challenges that

9 face the development of corridors and transmission

10 that's out there, and so we do have the

11 opportunity to change the way that we're

12 incorporating and thinking about these issues, and

13 we need to do it much earlier.

14 Two other things I'll just mention. One

15 is that the Department of Interior is doing

16 revision and a new strategy for its mitigation

17 strategy, taking a landscape scale, approached by

18 identifying where infrastructure can go, and if

19 needed, and then how to do conservation and

20 mitigation at the same time. And I think that

21 that's going to be very important.

22 And then thirdly, I just want to say

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

153

1 that some of this needs to happen by changing the
2 way that we use our existing infrastructure, and
3 reducing the barriers to developing and reusing
4 the existing corridors and existing
5 infrastructure.

6 MODERATOR WELSH: Let's have --

7 MS. EATON: Thank you.

8 MODERATOR WELSH: Thank you. Didn't
9 mean to cut you off mid sentence.

10 Mr. Scolari.

11 MR. SCOLARI: Nice job with that, by the
12 way.

13 Yeah, my name is Chris Scolari. I'm an
14 Energy Policy Advisor with the Western Governors'
15 Association based out of Denver.

16 It occurs to me that during the meeting
17 today two of the main considerations that we've
18 heard quite a bit about are regional planning and
19 our collaboration. It's interesting because these
20 are two of the main items through which WGA works;
21 through its tools it develops come about, and
22 through which the Governors really give us

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

154

1 direction and give us permission to go out and
2 seek policy.

3 First I'll discuss today is the CHAT
4 tool. CHAT stands for the Crucial Habitat
5 Assessment Tool. Western Governors' CHAT is a non-
6 regulatory GIS-based tool that displays best
7 available maps of crucial wildlife habitat across
8 16 Western states. This data is based on commonly
9 agreed upon definitions that were developed by the
10 Western Governors' Wildlife Council.

11 This tool demonstrates strong bi-
12 partisan cooperation across these 16 states,
13 develop a cross- boundary informational system
14 that will serve as a first stop for developers in
15 the pre-planning stages of a project.

16 CHAT provides what we'd call a 30,000-
17 foot overview of crucial habitat for project pre-
18 planning. It could be used for macro-siting,
19 energy corridors, and transmission routes, as well
20 for conservation of fish and wildlife habitat.

21 It provides a first look that can be
22 used to guide project plans to more detailed

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

155

1 resources housed within individual states.

2 Several states, of course, have their own CHAT
3 tools that draw from more detailed and state
4 specific maps and information.

5 These include Washington, Oregon,
6 California, Nevada, Arizona, Wyoming, Montana, New
7 Mexico, and Kansas. This effort shows the Western
8 Governors' commitment to reduce time, conflicts,
9 and unanticipated surprises for industry, while at
10 the same time, conserving the West's valuable
11 natural resources.

12 CHAT makes wildlife data easily
13 accessible for energy for transmission, land use,
14 and conservation planners in order to inform land
15 use decision making processes.

16 The term crucial habitat, which is vital
17 to the tool, is defined as a place likely to
18 provide the natural resources important to aquatic
19 and/or terrestrial wildlife, including species of
20 concern as well as species that are important for
21 recreational purposed such as hunting and fishing.

22 The Western Governors' Wildlife Council

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

156

1 created the definition of crucial habitat and
2 decided the categories of data that would need to
3 be rolled up into the crucial habitat data set.
4 That includes everything from fish and game
5 habitat to connectivity between habitats to, of
6 course, species of concern.

7 The states have the flexibility to
8 choose which data and which modeling to include in
9 each of the sub-layers that are eventually rolled
10 into the CHAT tool. This allowed states to
11 include their own priorities while still working
12 within a common agreed upon framework. A survey
13 of users shows that CHAT is primarily being used
14 for conservation purposes, as well as energy
15 development, and for wildlife management.

16 Crucial habitat data is downloadable, so
17 users can use the information into their own --
18 excuse me -- can take information and upload it
19 into their own GIS software and then use it in
20 conjunction with other data sources they might be
21 housing internally.

22 The state and regional CHAT's are non-

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

157

1 regulatory, and therefore, really not proper to be
2 used for project level reviews. CHAT really is
3 designed to provide access to state wildlife
4 agency data on a very broad scale that can be very
5 important for project assessment, as well as
6 transmission siting and pre-planning.

7 States have the opportunity to upload
8 their data to our CHAT every six months, which
9 really makes the information that's presented on
10 the online tool as current and reflective as state
11 priorities as possible.

12 Currently, WGA is seeking a long-term
13 post for our CHAT. We have a request for
14 information with interest -- excuse me -- request
15 for expressions of interest that is out right now
16 and is open until through the end of this month.
17 This host, or ultimately team of hosts, will work
18 with WGA to define the future of what CHAT will
19 look like, and we still expect the states to have
20 an ongoing and very strong role.

21 Additionally, very briefly we have an
22 additional tool that is being developed through

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

158

1 WGA right now. This is called the Regulatory and
2 Permitting Information Desktop Toolkit,
3 affectionately and more succinctly known as RAPID.
4 This will be an online database for transmission
5 planners, transmission project sitters, and will
6 house things such as a database with state and
7 Federal transmission related regulations, road
8 maps -- regularly reviewed road maps that will
9 help developers navigate through these various
10 regulations, and also tell them where to go and
11 who to talk to at each step of the process.

12 This will also include a database of
13 best practices, various memorandum of
14 understanding, and NEPA filings that have been
15 submitted and can therefore be reviewed, and
16 hopefully used to help in the planning process
17 going forward.

18 Finally, it will also have links to
19 public externally housed geospatial and other
20 tools such as the CHAT and such as the WECC data
21 that can be used in transmission siting permitting
22 processes.

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

159

1 So wrapping up, I will ask you to please
2 stay tuned to WGA's website as well as our various
3 social media outlets for more information on the
4 role out of out the RAPID tool kit which is
5 planned for this coming December.

6 Thank you.

7 MODERATOR WELSH: Thank you.

8 Dr. Hamerlinck, if you want to come up
9 to the podium?

10 DR. HAMERLINCK: Thank you. It's a
11 pleasure to participate in this event. The GIS
12 folks don't often get invited to the table. I
13 appreciate the opportunity.

14 I direct the Wyoming Geographic
15 Information Science Center at the University of
16 Wyoming, where our focus is geospatial. That's
17 the thread that runs through everything we do. We
18 build geographical information products, not only
19 for energy development, but for many other types
20 of natural resource applications and economic
21 development activities in the state of Wyoming.

22 WGISC has had the opportunity to

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

160

1 contribute to the WGA CHAT project. We're a
2 partner in Wyoming's WISDOM and DBC mapping
3 applications, as well as the energy effort
4 mentioned by Governor Mead earlier this morning.

5 It was gratifying to hear the Secretary
6 mention geography in his remarks, because the
7 impact of geography, it really is an important
8 factor in the issues we are talking about here
9 this morning. You know, we talk about
10 sustainability of things, and we often talk about
11 the three pillars of sustainability:

12 economics, society, environmental
13 sustainability. And oftentimes those are
14 portrayed as a Venn diagram where all three of
15 them are overlapping. But another way to think
16 about that is, you know, sort of in a nested sort
17 of effect. And that if we're looking at economics
18 sustainability, oftentimes those things are
19 constrained by societal characteristics, as well
20 as even further constrained by environmental
21 characteristics. And so, geography plays a real
22 important part in understanding those

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

161

1 relationships. It's not just about location, it's
2 about what going on with condition at a particular
3 place. And then it's how we interact with our
4 environment and how our environment interacts with
5 us.

6 So, when we're talking about geographic
7 or place based decisions, I want to talk about a
8 different kind of infrastructure that comes into
9 play now that we're here in the information age.
10 And that's a type of infrastructure called spatial
11 data infrastructure.

12 Think of this as any other type of
13 infrastructure -- roads, water, utilities,
14 pipelines -- it's something that needs to be
15 built, but also needs to be maintained.

16 At the national level we have had
17 something called the NSDI, the National Spatial
18 Data Infrastructure, for 20 years. I think it was
19 a 1994 executive order that established the NSDI.
20 The components of it are displayed on the left
21 here. Some of these should be familiar to those
22 of you who work with geospatial data.

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

162

1 There's the data itself. There's the
2 data layers that everybody needs and uses.
3 There's meta data documentation to help us
4 discover what other entities have. And then there
5 are clearinghouse sorts of mechanisms to help us
6 sort of access and make use of that.

7 Surrounding all of this is the idea of
8 partnerships, which plays into any type of
9 infrastructure as we've heard today. One of the
10 challenges with the NSDI is that rather than being
11 a national spatial data infrastructure, the
12 emphasis has always been on coordination between
13 federal agencies.

14 And so, while there has been some of
15 that cooperation at the Federal level, we need to
16 try to expand this so that we're looking at
17 collaborations between Federal agencies developing
18 information products and these kinds of
19 applications and the state and local entities.

20 The diagram on the right shows that, you
21 know, at the Federal level we have fairly coarse
22 data, low resolution, with cost, that costs

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

163

1 increases as we look for the value added, as we
2 look for the more detailed data at the state
3 level, and then at the local level. And it's
4 oftentimes at this local level is where the data
5 resides that we need to do the types of activities
6 that we're talking about today.

7 So one of the ways to work with this
8 data and actually turn it into useful information
9 is through the development of these kinds of
10 applications, which we've started to talk about
11 here today.

12 One example of that in the state of
13 Wyoming is WISDOM, Wyoming Interagency Spatial
14 Database & Online Management System. It was an
15 effort that was funded by DOE as part of the money
16 that came to the WGA for the regional CHAT, but it
17 also helps support state-wide efforts to look at
18 tools that would bring wildlife considerations
19 into the discussion when considering energy
20 development.

21 We're expanding that now in our state
22 primarily with the driver coming from the

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

164

1 Governor's Energy Strategy. A little hard to see,
2 it's a little blurry there, but what I've circled
3 on the right is the development of an energy atlas
4 GIS decision support tool. Governor Mead also
5 mentioned this as well. We've taken a first step
6 in looking for developing that tool with a brand
7 new geospatial clearinghouse for the state that
8 just came online this week, The Wyoming Geospatial
9 Hub. We'll move forward with the energy atlas
10 piece of that here over the next several months.

11 I won't talk about the CHAT, but there's
12 a screen capture of the website. It's important
13 that the state efforts integrate with these
14 regional efforts and national efforts as well, and
15 I'm hoping we can get to that on the panel.

16 And finally, these are some of the
17 issues that we need to think about when we're
18 talking about an information infrastructure that
19 support play space decision making. It's about
20 different characteristics of the data. It's about
21 not only creating these data, but also maintaining
22 them. And it's about how do we strategize about

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

165

1 getting folks to actually use these applications
2 and use them appropriately.

3 Thank you.

4 MODERATOR WELSH: Thank you very much.

5 Our next speaker also has PowerPoints.

6 Mr. Lance.

7 MR. LANCE: I'd like to thank the DOE
8 and the Department of the Interior for having me
9 here. It's not lost on me that I'm a lawyer
10 sandwiched between two Ph.D.'s, so I joined this
11 panel at my own peril especially at this position
12 of the day relative to timing of our panel.

13 I'm here to talk to you all about
14 mitigation and some data. There are others here
15 who are much more qualified than me to talk about
16 data, but I'm going to give it my best shot. So
17 no speech from me is complete without reference to
18 sage-grouse, much like Mr. Rutledge in the back,
19 it's sort of part of our DNA now in our speaking
20 behavior.

21 So in early 2003, what we heard very
22 clearly leading into a lot of the discussions

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

166

1 about sage- grouse was you have to conserve large,
2 intact blocks of habitat or the bird is going to
3 be listed and mankind is going to end. So, being
4 smart bureaucrats, we listed and we came up with
5 our best cut at what we thought Interior wanted.
6 And so that is this map, which is kind of hard to
7 see, but basically it shows core areas, which
8 represent those large, intact meticulous blocks of
9 habitat. The most important chunks of habitat
10 that we are going to die on our sword on to ensure
11 that we have sage-grouse populations in Wyoming
12 and robust ones at that.

13 So, a lot of folks in the industry came
14 into then -- my then boss Governor Freudenthal and
15 said you're setting aside an awful lot of habitat.
16 Why? This is an awful lot of opportunity that we
17 are giving up on inside those core habitats.
18 We're giving up on wind, and oil and gas, and
19 other activities in these core areas. What gives?

20 And the rationale centered on this
21 notion of controlling chaos. We knew what a
22 listing would mean to us, and we knew we had to do

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

167

1 something about it, because a statewide listing
2 was simply untenable to us.

3 As you look at this, this is what a
4 listing would do to oil and gas alone in Wyoming.
5 If it's listed across all of its range in the
6 state, it basically takes 64 percent of all
7 producing wells off the table for production. It
8 takes roughly 83 percent of the total gas
9 production in 2008 off the table, and it takes
10 total oil production, about 64 percent of it, off
11 the table. This doesn't talk about expansion
12 going forward. Simply unacceptable in a state
13 that's highly dependent on a resource base like
14 Wyoming.

15 So overlaying that with quarries, you
16 change the dynamic significantly while still
17 conserving the species, which is of critical
18 importance to Wyoming and our partners that pay
19 the tax bill in this state. The numbers go down
20 dramatically to less than 10 percent in fact in
21 all of those resources we talked about earlier.

22 So, coming forward we learned just how

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

168

1 brilliant we were in Wyoming, because in October
2 the Secretary of the Interior released Secretary
3 Order 3330 to talk about improving mitigation and
4 a lot of it was geared at the same sort of core
5 premises that we brought forward in the core
6 strategy five, six years earlier.

7 And the keys were be landscape-scale,
8 integrate the mitigation framework early, make
9 sure it's durable, make sure the process is
10 transparent, and make sure it addresses climate
11 change, which we didn't really touch on over the
12 course yet.

13 So in April of this year, after the
14 Secretarial Order, we were due up to provide a
15 report to from Interior. We weren't, but Interior
16 was, and it said these were the things that you
17 have to incorporate.

18 So we have this notion of avoidance
19 through the core strategy, we have minimizing our
20 footprint. What we don't have is what do we do
21 after the fact in these core areas and adjacent
22 habitats associated with them. And the reality of

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

169

1 the circumstances are in this state that sometimes
2 the resources simply are where they are, and you
3 can't avoid it, so we have to have a thoughtful
4 path forward.

5 So we realized also that public
6 involvement in conservation in terms of public
7 funding is declining at a rapid rate. No matter
8 what folks say about land and water conservation
9 funding, it's dropping like a rock, and that's not
10 going to change, so we have align the incentives
11 across this country to incentivize private
12 investment in conservation, that aligns with
13 benefits to other entities like industries so they
14 can get permitting done quicker.

15 So when we talk about the Sweetwater
16 River Conservancy. This looks like a small mass
17 of land; it's really a million acres of habitat in
18 core and important habitats across Wyoming and
19 Central Wyoming. And the issue of lining the
20 incentives, you set aside this habitat so you can
21 develop elsewhere using a credit regime. This
22 isn't new. It started in 2003 and before, it's

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

170

1 just now making its way to Wyoming in earnest.

2 But with this bank being permit hopefully within

3 the next 90 days, it will be the largest bank in

4 the United States and it will dwarf all others

5 combined. So this is consistent with the core

6 area strategy; we're going to conserve these birds

7 where they are.

8 So how do you conserve these species?

9 Well, conservation bank, you have to have

10 conservation values, and it has to be in

11 perpetuity, that's very clear because if we're

12 going to allow nothing else where this has to be

13 conserved forever.

14 The other thing is, we have to make it

15 attractive to the landowner and the developer to

16 actually invest. We have to preserve all four

17 habitats of the species because if you take one of

18 these away, the birds you're trying to protect

19 will die.

20 This is my attempt at data. This is an

21 aerial map. The dots are power locations from

22 telemetry, and the idea is that if you go in and

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

171

1 look on a granular scale, you can actually
2 speciate the habitat from the ground up and you
3 can identify the most important places for the
4 bird from a vegetative perspective, overlay that
5 with where the birds actually go, and that
6 supports the notion that you can get credits going
7 forward.

8 And we hope that this regime will take
9 place in Wyoming and we have some definite
10 perspectives that we've moved forward in our
11 formal comments as to how to accomplish that and
12 things that need to be done, particularly at the
13 Department of the Interior.

14 So I look forward to questions. Thank
15 you very much.

16 MODERATOR WELSH: Thank you.

17 Dr. Korfanta also has PowerPoints.

18 DR. KORFANTA: Thank you and thanks so
19 much for the opportunity to talk to you today
20 about the intersection of energy development
21 mitigation and wildlife, this is where I'll focus,
22 and about infrastructure in general.

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

172

1 So we all know that Wyoming is a nexus
2 for world-class energy reserves and for world-
3 class wildlife populations.

4 In our quest to manage both of those
5 resources sustainably, mitigation has become
6 critical. It's also a challenging balancing act.
7 But with a long history of energy development in
8 Wyoming, we have a growing body of mitigation case
9 studies from which to learn what's working well,
10 where we need to improve, and what data we need to
11 do it better.

12 As scientists we always want more and
13 better data, that's acting out. But I see three
14 major types of data that could really move the
15 mitigation field forward.

16 First, this is information more than
17 data, but we need a shared litigation language.
18 We need solid baseline data to guide planning and
19 siting, and a set of mitigation best practices
20 that are based on the experiments we're doing out
21 in the world.

22 So the first is common vernacular, as a

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

173

1 field mitigation is made all the more complicated
2 by authority, a bunch of terminology that's often
3 conflicting, which can be confusing.

4 So the first step is to really
5 disentangle the technology on mitigation so it's
6 more accessible to the stakeholders who are
7 interested in mitigating the impact.

8 That's been the first step in the
9 Ruckelshaus Institute that I will present today.
10 We've created a couple of informational primers on
11 mitigating natural gas impact to wildlife, wind
12 impact, and most recently on market-based
13 mechanisms for conserving wildlife.

14 Those are available on our website, but
15 still needed is more standardization of the
16 terminology used by mitigation stakeholders and
17 most importantly clear metrics of what constitutes
18 successful mitigation. That will help evaluate
19 our efforts and improve the transferability of
20 lessons learned.

21 Second, baseline date. We need to
22 create and consider early on baseline date on the

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

174

1 distribution and movement patterns of wildlife
2 populations to appropriately site energy
3 infrastructure. The CEQ's mitigation hierarchy
4 tells us that avoiding impact is more effective,
5 and often less inexpensive than those later steps
6 in the hierarchy that is compensating for them
7 later.

8 Experiences Wyoming mitigation support
9 that. That means that careful siting of energy
10 infrastructure is among the most important
11 mitigation tool we have at our disposal in places
12 where wildlife management is also a priority.

13 Here's a concrete example. Maintaining
14 historic migration corridors through which mule
15 deer and pronghorn move between traditional summer
16 and winter ranges is a growing management
17 priority. And yet, most migration routes are
18 invisible to us for lack of data. Once we map
19 these routes, you can site and consolidate energy
20 infrastructure, use directional drilling in the
21 case of natural gas development, and still develop
22 the energy resource but with less surface

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

175

1 disturbance in the migration route.

2 Good baseline data adds helps industry
3 and land management agencies with that sort of
4 creating siting approach. But even when
5 available, baseline data are of little value if
6 they're not considered early. Ideally, it is
7 (inaudible) stage all the way to actual
8 infrastructure siting.

9 Third, mitigation best practices. Let's
10 learn from mitigation experiments. As energy
11 development continues apace in areas where we also
12 want to sustain wildlife, we're seeing also a boom
13 in new and creative mitigation tools that are
14 being used on the ground. Just in the last few
15 years, we've seen projects that range from
16 sagebrush fertilization for mule deer habitat
17 improvement to large-scale habitat exchanges that
18 rely on market to offset impacts in one location
19 with habitat improvement at another location, but
20 do they work? Whether these are effective
21 mitigation practices must be evaluated
22 methodically and transparently to quantify the

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

176

1 realized conservation benefits.

2 A good example comes from the Pinedale
3 Anticline Project Area in the Upper Green River
4 Basin in Wyoming. There, industry, led by QEP, at
5 the time Questar, constructed an underground
6 liquids gathering system to remove condensate from
7 natural gas well pads. The frequent truck traffic
8 that was formally used was known to displace mule
9 deers from the infrastructure. The liquids
10 gathering system reduced that displacement from
11 roughly 4 kilometers away from infrastructure to
12 2.6. Through careful monitoring, we know that the
13 net effect is less habitat loss for mule deer. As
14 a result, that approach is now prescribed in many
15 energy planning documents.

16 Like the LGS example, we must learn from
17 emerging mitigation approaches before we deem them
18 successful. Through our Energy Development
19 Mitigation Initiative and the Ruckelshaus
20 Institute, we've begun that type of analysis, but
21 more is needed. It requires that we have concrete
22 metrics of success, monitoring the results, we

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

177

1 share data, and use a collaborative approach to
2 write our mitigation playbook.

3 As its best, mitigation is still
4 challenging. And sometimes, when resources are
5 irreplaceable, mitigation is not possible. But
6 data, transparently shared and used to inform
7 energy planning, can improve our odds of success.

8 Thank you.

9 MODERATOR WELSH: Well, we are clearly
10 at this point competing with another gathering in
11 the room next door, so I'm going to speak loudly
12 and I would ask all the panelists to do the same.

13 The thread I've heard today is that
14 there are local and regional tools that are
15 working really well. One of the questions I'd
16 like to ask you all to consider is can those tools
17 be used in the Federal siting process and would
18 you recommend anything specific that would change
19 in the Federal siting process that could
20 incorporate those tools. Know that we've already
21 heard the need to expedite those processes.

22 Would you like to start Ms. Eaton?

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

178

1 Speak loudly.

2 MS. EATON: I do think that there are
3 opportunities and ongoing efforts to use these
4 kinds of tools in the Federal processes. I guess
5 I would want to go back to my point about WAC and
6 the use of these tools in the electricity planning
7 part of the process, because I think that's a
8 significant change and one that has the potential
9 to develop alternatives much earlier in the
10 planning process so that we can have electrical
11 solutions that are able to anticipate and address
12 the kinds of on the ground issues that we're
13 talking about here today.

14 And I'll say that I've had engineers
15 come up to us in both Colorado and California and
16 say "Huh, it's really cool to see this
17 information, I actually could see some different
18 ways we could do this by thinking about these
19 things early."

20 And so -- well, I think -- I really want
21 to emphasize the things that other people are
22 talking about and the need to use it in Federal

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

179

1 land planning processes with the states develop
2 plans and anticipate these things, I think that
3 equally we need to be developing tools and methods
4 for educating and engaging the electricity and
5 energy side about these issues and how they can
6 help us anticipate and address the challenges
7 early on.

8 Oh, actually, can I say one more thing?
9 I just wanted to say one more thing is that in the
10 WECC process, the tools, the CHAT's were developed
11 by the WGA, WISDOM, data sets that are -- and GIS
12 information that is being developed and maintained
13 by others is incorporated into that tool, and that
14 their maintenance and updates and continual
15 improvement of the data that is incorporated into
16 the tool that's being used at WECC, so it's a good
17 use of that information, but in a very different
18 decision making context.

19 MODERATOR WELSH: Thank you.

20 Mr. Scolari, do you have any thoughts?

21 MR. SCOLARI: Yeah, I would agree. The
22 one thing that I would offer also though is that

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

180

1 these tools, as valuable as they are, need to be
2 used in the right context, particularly by Federal
3 agencies. And what I'd offer is that that context
4 is really as a first look, as a way to note what
5 states or what areas states see as having certain
6 values and take into account within the project
7 development, within the project siting phases.

8 I would say that these are not intended
9 to be substitutes for interaction and consultation
10 directly with state experts use of state data, and
11 really substantive discussion about any proposed
12 project, proposed rulemaking, whatever it might
13 be,.

14 with state experts and with other folks
15 in this industry that can really offer something
16 to that discussion that will ultimately benefit
17 everybody in the process.

18 MODERATOR WELSH: Thank you.

19 MR. HAMERLINCK: Yeah, I'll just focus
20 on the data just a little bit. And it's true the
21 local data that are being produced, whether it's
22 by industry or other project level types of

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

181

1 activities, do have a lot of value. The
2 challenges are that one, they're hard to find, so
3 somebody might develop a great topographic data
4 set using LIDAR, very highly accurate elevation
5 data that has a lot applications, but nobody else
6 knows that it exists.

7 These data are also sometimes hard to
8 manage. Some of these data that are most valuable
9 to us are transactional in nature. They change
10 all the time. So, say a parcel database, for
11 example. One of the shortcomings of WISDOM is that
12 we're not making real time connections in that
13 application to all the data sets. We're capturing
14 a snapshot of data. Some of those don't change
15 very often, soils for example, but others like
16 parcels, change on a daily basis. And so we need
17 to look at ways to make sure that we are actually
18 accessing the most up-to-date information.

19 And then the last thing I'd say about
20 using some of these better data and the tools is
21 kind of a tradeoff between functionality and
22 having more tools in the toolbox with these

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

182

1 software, and becoming sort of overwhelming and
2 not being very accessible because the learning
3 curve becomes so steep.

4 MODERATOR WELSH: Thank you.

5 Mr. Lance.

6 MR. LANCE: I'm going to be sort of the
7 contrarian. I don't think any of this works
8 unless we change the process related to how we do
9 permitting in the first instance right now. And I
10 was involved heavily in the Pinedale Anticline
11 EIS. I was involved heavily in Atlantic Rim. I
12 was involved heavily in Jonah, and the fact is
13 that the state parties come to the table, the
14 local parties come to the table, the BLM comes to
15 the table, and there's several entities that sit
16 on the sidelines and throw darts after the fact
17 and gum up the works, as opposed to joining the
18 rest of us in the room and coming up with rational
19 solutions.

20 And those two parties in my experience
21 in this state are the EPA and the Fish and
22 Wildlife Service. I don't begrudge them. The

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

183

1 fact that they have opinions, and views, and
2 thoughts on how to make the process better, but
3 darn it, come to the table with the rest of us
4 while we're developing the solutions and employing
5 them, as opposed to shooting darts at us after the
6 fact. That's awfully difficult.

7 And in terms of the specifics relative
8 to banking -- which my client is most interested
9 in, and I've becoming interested in as a function
10 of that -- I think banking won't work in this
11 state until we address three issues.

12 The first is, because of the intermix of
13 Federal lands and state lands with private lands
14 and the need for landscape scale, the BLM has to
15 give us a defining path forward on adjacent
16 properties for BLM to make sure that the
17 management swaps over to the BLM and they are
18 unified in how they're managed -- the private
19 lands and the Federal lands.

20 Second thing is, there has to be a
21 process by which you can generate credits on
22 Federal lands and incentivize investment in

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

184

1 improving Federal lands. Again, Federal investment
2 in public conservation efforts is declining, so is
3 the state investment. You've got to bring the
4 private guys and you've got to incentivize them to
5 make those Federal lands better.

6 And third, they have to tell us whether
7 you can use credits or not, because you can set up
8 all the banks you want, but if you can't transact
9 them after the fact on BLM projects, or Forest
10 Service projects, it ain't going to work, and
11 everyone's going to take their marbles and go
12 home.

13 DR. KORFONTA: So two thoughts. The
14 first is that I'm sensitive after listening to the
15 first two panels that a call for greater reliance
16 on data can appear to be at odds with the need for
17 efficiency. And I think what that argues for is to
18 have baseline data on hand and not wait for a
19 project to be in the works, which can slow things
20 down.

21 The second thought is that the way we
22 account for data or use data in the NEPA process

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

185

1 could be better. So NEPA documents tend to be
2 self referential. That is, a 2012 document sites
3 a 2009 EIS, which cited a 2006 EIS, and you have
4 no idea where the original data came from. I
5 think it requires a higher standard for the way
6 that we use data in the NEPA process, and a little
7 bit more than just boiler plate language in energy
8 planning.

9 MODERATOR WELSH: All good suggestions
10 on tools. Let's talk a little bit more about
11 mitigation. Are there compensatory mitigation
12 suggestions, methods, alternatives that you all
13 might suggest that the QER Task Force can take
14 into consideration looking at both the state,
15 regional, and Federal levels?

16 MS. EATON: One of the issues that was
17 just raised is the challenge of using Federal
18 public lands for mitigation and how that can
19 happen. We're seeing this in California where we
20 have development on private land and on public
21 land that is essentially used up what is the
22 traditional bank of resources and good quality

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

186

1 habitats for conservation and mitigation of
2 private lands. And so we are starting to look at
3 how do we get the conservation on public land and
4 also the areas where investment and mitigation can
5 be, and how do we structure that? And there are
6 many issues related to that that we're working.

7 But I think that the biggest one right
8 now is we want to hope that the Task Force and the
9 Administration will really focus on is the
10 question of durability, because if we're going to
11 say that these lands are going to compensate for
12 development that have long-term impact in the
13 renewable energy world, maybe permanent, how do we
14 make sure we have the durability, the
15 conservation, and the investments in the
16 mitigation areas to ensure that the environmental
17 benefits endure?

18 And that is going to be a big challenge
19 and one that requires substantial creative
20 thinking, use of exhibiting authorities in a
21 different way, and potentially some changes in
22 policy and new direction.

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

187

1 MR. SCOLARI: Yeah, I would agree I
2 think another consideration that should take into
3 account is predictability. So, as projects come
4 about and as the new landscapes go into mitigation
5 and initiatives move forward, one of the big
6 things I want to take into account by project
7 developers and project proponents, as well as
8 environmental groups, is what would the
9 requirements be with regards -- and what would be
10 allowable with regards to compensatory
11 mitigation.

12 So along with that, I would say that
13 consistency is going to be very important and, you
14 know, translating that across both Federal and
15 state lands and private lands in a way that any
16 cross proponent or a proposed developer, somebody
17 expanding a line perhaps, will know what may be
18 required of them, and will be able to develop
19 their plans in a way that will coincide with what
20 the requirements either have been in the past or
21 are likely to be in the future.

22 MR. HAMERLINCK: I'll pass on this one.

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

188

1 Let the attorney and scientists comment.

2 MR. LANCE: Well, functionally, there
3 has to be because there are only -- in most
4 instances you can minimize a lot of the effects,
5 you can avoid a lot of the effects of a projects,
6 but you're always left with some increment that
7 has to be mitigated, and we face that right out of
8 chutes here in Wyoming at Jonah. And the reality
9 was we were at 30 acres facing 5 and 10 acres
10 facing right after that, and at a certain
11 threshold you don't have habitat left. You don't
12 have the environmental increment to protect
13 anymore, so you have to go elsewhere to offset
14 that impact.

15 And the real question is what are you
16 going to accept and what's the standard? The
17 reality is that in the 2003 regulations, the Fish
18 and Wildlife Service charts a very clear course in
19 terms of what they want for the durability on
20 private lands, and that's perpetuity. They want
21 these lands set aside, under a conservation
22 easement, that is enforceable in perpetuity.

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

189

1 What is ironic is the current state of
2 play in Washington from some environmental
3 interests is that they're converting that to say
4 we want to actually lessen that standard so we can
5 attract more people to the table. I don't think
6 that works. I think we maintain our standards,
7 and we move forward with those standards, and we
8 encourage our Federal partners on Federal lands as
9 Wilderness Society and others have stood alongside
10 thoughtful conservation and continue to say, "We
11 want a durable period that makes sense for the
12 species, and we're not going to accept anything
13 less." And the minute we start, that's when all
14 these fancy tools start to erode, and they don't
15 have much utility and nobody trusts them.

16 So I encourage people to maintain a high
17 standard and don't dumb it down based upon the
18 newest widget and shiny object we find on the
19 ground.

20 DR. KORFONTA: I agree with that comment
21 completely. I think in very highly industrialized
22 landscapes, the potential for onsite mitigations

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

190

1 is really limited. We do what we can, but there's
2 still a lot of impact that remains to be
3 litigated. And that's the future. Compensatory
4 mitigation is definitely the future.

5 The question is how do we know we've
6 been successful? What are the standards for
7 compensatory mitigation? Most commonly we hear
8 about money spent, acres conserved, acres gets
9 closer. From a wildlife perspective, we really
10 want to know how those translate into changes in
11 the wildlife populations in which we're
12 interested. And right now that's hard. That's
13 just difficult, and that's where the real leading
14 edge of the scientific piece of this is in
15 compensatory mitigation, is understanding how
16 those mitigation actions actually affect the
17 wildlife we're interested in conserving.

18 MODERATOR WALSH: Okay. I'm going to
19 give you all the chance that I've given every
20 other panel and that is your one specific
21 recommendation to the QER Task Force and to this
22 Administration.

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

191

1 Why don't we start with Dr. Korfanta and
2 come down the row?

3 DR. KORFANTA: I have been excited to
4 see some of the memoranda that have come out of
5 the BLM recently on mitigation, which essentially
6 formalizes and institutionalizes a commitment to
7 mitigation. I think there's a lot of promise
8 there. And I would just encourage that we put
9 some numbers to that so that we have some better
10 defined metrics of what constitutes good
11 mitigation. I think that's the next step.

12 MR. LANCE: Well, my thought is come out
13 and see us more often. It's great to get these
14 edicts from the other side of the Potomac, but
15 frankly, quarries strategy was developed right
16 here, and now it's the national template. You all
17 have great ideas in Washington, and we really
18 appreciate seeing them after you come out from
19 behind your closed doors, but we'd really
20 appreciate it if you joined us out here and
21 jointly developed those solutions, as opposed to
22 sending them down as directives and internal

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

192

1 memoranda.

2 MR. HAMERLINCK: I guess I will come
3 back to the national spatial data infrastructure,
4 and recognition at the Federal level that this
5 truly needs to be a national information
6 infrastructure. It needs more support both within
7 the Federal agencies themselves, and also within
8 individual agencies supporting your Federal
9 offices on the ground in the individual states.

10 A key to that I think is re-energizing
11 the Geospatial Liaison's Program, and the U.S.
12 Geologic Survey. That entity has faced cuts
13 recently, and it's such an important tie in terms
14 of spatial literacy and information technologies
15 and sharing of data for decision making between
16 the Federal agencies and state agencies. That
17 would be my recommendation.

18 MR. SCOLARI: I would in large part
19 reiterate what Mr. Lance said. I think there's no
20 substitute for direct, substantive, and in large
21 part, in person consultation with Western states
22 and with the various stakeholders housed in

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

193

1 Western states.

2 I think that the paradigm is so
3 different within the West as compared to the East
4 that, that is of utmost importance. So the more
5 consultation, the more discussion can happen on
6 the front end as things develop, as timelines come
7 about, and as new things are considered by Federal
8 agencies, I think the more benefit we're going to
9 have at all levels of project design, project
10 implementation, and ultimately at conservation as
11 well.

12 MS. EATON: I spend a lot of my time
13 talking to people at the Interior Department of
14 the BLM, so I thought I would have a couple of
15 recommendations for the DOE.

16 And one is to continue to fund both the
17 development of this kind of environmental
18 information for use, and electricity, and energy
19 planning and development, but also stakeholder
20 processes. I think that engaging a broader set of
21 stakeholders and how we think about the
22 development and deployment of our energy resources

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

194

1 will help in trying to anticipate and think about
2 where these challenges are going to be in the
3 future, and they are going to be significant.

4 And that on the flipside of that to
5 provide more resources and assistance to the
6 Federal Land Management Agencies and other
7 landowners and users about how to anticipate and
8 plan for future energy developments. I think
9 we've had efforts at that, but -- and I think they
10 have been helpful and we can continue to get
11 better at that and understanding both what's on
12 the table, what might be coming now, and what are
13 the kinds of drivers that are likely to result in
14 new kinds of requests and needs for infrastructure
15 development.

16 And I think DOE and NREL and others are
17 starting to do that, and do that more directly
18 with the land management agencies and that's
19 important and can be strengthened with additional
20 research and also more engagement.

21 MODERATOR WELSH: Thank you all. We
22 have just a few minutes left. Does anyone want to

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

195

1 respond that they've heard today or any final
2 thoughts? Now is your chance.

3 MS. EATON: I just wanted to thank
4 everyone for being here and for this process and
5 for incorporating these issues of siting and go
6 back to the fact that there are many values out
7 there that we have to reconcile and reckon with
8 and figuring out how we do that better and how to
9 work together better to get to the solutions that
10 meet a range of our needs and support our
11 processes is really important, and I appreciate
12 the consideration of these issues.

13 MODERATOR WELSH: All right. Well, I
14 think that this is just the beginning of a long
15 discussion on data and mitigation strategies. I
16 want to thank you all for being here. Thank you
17 for sharing your thoughts, and please join me in
18 giving them a big round of applause.

19 (Applause.)

20 MODERATOR WELSH: Thank you all.

21 We're now going to go right into the
22 open mic session, so give us just a moment to set

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

196

1 up for that.

2 And for those of you who are hoping to
3 make some comments, we're anxious to hear you, so
4 we'll ask you to come to the standing microphone
5 here on the left.

6 (Pause.)

7 MODERATOR WELSH: All right. Thank you
8 for your patience. And for those of you watching
9 via livestream, we want to hear from everyone at
10 this meeting, whether you're in the room or
11 whether you're listening via livestream.
12 Unfortunately, we can't hear from people
13 livestream. That's a technology that is beyond us
14 today.

15 But we do want to hear from all of you
16 in the room. We asked you to sign in and to
17 indicate whether or not you wanted to speak.

18 And so, the first person we have was an
19 uncertain, so let me just call her and see if she
20 is still in the room.

21 Nadia Kaliszewski (ph)?

22 Okay. And the other is Norine Kasperick

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

197

1 (ph) .

2 MR. KASPERICK: I'll provide written.

3 MODERATOR WELSH: You'll provide written
4 comments, okay.

5 Then let me open the floor to anyone who
6 is here listening who would like to make a
7 comment.

8 I made the terrible error of not
9 introducing my fellow panelists, and I apologize
10 to you all.

11 Those who are listening today are from
12 the Department of Energy, Dr. Karen Wayland, we
13 heard from in the beginning.

14 And her colleagues Matt McGovern and
15 John Richards are both senior advisors to Dr.
16 Wayland. They are anxious to hear from anyone who
17 is willing to get up to the microphone today.
18 It's been a long meeting and we've lost some
19 people in the room, so we hope that we all will
20 submit written comments as well.

21 Okay. Well, let me turn over the
22 microphone to Dr. Wayland now to say a few words.

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

198

1 DR. WAYLAND: Thank you, Peggy.

2 And I want to thank, first of all, all
3 of the panelists who traveled from all around the
4 country to participate in this. I know you all
5 have day jobs, and we asked you fairly late in the
6 game to change your schedule around and join us
7 here. We've done four meetings in August alone,
8 and so it is a quite exhausting schedule, but I
9 want to assure you how important these meetings
10 are. As Peggy noted, this is the 11th, I thought
11 it was the 12th. And in the many needs of the
12 Secretary and the White House, I have found myself
13 saying, "Well, what we're hearing from the
14 stakeholders is," and sometimes that's contrary to
15 what the existing sort of base of knowledge in
16 D.C.

17 is. So I can't emphasize enough how
18 important these stakeholder meetings are for the
19 QER process, and so I want to thank you very much.

20 You will find, not only the statements
21 from the panelists today on the web, but also in a
22 couple weeks you'll find meeting summaries of

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

199

1 today's meeting, and a transcript. So I urge you
2 to go look and I want to assure you that we at the
3 Department of Energy and within the Federal family
4 will be using the transcripts, and the statements,
5 and notes, and the comments that were received
6 through the QER comments email to help us do our
7 analysis and to help us form the recommendations
8 that will come out of the QER process.

9 So I want to thank the Department of
10 Energy staff and Energetics for helping us to make
11 this a successful meeting, and thank you again as
12 stakeholders for helping us to move this process
13 forward.

14 And with that, we conclude the meeting.

15 MODERATOR WELSH: Thank you all.

16 (Whereupon, the meeting was concluded
17 at 12:30 p.m.)

18

19

20

21

22

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

200

1 CERTIFICATE OF COURT REPORTER

2 I, ROGER MEYERS, the reporter before whom the
3 foregoing hearing was taken, do hereby certify
4 that the witness whose testimony appears in the
5 foregoing deposition was duly sworn by me; that
6 the testimony of said witness was recorded by me
7 and thereafter reduced to typewriting under my
8 direction; that said deposition is a true record
9 of the testimony given by said witness; that I am
10 neither counsel for, related to, nor employed by
11 any of the parties to the action in which this
12 deposition was taken; and, further, that I am not
13 a relative or employee of any counsel or attorney
14 employed by the parties hereto, nor financially or
15 otherwise interested in the outcome of this
16 action.

17

18

19

20

ROGER MEYERS

21

22

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

201

1 CERTIFICATE OF TRANSCRIPTION

2

3

4 I, VALORI WEBER, hereby certify that I have typed
5 the transcript of this proceeding using the Court
6 Reporter's notes and recordings. The
7 foregoing/attached transcript is a true, correct,
8 and complete transcription of said proceeding.

9

10

11

12

13

September 1, 2014

14

VALORI WEBER

Transcriptionist

15

16

17

18

19

20

21

22

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

Page 1

<u> </u> \$	1500 71:17,22 141:12	2009 36:19 44:17 185:3	<u> </u> 4
\$1.5 29:14	16 154:8,12	2010 73:10	4 176:11
\$14 20:20	16,000 43:7	2011 7:14 73:14 123:11	40 12:9 23:20 34:20
\$19 104:14	16,300 55:15	2012 52:14 54:17 73:4,17 123:21 185:2	400 43:5 65:5
\$24 74:8,11	17 34:17 104:9	2013 45:19 104:9	44 49:22
\$30 23:19	17,000 70:9	2014 1:7 75:16 201:13	450 71:15
\$32 126:12	175 103:19	21 1:7 49:16	48 28:4
\$40 23:21	18 67:12	216(h) 93:13	<u> </u> 5
\$5 126:15	18-month 73:13	2300 36:19	5 188:9
<u> </u> 1	1952 49:21 77:4	24 65:12 67:5	5,000 57:8 70:10
1 41:6 201:13	1972 114:7	25 22:11 121:14	5.7 35:4
1,000 46:7	1994 161:19	27,000 35:7	50 73:20 112:22
1,500 71:15 98:22	1997 14:3	28 69:19	500 71:10
1,800 55:17	<u> </u> 2	28,000 43:6	500,000 126:18
1.9 114:11	2 102:8	<u> </u> 3	52 35:16
10 9:5 167:20 188:9	2,000 70:11	3 146:15	5300 50:16
10,000 43:6	2.4 104:12	3,000 45:14	<u> </u> 6
100 45:14 67:12 113:1 144:20	2.6 176:12	3,800 120:11	6 23:11
10th 6:21	20 64:15 73:5 126:1 161:18	30 45:10 114:10 188:9	6,900 70:6,8
11 1:5 4:5 140:22	200 21:20 103:18	30,000 154:16	6.5 132:21
110,000 121:10	200,000 50:3	300 65:4 67:4 121:11	60 21:14 90:11 141:11
11th 6:18 16:9 198:10	2000 58:5	300,000 21:12	600,000 98:22
12,000 29:13	2001 14:3	3330 168:3	64 167:6,10
12:30 199:17	2003 165:21 169:22 188:17	33nd 7:14	6-7 9:4
120 73:6	2005 93:12	35 51:11	675,000 70:3
125,000 70:4	2006 71:7 72:9 185:3	36 67:5	<u> </u> 7
12th 6:19 198:11	2007 71:20	36-month 65:12	70 71:16
13604 77:20	2008 35:6 71:21 72:21 73:4 75:16 167:9		75 43:13
14,000 35:18			<u> </u> 8
15 18:16 64:15 141:9			

(866) 448 - DEPO

www.CapitalReportingCompany.com © 2014

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>80 97:4</p> <p>83 167:8</p> <hr/> <p style="text-align: center;">9</p> <hr/> <p>90 170:3</p> <p>90,000 55:4</p> <p>90s 18:20</p> <p>95 113:2</p> <p>97-0 13:21</p> <p>9th 44:3</p> <hr/> <p style="text-align: center;">A</p> <hr/> <p>ability 10:8 47:8 91:21 131:8</p> <p>able 11:4 65:18 67:14 122:17 135:8 143:8,11 178:11 187:18</p> <p>absolute 64:18 111:19</p> <p>absolutely 9:14 131:11</p> <p>abundance 34:5</p> <p>abundant 34:8</p> <p>accelerated 78:6</p> <p>accept 81:22 188:16 189:12</p> <p>accepting 59:19</p> <p>access 80:6,13 104:19 157:3 162:6</p> <p>accessible 155:13 173:6 182:2</p> <p>accessing 181:18</p> <p>accommodate 59:12</p> <p>accommodates</p>	<p>24:16</p> <p>accomplish 83:8 85:3 171:11</p> <p>accomplishing 48:1</p> <p>accordance 50:14</p> <p>account 109:4 180:6 184:22 187:3,6</p> <p>accountability 48:6,20</p> <p>accountable 48:7 139:21</p> <p>accumulating 145:18</p> <p>accurate 181:4</p> <p>achieve 48:13 106:7 143:18</p> <p>achieved 46:7 131:2 141:13</p> <p>achieving 48:16</p> <p>acknowledge 31:12,22 32:12 53:17</p> <p>acquiring 46:16 49:18 98:15</p> <p>acre 55:4</p> <p>acres 34:18,20 35:5 55:15 141:9 169:17 188:9 190:8</p> <p>acronym 29:6</p> <p>acronyms 29:5</p> <p>across 17:5,13 18:3 20:10,14,17 22:15 23:18 24:13 31:16 35:17,19 36:8,13</p>	<p>43:7 55:1 57:8 73:2 86:8 89:15 98:2,22 99:6 103:19 107:4 111:6 128:10,15 131:10 138:10 139:6 140:22 142:4 154:7,12 167:5 169:11,18 187:14</p> <p>act 4:20 58:5 71:20 75:8 81:2,8,12,15 82:9 93:12,15,16 106:18 117:5,6,16 118:13 133:15 172:6</p> <p>acting 172:13</p> <p>action 17:4,15 39:11 63:14 104:9 200:11,16</p> <p>actions 105:13 190:16</p> <p>active 26:1 103:21</p> <p>actively 54:22 104:5</p> <p>activities 2:18 37:8 53:21 159:21 163:5 166:19 181:1</p> <p>activity 17:8 42:15 48:18 117:21</p> <p>actual 85:3 94:21 121:7 175:7</p> <p>actually 12:6 16:8 18:14,17 22:21 36:3,17 47:3 73:11 79:11 91:6 94:7 112:12 120:7,10</p>	<p>122:10,11,13 123:16 126:3,9 129:18 136:6 137:14,16 138:1 139:19 142:20 163:8 165:1 170:16 171:1,5 178:17 179:8 181:17 189:4 190:16</p> <p>adaptation 28:9</p> <p>adapting 27:18</p> <p>adaptors 118:6</p> <p>add 15:5 39:22 44:11 79:16 81:14 82:9 118:18 145:1</p> <p>added 53:11 163:1</p> <p>adding 43:22</p> <p>addition 14:8 22:2 40:3 63:22 65:8,15 96:17</p> <p>additional 80:22 118:11 119:7 157:22 194:19</p> <p>Additionally 157:21</p> <p>additions 126:20</p> <p>address 26:11 58:9 61:8,20 89:4 92:22 105:9 116:5 118:9 178:11 179:6 183:11</p> <p>addresses 24:18 58:4 168:10</p> <p>addressing 8:14 28:8 106:12 116:1 117:22 135:5</p>
--	---	---	---

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>adds 89:15 175:2 adequate 77:13 127:2 131:2 adequately 59:15 73:12 adjacent 168:21 183:15 administer 34:17 administration 6:1 18:3 21:17 22:16 26:2 27:9 29:22 35:16 77:17 104:5 106:1 114:2 117:9 118:13,18 119:2,8 134:15 142:2 145:7 186:9 190:22 administrative 58:21 73:21 adopt 111:22 118:10 139:1 adoption 107:10 advance 62:6 72:1 150:22 advances 24:14 26:21 advantage 77:1 adverse 118:15 advice 5:5 Advisor 3:2,6,8 103:3 147:10,13 153:14 advisors 14:10 197:15 Advisory 4:19 61:11 advocacy 62:5</p>	<p>Advocate 2:14 42:10 advocates 57:18 aerial 170:21 Affairs 2:15 42:11 62:5 affect 129:7 190:16 affected 64:10 90:2 affectionately 158:3 affirming 129:15 affordability 98:19 affordable 6:8 44:4 83:6 104:19 143:12 ag 59:8 67:18 68:16,18 111:10,15 AGA 103:21 105:9 107:18 against 73:11 AGA's 145:4 age 161:9 agencies 29:13 44:18,19 46:18 53:1 58:13 74:5 75:2 78:18,21 79:11,20 80:5,11 81:21 86:4,9,10 88:6,8,18 91:3 92:13 93:15,17,19 96:20 101:22 106:5,10,14 111:16 116:6,10,12,21,2</p>	<p>2 118:10 124:19 132:11 133:18 134:10 136:2 139:21 140:4,12 150:21 151:3 162:13,17 175:3 180:3 192:7,8,16 193:8 194:6,18 agency 6:3 17:13 48:12 58:11 73:5 80:14,17,19,21 82:7 94:20 97:1 116:10 131:9 132:5 135:8 139:11,20 157:4 Agency's 104:3 agents 18:4 83:12 aggressive 111:2 ago 21:16 22:9 25:14 27:9 62:14 90:11 93:12 95:9 109:20 120:22 agreed 123:6 154:9 156:12 agreement 68:18 agreements 97:3 117:20 agricultural 25:18 agriculture 51:18 52:3,5 75:5 98:3 ahead 27:17 33:12 110:2 ain't 184:10 air 58:11 Alaska 28:1 Albert 46:22 100:1 alerts 63:14 align 169:10</p>	<p>alignment 44:16 47:13,14,15 48:8 49:1 100:9 aligns 169:12 all-of-the 34:4 all-of-the-above 34:1 allow 48:18 55:13 80:5 135:11 145:10 170:12 allowable 187:10 allowed 156:10 allowing 79:9 102:14 105:18 106:13 108:16 140:9 146:1 allows 68:12 alluded 95:12 alluding 67:9 alone 35:4 112:16 167:4 198:7 alongside 189:9 already 15:12 21:11 27:16 35:16 78:6,9 97:12 112:22 115:15 134:14,21,22 138:18 139:19 148:6 150:13 177:20 alternative 69:6,10 75:1 140:3 alternatives 71:18 178:9 185:12 am 4:14 29:3 33:16,18 43:2 47:4 49:15 100:9</p>
---	---	--	---

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>103:11 119:22 125:7 200:9,12 America 1:11 3:4 103:5 114:21 American 2:21 27:13 32:17 102:21 103:13,17 108:6 124:8 Americans 103:20 104:18 America's 15:6 69:7 107:21 among 36:5 44:19 46:17 79:6 94:14 116:9 174:10 amongst 84:3 130:13 amount 10:20 11:3 34:10 63:13 123:7 analyses 119:13 134:9 analysis 2:3 5:15 18:9 73:20 118:3,17 119:5,9 176:20 199:7 analytical 18:7 analyze 145:11 analyzed 129:11 ancillary 60:12 and/or 155:19 annually 45:17 104:15 answer 56:16 68:12 101:8 127:17 137:6 139:19</p>	<p>answered 101:8 answers 136:16 anti 62:18 anticipate 178:11 179:2,6 194:1,7 anticipated 112:1 149:10 Anticline 176:3 182:10 anxious 196:3 197:16 anymore 110:1 134:5 188:13 anyone 138:5 143:22 146:3 194:22 197:5,16 anything 86:16 110:14 133:8 177:18 189:12 anywhere 62:17 apace 175:11 apologize 197:9 apology 42:9 apparent 69:12 appeals 58:3 117:15 appear 103:14 184:16 appeared 46:13 appears 136:21 200:4 applaud 145:22 applauds 108:7 applause 8:7 13:11 14:21 28:19 30:18 37:16 40:17 102:2,3</p>	<p>146:11 195:18,19 applicability 119:10 applicable 79:12 applicant 79:9 applicants 23:14 44:19 79:10 106:13 application 58:17 71:21 72:21 117:19 128:21 129:2,8 132:22 181:13 applications 35:7 59:19 72:11 105:20 130:11 140:10 159:20 160:3 162:19 163:10 165:1 181:5 applied 19:2 apply 126:10 applying 131:20 appointment 14:1 appreciate 9:20 12:20 13:5 30:22 49:8 66:14 101:20 102:7 129:14 142:6 148:4 159:13 191:18,20 195:11 appreciated 125:20 appreciates 76:21 appreciation 114:1 145:5 appreciative 51:21</p>	<p>approach 9:12 15:21 26:6 27:8 106:21 125:13 129:16 130:9 140:8 175:4 176:14 177:1 approached 152:17 approaches 107:10 176:17 appropriate 53:15 137:8 appropriately 165:2 174:2 approval 53:12 86:21 87:1 105:19 117:17 approvals 35:13 86:17 116:14 approve 61:17 approved 35:16 36:19 54:18 55:19 58:17 80:4,8 approximately 50:3 April 168:13 aquatic 155:18 archeological 121:5 arctic 28:3 area 21:1 29:2 35:16 49:12 51:12 52:11 55:1 56:2 76:4,5 88:10 99:2,3 141:8 170:6 176:3 areas 16:4 29:19</p>
--	---	---	---

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>49:14 50:5 54:9,11 59:22 60:7 63:20 65:1 72:6 87:22 90:14 95:1 140:1 150:4,12 166:7,19 168:21 175:11 180:5 186:4,16</p> <p>aren't 134:21</p> <p>argues 184:17</p> <p>arise 133:19</p> <p>arises 52:11</p> <p>Arizona 155:6</p> <p>Ark 111:13</p> <p>Army 107:6</p> <p>arrange 7:6</p> <p>article 65:11</p> <p>articles 65:10 67:4,12</p> <p>articulate 144:2</p> <p>aside 166:15 169:20 188:21</p> <p>ASLM 29:6</p> <p>aspect 106:8 131:15</p> <p>assessment 27:10 123:5 154:5 157:5</p> <p>asset 96:9</p> <p>assets 18:7 19:1,6 34:7 107:19</p> <p>assist 38:12 105:11</p> <p>assistance 24:5 100:12 194:5</p> <p>Assistant 2:6 29:3,8 30:16,19 37:20 39:14</p>	<p>40:15 57:3 76:19 99:12 120:4 138:17 140:20 142:6 143:4</p> <p>assistants 107:12</p> <p>associated 13:18 168:22</p> <p>association 2:12,21 3:8 26:1 41:22 49:21 102:22 103:13,17 108:6 147:13 149:18 153:15</p> <p>assumption 122:19</p> <p>assure 198:9 199:2</p> <p>Atlantic 182:11</p> <p>atlas 10:14 164:3,9</p> <p>atmosphere 112:19</p> <p>attempt 61:3 76:12 89:4 170:20</p> <p>attention 62:20 99:17 108:8</p> <p>attitude 18:21</p> <p>attorney 7:19 29:22 188:1 200:13</p> <p>attract 189:5</p> <p>attractive 170:15</p> <p>attributes 151:14</p> <p>audience 76:20 83:17</p> <p>Audubon 3:2,3 103:2,3 108:19</p> <p>August 1:7 73:4</p>	<p>198:7</p> <p>author 15:5</p> <p>authorities 92:14 105:14,17 106:6 132:13 140:16 186:20</p> <p>authority 2:9,20 7:4 11:2,3 23:21 41:18 43:20 79:12 85:3,6,13 93:14 100:18 101:2 102:19 124:21 125:9 127:8 128:20 129:2,17 131:8,10,22 132:11 135:9 139:12 173:2</p> <p>authorizations 105:1</p> <p>authorized 110:20</p> <p>automatically 108:19</p> <p>autonomy 111:5</p> <p>available 27:2 37:21 83:20 101:20 154:7 173:14 175:5</p> <p>Avian 81:18</p> <p>avoid 58:6 149:1 169:3 188:5</p> <p>avoidance 168:18</p> <p>avoided 119:8</p> <p>avoiding 174:4</p> <p>avoids 149:1</p> <p>aware 57:10</p> <p>away 67:7,8,10 106:20 130:8 133:14 170:18</p>	<p>176:11</p> <p>awful 166:15,16</p> <p>awfully 183:6</p> <hr/> <p style="text-align: center;">B</p> <hr/> <p>backed 122:13</p> <p>background 33:20 114:4 135:17,18</p> <p>backing 20:13</p> <p>backstop 58:7</p> <p>bad 42:8</p> <p>Bakken 114:16 121:2</p> <p>balanced 9:12 31:14</p> <p>balancing 172:6</p> <p>Bald 82:8</p> <p>ball 45:6 75:12</p> <p>bank 170:2,3,9 185:22</p> <p>banking 183:8,10</p> <p>banks 184:8</p> <p>barrels 21:12,19 114:12 121:10</p> <p>barrier 79:16</p> <p>barriers 144:17,18 153:3</p> <p>base 50:10 64:15,17 65:15 90:11 131:22 167:13 198:15</p> <p>based 5:4 18:6 43:4 71:8 98:17 122:22 135:12 153:15 154:8 161:7 172:20 189:17</p>
--	---	--	---

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>baseline 172:18 173:21,22 175:2,5 184:18</p> <p>base-load 60:3</p> <p>basic 24:4 64:18</p> <p>basically 61:17 73:22 91:15 97:2 134:14 166:7 167:6</p> <p>Basin 127:20 176:4</p> <p>basis 181:16</p> <p>bats 108:22 109:12</p> <p>bear 18:7 74:7</p> <p>bears 21:9</p> <p>beautiful 4:5</p> <p>became 74:12 75:11</p> <p>become 112:7 172:5</p> <p>becomes 182:3</p> <p>becoming 69:12 121:19 182:1 183:9</p> <p>bee 109:7</p> <p>bees 109:1</p> <p>begin 4:17 108:18 132:10</p> <p>beginning 15:17 20:3 195:14 197:13</p> <p>begrudge 182:22</p> <p>begun 176:20</p> <p>behalf 2:13 42:2 57:7</p> <p>behavior 165:20</p> <p>behind 45:10</p>	<p>75:12 78:14 109:19 191:19</p> <p>belief 53:10</p> <p>believe 19:18 28:7 99:19 100:4 124:20 137:20 143:19</p> <p>believers 63:11</p> <p>Belle 3:5 103:7 120:1</p> <p>belt 114:13</p> <p>beneficial 95:21 101:9 118:7</p> <p>benefit 12:4 33:15 44:2 77:12 84:6 92:20,21 93:1 180:16 193:8</p> <p>benefits 60:11 104:11 169:13 176:1 186:17</p> <p>bentonite 9:6</p> <p>besides 86:14</p> <p>best 9:3 13:7 46:9 48:16 67:20 72:17 81:19 105:11 152:4 154:6 158:13 165:16 166:5 172:19 175:9 177:3</p> <p>better 33:14,18 37:11 39:11,18 45:7 59:20 84:4,5,10,13 91:8 94:14,17 95:10 106:4 107:18,19 117:7 134:1 148:14 151:3,4,16 172:11,13</p>	<p>181:20 183:2 184:5 185:1 191:9 194:11 195:8,9</p> <p>beyond 68:7 82:2 110:14 196:13</p> <p>bi 154:11</p> <p>bigger 94:3 96:20</p> <p>biggest 90:4 186:7</p> <p>bill 167:19</p> <p>billion 20:20 21:1,19 23:11,20,21 29:14 45:16 72:3 104:15 126:12,15,17</p> <p>billions 59:17</p> <p>biodigestors 60:5</p> <p>biological 121:4</p> <p>bird 82:9 110:5,17 112:3,11,13 166:2 171:4</p> <p>birds 108:20 111:18 112:16 170:6,18 171:5</p> <p>bit 15:13 31:8,20 33:19 36:18 39:19 49:20 63:17 64:13 65:2,7 67:7 70:2 72:1 95:13 153:18 180:20 185:7,10</p> <p>bite 109:6</p> <p>BLM 35:4 36:13,19 45:20 52:4 55:14,15 73:2,17 74:4 75:3 94:1 122:11,14</p>	<p>123:4,15,22 124:1 129:16 138:2 150:10,20 182:14 183:14,16,17 184:9 191:5 193:14</p> <p>blocks 166:2,8</p> <p>blown 124:6</p> <p>blue 15:5 128:12</p> <p>blurry 164:2</p> <p>BMP's 81:22</p> <p>board 20:14,17 22:15 23:19 24:13 95:4,18 100:18 137:8 142:4</p> <p>boarding 136:20</p> <p>boards 14:9</p> <p>body 172:8</p> <p>bogs 119:6</p> <p>boiler 185:7</p> <p>boom 23:1 109:22 110:3 175:12</p> <p>booms 110:1</p> <p>border 137:18</p> <p>boring 62:12</p> <p>borrowed 51:16</p> <p>boss 166:14</p> <p>bottlenecks 25:12</p> <p>bound 88:19</p> <p>boundaries 33:7,8,9 128:15 135:22</p> <p>boundary 154:13</p> <p>Bozeman 76:4</p>
--	---	--	--

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>brand 164:6</p> <p>breakfast 16:20 139:3</p> <p>Brian 2:19 3:2 102:18 103:1 125:7 134:7 148:18</p> <p>brief 86:1 98:7 136:6</p> <p>briefing 44:14</p> <p>briefly 27:6 115:11 116:2 117:22 134:4 144:7,8 145:3 157:21</p> <p>brilliant 168:1</p> <p>bring 18:6 28:15 63:17 96:1 110:9 132:4 143:7 151:11 163:18 184:3</p> <p>bringing 17:17 26:4 86:18 108:8 112:6</p> <p>broad 157:4</p> <p>broader 193:20</p> <p>broadly 38:18</p> <p>broke 73:22</p> <p>brought 82:15 95:4 111:13 168:5</p> <p>brown 112:11,13</p> <p>bubble 152:2</p> <p>budget 29:14 53:15 104:2</p> <p>Budgeting 98:1</p> <p>budgets 87:15</p> <p>build 10:13 46:9</p>	<p>68:14 86:16 99:6 127:17 159:18</p> <p>building 19:2 44:13 98:21</p> <p>built 22:8 126:22 161:15</p> <p>bunch 111:20 173:2</p> <p>burdens 118:6</p> <p>burdensome 79:15</p> <p>Bureau 29:9,10 34:2,16</p> <p>bureaucratic 63:2</p> <p>bureaucrats 166:4</p> <p>business 50:22 56:9 69:19 86:13 98:17,18 114:17 115:5</p> <p>businesses 43:11</p> <p>bust 109:22 110:4</p> <p>busy 112:21</p> <p>Butte 122:2</p> <hr/> <p style="text-align: center;">C</p> <hr/> <p>California 45:15 117:3,4,8 155:6 178:15 185:19</p> <p>camel's 74:1</p> <p>Campaign 3:6 147:11</p> <p>Canada 22:11 125:18</p> <p>capabilities 124:14</p> <p>capability 18:6 55:18</p> <p>capable 47:20</p>	<p>capacities 30:2</p> <p>capacity 14:11 19:2 113:5 131:3</p> <p>capital 1:21 74:12 115:5</p> <p>capture 21:2 47:17 164:12</p> <p>capturing 181:13</p> <p>car 143:12</p> <p>carbon 19:16,20 20:6,11 21:2,8,9 24:10 127:6,10,15 140:3</p> <p>card 139:20</p> <p>cards 41:3</p> <p>care 68:19 148:19</p> <p>career 29:22 32:20</p> <p>careful 174:9 176:12</p> <p>carry 71:14</p> <p>carrying 113:5</p> <p>cascaded 48:2</p> <p>case 75:2 76:7 86:18 91:4 98:18 149:9 172:8 174:21</p> <p>cases 26:17 78:13</p> <p>Cashell 2:16 42:12 69:15,16,17 90:22 91:1 94:6,7</p> <p>Casper 31:4</p> <p>categorical 118:11,20 124:4</p> <p>categories 106:22 156:2</p>	<p>category 118:18</p> <p>caught 39:4</p> <p>cause 58:18 80:2 118:15</p> <p>caused 115:20 118:1 143:15</p> <p>center 1:11 2:15 3:10 11:16 42:11 62:4 105:12 147:15 159:15</p> <p>centered 166:20</p> <p>centers 71:5</p> <p>central 3:2 40:10 71:12 103:3 169:19</p> <p>CEO 2:9 41:18 43:2</p> <p>CEQ's 174:3</p> <p>certain 180:5 188:10</p> <p>certainly 11:15 12:10,19 22:6,16 23:7 26:10,21 27:7 38:16 69:13 131:17 145:20</p> <p>certainty 108:3 124:22</p> <p>CERTIFICATE 200:1 201:1</p> <p>certify 200:3 201:4</p> <p>chair 18:2</p> <p>chaired 40:5,8</p> <p>chairman 2:9 41:17 43:19</p> <p>challenge 18:17 20:11 27:6 80:14 89:1,17 92:12,16 185:17 186:18</p>
--	---	---	--

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>challenges 10:11 15:22 22:20 25:8 27:17 28:9 39:2 44:12 46:16 71:2 72:8 74:18 82:13 90:4 100:7 148:12 152:8 162:10 179:6 181:2 194:2</p> <p>challenging 36:5 172:6 177:4</p> <p>champion 100:9</p> <p>chance 15:10 40:13 93:5 98:7 144:2,6 145:11 190:19 195:2</p> <p>change 41:3 63:11 87:14 112:4 131:16 132:18 133:1 135:21 148:12,16 152:11 167:16 168:11 169:10 177:18 178:8 181:9,14,16 182:8 198:6</p> <p>changed 75:15 95:19 110:12</p> <p>changes 58:17 109:8 112:1 132:20 186:21 190:10</p> <p>changing 38:22 53:20 74:22 153:1</p> <p>channel 16:13</p> <p>chaos 166:21</p> <p>characteristics 160:19,21 164:20</p>	<p>charge 84:19</p> <p>charges 48:15</p> <p>chart 127:4 128:8 131:1</p> <p>charts 188:18</p> <p>chat 39:21 154:3,4,5,16 155:2,12 156:10,13 157:2,8,13,18 158:20 160:1 163:16 164:11</p> <p>CHAT's 156:22 179:10</p> <p>cheat 138:22</p> <p>Cheyenne 1:12 4:5 8:22</p> <p>choose 156:8</p> <p>Chris 3:8 147:12 153:13</p> <p>chunks 166:9</p> <p>chutes 188:8</p> <p>circled 164:2</p> <p>circumstances 106:15 118:14 169:1</p> <p>cited 185:3</p> <p>citizens 49:4</p> <p>city 50:19</p> <p>clarifications 99:22</p> <p>clarify 143:5</p> <p>class 43:9 172:3</p> <p>classified 9:4</p> <p>Clay 2:21 102:20 103:10,11,12 131:14,15</p>	<p>136:4,6 139:16,17 145:1</p> <p>clean 6:8 44:4 58:11 81:2,8,12 104:19 148:11</p> <p>clear 19:14 20:22 32:22 48:2 58:12 85:12 91:6,8 129:17 141:3,6 170:11 173:17 188:18</p> <p>clear-cut 67:15,16</p> <p>clearinghouse 162:5 164:7</p> <p>clearly 17:4 20:14 38:14 39:1 58:21 84:20,22 128:14 130:1 165:22 177:9</p> <p>client 183:8</p> <p>climate 2:15 17:3 27:6,10 42:11 62:4 148:12 168:10</p> <p>clock 42:20</p> <p>close 6:20 109:9</p> <p>closed 191:19</p> <p>closely 30:12</p> <p>closer 57:6 190:9</p> <p>closing 108:6</p> <p>CO2 21:5,12,13,18,20 ,22 22:4,8,11 23:3 26:9 127:11 128:1 129:1</p> <p>coal 9:2 11:12,13,14,18 12:8 15:7 19:10 20:19,20 21:8</p>	<p>23:11 25:17 29:18 30:5 31:5 34:6 43:9 50:11 111:5</p> <p>coarse 162:21</p> <p>Coast 25:10 99:2</p> <p>co-chaired 15:3</p> <p>codified 79:17</p> <p>coherent 129:12</p> <p>coincide 187:19</p> <p>co-lead 73:1</p> <p>collaborate 33:2 84:13 90:18 113:10</p> <p>collaboration 36:11 84:4,11 86:3 89:8,10 117:8 153:19</p> <p>collaborations 162:17</p> <p>collaborative 32:15 88:2 95:18 177:1</p> <p>colleague 17:9 26:10</p> <p>colleagues 197:14</p> <p>collected 129:11</p> <p>collection 120:8</p> <p>Colorado 50:6 54:21 178:15</p> <p>combined 63:1 170:5</p> <p>comes 10:2 67:1 112:20 115:3 128:10 131:1 138:11 161:8 176:2 182:14</p> <p>coming 27:13 31:9</p>
---	---	---	--

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

149:8 159:5 163:22 167:22 182:18 194:12 commend 104:5 commends 77:16 comment 6:20 129:11 145:6 188:1 189:20 197:7 comments 12:21 39:17 40:20,21 52:14 59:16 64:7 83:16,19 84:17 85:21 86:1 89:14 99:13,14,16,17 100:22 102:1 125:10 128:3 130:5,15 140:19 147:4 171:11 196:3 197:4,20 199:5,6 Commerce 17:20 commercial 121:6 122:20 commercially 120:22 commission 15:6 59:4 64:8 commissions 61:16 commitment 155:8 191:6 commitments 116:8 committed 19:15 20:22 23:5 36:10 Committee 4:20 46:14 77:20 81:19	commodity 110:8 common 58:20 105:15 124:20 125:16 143:6 156:12 172:22 commonly 154:8 190:7 communicable 141:1 communicated 98:15 communicating 56:11 communication 93:2 94:17 105:13 communities 35:19 43:18 51:7 62:9 67:1 100:16 148:9 community 61:15 65:3,4 66:10 67:16 68:20 69:2 90:8 compact 57:15 58:18 59:11 84:18 85:2 87:21 88:8,11 96:18,22 135:16 136:1 compacted 59:6 compacts 57:22 58:8 84:10 88:4 92:5,22 companies 22:21 24:1 77:6 78:16 81:20 82:18 104:7,21 108:4 120:8 131:18 136:8,9 140:10 145:13	company 1:21 49:14 69:20 74:1 114:5 115:7 120:7,10 compared 193:3 compatibility 54:12 compelled 15:1 compelling 46:15 47:17 compensate 186:11 compensating 174:6 compensation 69:6,10 compensatory 185:11 187:10 190:3,7,15 compete 115:6 competing 177:10 competition 25:16 60:19 61:3 115:7 competitions 144:13 competitively 43:15 complete 14:14 46:4 78:18 165:17 201:8 completely 142:9 189:21 completion 121:7 complex 51:5 69:22 complexity 132:19 compliance 80:1	complicated 173:1 complications 86:12 components 135:7 161:20 comprehensive 44:9 65:10 127:11 128:22 129:20 130:11 concentrate 53:16 concept 14:16 87:21 concern 54:11 155:20 156:6 concerned 48:14 59:5 108:1 concerns 24:18 63:2 64:11 66:22 67:16 68:22 concise 83:16 133:21 conclude 199:14 concluded 199:16 conclusion 83:2 conclusions 117:18 133:21 concrete 174:13 176:21 condemnation 15:8 condensate 176:6 condition 161:2 conditions 20:2 conduct 6:1,13 86:13 108:4 conference 1:11 44:15
--	--	--	--

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>conferences 101:4 confined 136:11 confirmed 13:21 conflict 150:16 conflicting 47:11 173:3 conflicts 37:7 155:8 confusing 56:6 99:8 173:3 confusion 143:15 congestion 38:21 congratulations 7:15 Congress 58:6 88:5 conjunction 156:20 connect 128:16 connected 55:2 connection 63:19 68:8 connections 181:12 connectivity 156:5 consensus 5:7 consequences 27:19,22 107:15 125:20 145:21 Conservancy 169:16 conservation 54:13,19 55:3 67:18 81:22 133:9 152:19 154:20 155:14 156:14 169:6,8,12</p>	<p>170:9,10 176:1 184:2 186:1,3,15 188:21 189:10 193:10 conserve 166:1 170:6,8 conserved 170:13 190:8 conserving 155:10 167:17 173:13 190:17 consider 8:22 58:22 78:17 84:9 95:3 107:9 120:21 127:5 130:16,18 145:15 173:22 177:16 consideration 150:2,3 185:14 187:2 195:12 considerations 149:5 150:8 153:17 163:18 considered 81:9 96:18 128:2 131:12 175:6 193:7 considering 120:2 135:21 163:19 consistency 53:5 97:17 98:2 107:4 187:13 consistent 53:1 86:8 87:3,4 97:13 110:1 170:5 consistently 53:20 consolidate 174:19 constantly 87:14</p>	<p>constituency 56:7 constitutes 173:17 191:10 constrained 160:19,20 construct 47:6 constructed 80:4 176:5 constructing 129:18 construction 64:16 76:11 consult 73:13 consultants 94:20 consultation 105:16 180:9 192:21 193:5 consultations 72:12 consulting 134:10 consumer 109:18 consumer-owned 50:1 consumers 50:3 61:19 98:21 124:8 consuming 78:9 contemplated 55:10 112:2 contending 132:22 content 65:18 context 15:16 19:8,22 61:5 84:17 85:9 89:12 90:6,17 109:4 110:7 129:6,9 179:18 180:2,3</p>	<p>Continental 114:8 continual 179:14 continue 10:11,13 11:20 16:14 22:17 28:10,11 37:15 77:8 78:2 101:21 142:2,3,17 146:1 189:10 193:16 194:10 continued 3:1 52:9 140:21 continues 6:7 175:11 continuing 74:22 contract 85:2 88:19 contracted 121:1 contracting 121:6 contractor 4:10 contractors 123:8 contracts 122:20 contrarian 182:7 contrary 198:14 contrasted 126:2 contribute 160:1 control 60:12 109:13 controlled 97:6 controlling 13:9 166:21 convene 101:5,10 convening 18:3 101:3 conventional 30:4 141:10 conversation</p>
--	--	--	--

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>44:12 96:12 99:15 converting 189:3 converts 125:16 cool 178:16 coop 100:17,20 cooperate 113:10 cooperating 74:5 cooperation 2:2 5:13 62:9 75:1 78:21 79:20 91:3,5,8 94:14 97:8 154:12 162:15 cooperative 43:4 50:14 72:19 91:17 125:12 129:10 cooperatives 43:13 46:21 50:1 51:6 86:19 coordinate 93:14 116:9 coordinated 72:20 coordinating 105:7 150:6 coordination 44:18 46:17 52:22 75:2,6 78:20 79:6 94:17 115:18 116:4,6 137:3 162:12 copies 54:2 core 141:10 166:7,17,19 168:4,5,19,21 169:18 170:5 Corp 43:5,12</p>	<p>corporate 17:21 Corporation 2:10 41:19 43:3 Corps 80:21 107:6 correct 123:18 129:3 143:18 201:7 corrected 129:9 correctly 42:5 corridor 122:5,10,17 124:5 129:3,20 149:18 150:19 corridors 10:3 36:13 97:6 128:13,16,22 129:6 139:6 150:22 152:9 153:4 154:19 174:14 cost 24:6 60:13 61:19 72:4 89:15 106:14 108:5 127:14 140:11 162:22 cost-based 50:12 costly 115:4 costs 24:9,12 74:9 81:14 105:21 140:12 162:22 council 2:13 18:1 42:3 87:20 147:17 150:6 154:10 155:22 counsel 3:11 14:10 57:13 200:10,13 countries 114:11 country 6:16,18 7:10 11:11 12:9</p>	<p>13:6 16:3 20:1,7 23:2 24:17 25:15 27:16,21 31:14,16 35:17,19 38:16,20 39:1 57:8 60:18 99:1 103:19 104:11 125:17 131:5 169:11 198:4 county 50:19 73:10,13 couple 4:16 52:21 69:7 84:2 91:1 97:12 111:15,16 116:3 118:8 127:19 130:3 133:2 141:17 173:10 193:14 198:22 course 12:4 22:2,18 25:15 36:1 107:15 139:7 145:16 155:2 156:6 168:12 188:18 court 73:15 89:1 200:1 201:5 court's 73:15 cover 65:4 116:3 covered 53:12 77:3 covering 16:20 54:10 67:11 covers 43:13 64:15 65:17 117:5,7 126:1 create 35:19 47:19,20 86:12 136:22 143:16 173:22</p>	<p>created 18:11 26:3 54:10 55:5 68:17 114:6 156:1 173:10 creating 95:18 136:20 164:21 175:4 creative 175:13 186:19 credit 169:21 credited 46:22 credits 171:6 183:21 184:7 critical 40:3 53:16 81:3 82:4 83:9 105:7 108:9 148:6 167:17 172:6 critically 32:3 cross 33:7 50:19 61:4 98:20 122:6 154:13 187:16 cross-agency 26:16 crossing 122:5 136:20 137:18 Crowell 3:11 147:17 crucial 115:9 149:18 154:4,7,17 155:16 156:1,3,16 crude 120:12 CSG 88:11 cultural 37:8 149:2 cumbersome 105:3</p>
---	--	--	--

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>current 36:13 46:6 82:13 107:16 108:2 157:10 189:1</p> <p>currently 45:9 51:10 60:13 64:16 105:3 122:1 137:4 157:12</p> <p>curve 182:3</p> <p>customers 70:3 75:19 77:12 83:10 98:20 122:20,21 124:7,15</p> <p>cut 17:5 56:20 101:15 153:9 166:5</p> <p>cuts 192:12</p> <p>cyber 25:11</p> <p>cycle 25:1</p> <hr/> <p style="text-align: center;">D</p> <hr/> <p>D.C 93:17 113:22 198:16</p> <p>daily 181:16</p> <p>Dakota 22:9 25:13 70:5 114:17 121:2,15</p> <p>Dakota's 121:12</p> <p>damaged 113:5</p> <p>damming 144:19</p> <p>darn 139:17 183:3</p> <p>darts 182:16 183:5</p> <p>data 26:14,16,17,20 27:2 64:14,17 65:15 120:18 123:14,16</p>	<p>125:14 129:11 147:7 154:8 155:12 156:2,3,8,16,20 157:4,8 158:20 161:11,18,22 162:1,2,3,11,22 163:2,4,8 164:20,21 165:14,16 170:20 172:10,13,14,17, 18 174:18 175:2,5 177:1,6 179:11,15 180:10,20,21 181:3,5,7,8,13,1 4,20 184:16,18,22 185:4,6 192:3,15 195:15</p> <p>database 65:12 67:3 158:4,6,12 163:14 181:10</p> <p>databases 68:20 152:5</p> <p>date 83:22 124:15 146:22 173:21,22</p> <p>David 111:2</p> <p>day 13:10 21:12,19 103:20 114:12 121:10,12 165:12 198:5</p> <p>days 13:22 25:16 28:1 49:11 170:3</p> <p>DBC 160:2</p> <p>deadline 131:21</p> <p>deadlines 89:3 106:10 116:15 131:20 132:1,7</p>	<p>134:11 139:22</p> <p>deal 91:19 97:22 106:7 112:5 129:4,19 130:2 148:13</p> <p>dealing 135:8 137:18 138:11</p> <p>dealt 69:22</p> <p>decade 35:6</p> <p>decades 28:2 30:3</p> <p>December 159:5</p> <p>decide 79:10</p> <p>decided 73:18 74:9 137:21 156:2</p> <p>decision 12:15 45:11,20,21 54:16 55:20 58:15,22 65:20 73:16 74:15 81:16 82:3 91:9 98:8 112:2 116:9 124:20 134:18 145:5,9 151:9,14 155:15 164:4,19 179:18 192:15</p> <p>decision-making 58:20</p> <p>decisions 33:15 54:6 59:4 78:13 79:2 82:4 119:4 135:12 151:16 161:7</p> <p>declining 75:14 169:7 184:2</p> <p>decreasing 23:3</p> <p>dedicated 85:16</p> <p>dedication 53:18</p> <p>deduction 24:17</p>	<p>deem 176:17</p> <p>deep 13:14 114:13</p> <p>deeper 29:2 101:11 135:15</p> <p>deer 174:15 175:16 176:13</p> <p>deers 176:9</p> <p>Defense 17:20</p> <p>defer 15:2 136:7,15</p> <p>deferring 45:21</p> <p>deficiencies 129:5</p> <p>define 84:20,22 157:18</p> <p>defined 155:17 191:10</p> <p>defining 183:15</p> <p>definite 171:9</p> <p>definitely 89:17 190:4</p> <p>definition 85:12 107:17 110:3 156:1</p> <p>definitions 145:14 154:9</p> <p>delay 73:14 89:16 117:2 124:9</p> <p>delaying 81:3</p> <p>delays 45:19 63:6 105:5,21 115:4,16,17,18,2 0 116:2 118:1 130:3</p> <p>delegate 135:9</p> <p>delegating 124:21</p> <p>delighted 8:21</p> <p>delightful 110:17</p>
--	---	---	--

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>deliver 43:15 45:14 49:22 85:7</p> <p>delivering 72:5</p> <p>delivers 133:7</p> <p>delivery 104:7,21</p> <p>demand 19:10 36:13 71:6 133:10</p> <p>demanding 83:2</p> <p>demise 109:10 112:17</p> <p>demonstrate 60:8 63:18</p> <p>demonstrated 100:16</p> <p>demonstrates 154:11</p> <p>demonstrating 106:4</p> <p>demonstration 21:2 23:12</p> <p>Dennis 7:6</p> <p>Denver 153:15</p> <p>department 2:2 4:3,4,11,12 5:14 14:4,6 17:12,13,19 18:4,19 20:12 26:12 29:5 30:17 38:14 41:13 51:18,22 52:15 54:3,17 55:11 59:14,18 61:2,13 72:22 74:4 75:5 98:3 108:7 142:5,7 151:10 152:15 165:8 171:13 193:13 197:12 199:3,9</p>	<p>departments 5:8 40:12</p> <p>depend 66:4 77:12</p> <p>dependence 18:21 19:4</p> <p>dependencies 25:19</p> <p>dependent 167:13</p> <p>depending 53:20</p> <p>deployed 49:2</p> <p>deployment 24:5 193:22</p> <p>deposition 200:5,8,12</p> <p>depreciation 128:5</p> <p>Deputy 2:2 5:12</p> <p>DEQ 75:3</p> <p>derailed 62:22</p> <p>described 44:14 53:9</p> <p>deserves 62:20 117:18</p> <p>design 60:20 193:9</p> <p>designated 141:10</p> <p>designation 55:3</p> <p>designations 54:9,13 82:5</p> <p>designed 51:15 57:21 157:3</p> <p>desire 39:8 117:20</p> <p>Desktop 158:2</p> <p>Despite 92:8</p> <p>detail 27:21</p> <p>detailed 154:22 155:3 163:2</p> <p>determine 58:16</p>	<p>127:13</p> <p>develop 6:15 17:14 28:10 30:13 36:6 74:22 75:18 96:5 127:11 148:15 149:16 154:13 169:21 174:21 178:9 179:1 181:3 187:18 193:6</p> <p>developable 150:1</p> <p>developed 9:16 14:15 57:14 60:21 66:15 67:20 122:19 123:9 124:10 151:18 154:9 157:22 179:10,12 191:15,21</p> <p>developer 64:19 170:15 187:16</p> <p>developers 62:10 68:21 75:17 101:5 151:4 154:14 158:9 187:7</p> <p>developing 7:21 10:14 22:17 34:14 71:3 81:19 105:11 144:13 148:22 153:3 162:17 164:6 179:3 183:4</p> <p>development 30:5 35:13 37:6 38:13 43:9 51:9 55:14,22 56:10 58:10 74:9 85:11 86:5 90:14 106:17 107:20 110:2 118:7</p>	<p>121:3 123:10,12,21 141:18 144:16 148:8 149:21 150:12,15 151:1,11 152:9 156:15 159:19,21 163:9,20 164:3 171:20 172:7 174:21 175:11 176:18 180:7 185:20 186:12 193:17,19,22 194:15</p> <p>developments 194:8</p> <p>develops 153:21</p> <p>diagram 160:14 162:20</p> <p>dialogue 52:9 101:21 142:3,14,17</p> <p>die 166:10 170:19</p> <p>dies 49:17</p> <p>differ 86:12 98:17</p> <p>difference 64:5 68:19 99:20</p> <p>differences 98:9</p> <p>different 16:2 20:6,7 36:9 47:2 49:11 65:22 67:12 69:11 88:13,14,15 90:10 92:7 95:14,15 96:2,4 100:3 105:16 107:7 110:3 112:19 128:11 138:8 151:13 161:8 164:20</p>
---	--	--	--

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>178:17 179:17 186:21 193:3</p> <p>differential 126:10,21</p> <p>difficult 12:16 49:10 56:15 78:8 81:4 87:5,16 94:13 97:21 121:19 183:6 190:13</p> <p>difficulty 75:18,22 82:10</p> <p>dig 101:11 135:15</p> <p>dimensions 106:2</p> <p>dioxide 127:6,10,16</p> <p>direct 38:15 51:13 62:3 92:21 159:14 192:20</p> <p>directing 5:22</p> <p>direction 23:5 53:13 111:20 154:1 186:22 200:8</p> <p>directional 141:12 174:20</p> <p>directives 191:22</p> <p>directly 180:10 194:17</p> <p>director 2:2,18,19 3:4,9,12 5:12 14:2 42:14 46:2 102:19 103:5 125:8 147:14,20</p> <p>directs 6:13</p> <p>disadvantage 77:2</p> <p>disappointing 46:20</p>	<p>discourse 56:21</p> <p>discover 162:4</p> <p>discovered 114:8 127:22</p> <p>discretion 116:11</p> <p>discuss 13:4 52:22 154:3</p> <p>discussed 11:17 24:11</p> <p>discussing 49:11</p> <p>discussion 11:21 15:1 19:1,7 98:17 163:19 180:11,16 193:5 195:15</p> <p>discussions 122:14 165:22</p> <p>disentangle 173:5</p> <p>displace 176:8</p> <p>displacement 176:10</p> <p>displayed 161:20</p> <p>displays 154:6</p> <p>disposal 174:11</p> <p>disproportionality 115:20 116:4 118:1</p> <p>disproportionate 118:4 130:7</p> <p>disputes 116:19</p> <p>distance 69:4</p> <p>distinct 4:11 84:2</p> <p>distinguished 41:16 83:19 102:2</p> <p>distracting 63:7</p> <p>distributing 25:6</p>	<p>distribution 32:11 33:5 46:12 70:10,11 86:20 104:13,17 108:3 136:8,9 174:1</p> <p>district 94:1,2 116:20</p> <p>districts 50:2 107:7</p> <p>disturbance 175:1</p> <p>dive 113:14</p> <p>diverse 29:15 43:8</p> <p>diversify 43:22</p> <p>DNA 165:19</p> <p>doable 135:22</p> <p>docket 65:9</p> <p>Doctor 8:6,11</p> <p>document 185:2</p> <p>documentation 162:3</p> <p>documents 58:1 176:15 185:1</p> <p>DOE 44:17 48:9 57:20 59:8 60:6 75:4 79:18 93:13 150:20 151:21 163:15 165:7 193:15 194:16</p> <p>DOE's 61:11 79:3</p> <p>dollars 20:21 21:1 23:20 29:14 59:17 72:3 126:17</p> <p>domain 67:19 68:4 69:9</p> <p>domestic 18:1 34:22 104:19</p> <p>done 6:16 7:2</p>	<p>10:13,15 11:14,18,19 26:7 27:12 33:1 49:16 66:22 78:4 85:12,14 89:18 91:12,18 92:9 97:19 114:2 119:14 122:18 129:13 133:13,17 134:8,15,22 140:22 169:14 171:12 198:7</p> <p>door 68:3 177:11</p> <p>doors 191:19</p> <p>dots 170:21</p> <p>double 28:3</p> <p>doubled 35:3</p> <p>doubt 44:11</p> <p>doubtful 47:8</p> <p>downloadable 156:16</p> <p>Dr 2:2 5:12,17 8:8 13:12 28:20 40:16 102:20 103:10,11 131:14,15 136:4,6 139:16,17 145:1 147:14,19 159:8,10 171:17,18 184:13 189:20 191:1,3 197:12,15,22 198:1</p> <p>draft 73:21</p> <p>drafting 79:18</p> <p>Drain 7:6</p> <p>dramatic 112:12</p>
--	---	--	---

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>dramatically 66:5 110:12 133:2 167:20</p> <p>draw 99:16 155:3</p> <p>drawing 95:17</p> <p>dreams 75:17</p> <p>drill 35:8</p> <p>drilling 141:11,12 174:20</p> <p>drive 24:10,12 143:11</p> <p>driven 18:10 79:9</p> <p>driver 163:22</p> <p>drivers 194:13</p> <p>driving 19:16 24:9 59:20</p> <p>dropping 169:9</p> <p>dry 19:20</p> <p>ducks 47:15 100:10</p> <p>due 47:8 73:19 131:5 168:14</p> <p>duly 200:5</p> <p>dumb 189:17</p> <p>duplication 53:11 117:2 119:8</p> <p>duplicative 117:14 119:5</p> <p>durability 186:10,14 188:19</p> <p>durable 168:9 189:11</p> <p>duration 82:20</p> <p>during 14:11 55:10 74:13 75:16 105:19</p>	<p>145:16 153:16</p> <p>duty 16:19</p> <p>dwarf 170:4</p> <p>dynamic 18:18 167:16</p> <hr/> <p style="text-align: center;">E</p> <hr/> <p>EAC 61:12</p> <p>Eagle 82:8 114:14</p> <p>earlier 8:15 89:12 91:12,18 95:12 144:10 149:5,12 152:13 160:4 167:21 168:6 178:9</p> <p>early 68:1 79:5 105:19 118:6 141:8 149:16 150:2 151:7 165:21 168:8 173:22 175:6 178:19 179:7</p> <p>earnest 170:1</p> <p>EASELY 84:16</p> <p>easement 54:13,19 55:4 188:22</p> <p>easements 46:17 107:2</p> <p>easier 91:19</p> <p>easily 155:12</p> <p>Easley 2:9 7:5 41:17 42:21,22 43:2 84:14 87:10 99:11,12</p> <p>East 25:10 92:16 193:3</p> <p>Eastern 54:20 92:7</p> <p>Eaton 3:6 147:10</p>	<p>148:3,4 153:7 177:22 178:2 185:16 193:12 195:3</p> <p>ecological 121:5 143:18</p> <p>economic 23:1 44:6 58:9 60:11 77:15 117:21 159:20</p> <p>economics 160:12,17</p> <p>economy 6:9 9:9 17:6 19:17 28:11 32:2 43:22 111:4,5 125:21</p> <p>ecosystem 112:8,16 130:10</p> <p>ecosystems 138:12</p> <p>edge 54:20 190:14</p> <p>edicts 191:14</p> <p>Edison 2:18 42:15 76:20</p> <p>educating 179:4</p> <p>education 64:14 66:7 89:8 90:18</p> <p>educational 52:10</p> <p>EEI 77:5,16 79:3,8 80:10</p> <p>EEI's 81:18</p> <p>effect 88:19,22 160:17 176:13</p> <p>effective 62:9,10 81:22 108:5 127:14 174:4 175:20</p> <p>effectively 51:2 55:5 56:11 115:2</p>	<p>effects 188:4,5</p> <p>efficiency 19:11 20:16 184:17</p> <p>efficient 120:17</p> <p>efficiently 115:2</p> <p>effort 15:16 16:2 18:2,8 32:15 129:7 155:7 160:3 163:15</p> <p>efforts 11:15 32:1 48:16 51:15,22 77:8 78:2 88:3 104:6 106:3 163:17 164:13,14 173:19 178:3 184:2 194:9</p> <p>EIA 21:16 125:14</p> <p>eight 44:17 45:20 75:12</p> <p>eighth 46:5</p> <p>Einstein 46:22 100:1</p> <p>EIPC 95:9,22</p> <p>EIS 46:4 55:13,20 73:22 124:6 182:11 185:3</p> <p>EIS's 73:21</p> <p>either 15:7 35:9 187:20</p> <p>elaborate 15:12</p> <p>elect 71:22</p> <p>elected 7:19 65:20</p> <p>electric 2:18 30:7 42:15 43:3,13,15 44:13,21 46:20 57:14 58:4,15 70:9 76:20 79:19 81:2 83:3 94:21</p>
--	---	---	--

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>95:1 136:18</p> <p>electrical 47:6 178:10</p> <p>electricity 10:9 12:10 25:7,21 49:22 50:13 61:11 71:15 77:14 83:1,4,5 150:6 178:6 179:4 193:18</p> <p>elevation 116:19 181:4</p> <p>eleven 9:21</p> <p>eligible 127:16</p> <p>eliminate 105:20 143:14</p> <p>else 110:15 120:5 138:5 146:3 170:12 181:5</p> <p>elsewhere 148:20 169:21 188:13</p> <p>email 199:6</p> <p>embarked 71:7,10</p> <p>embedded 51:7</p> <p>emergency 80:7 107:1</p> <p>emerging 176:17</p> <p>eminent 67:18 68:4</p> <p>emissions 23:4,15</p> <p>emphasis 162:12</p> <p>emphasize 22:13,17 23:8 178:21 198:17</p> <p>employed 200:10,14</p> <p>employee 200:13</p> <p>employees 29:14</p>	<p>53:18 85:18</p> <p>employing 21:14 183:4</p> <p>enable 24:14</p> <p>enabling 79:5</p> <p>enacted 58:5</p> <p>encompassing 55:4</p> <p>encourage 61:2 77:7 142:2 144:11,16 189:8,16 191:8</p> <p>encourages 107:20</p> <p>encouraging 106:5 151:10</p> <p>Endangered 81:15 133:14</p> <p>endure 117:14 186:17</p> <p>Energetics 2:4 4:9,10 199:10</p> <p>energy 1:4 2:3,5,9,15,17 3:6 4:3,5,11,12,13 5:8,14,19 6:2,4,6,7,8,15 7:1,9,21 8:13,14 9:1,9,16 10:3,4,14 11:22 12:7,9 13:16 14:2,4,5,7,15,17 15:14,18,19 16:22 17:2,5,10,12,15, 16,21 18:4,9,15,19,21 19:11 20:3,6 21:16 23:9 24:15,16,17 25:5,6 27:3,8</p>	<p>28:10,16 29:10,11 30:4,14 31:13 32:3 34:1,5,15 35:15,17,18 36:1,6,13 37:5 39:1 41:13,19 42:10,13 43:2 44:1,5,9 45:3,15 48:21 51:22 54:3,22 55:9,11,12,17,21 58:5,10 59:1 60:2,3,17 61:12 62:4,6 63:5,19 69:18,20 70:2,21 72:6 73:6 75:14 77:10 91:14 93:11 96:18 98:3 100:6,13 101:3 103:15 107:15,21 108:7,9,11 110:10 115:3 118:2,8 125:15,18 128:17 131:13 142:8 144:15 147:11 148:7,11,15 149:15,22 150:1,11,12,19,2 2 151:5 153:14 154:19 155:13 156:14 159:19 160:3 163:19 164:1,3,9 171:20 172:2,7 174:2,9,19,22 175:10 176:15,18 177:7 179:5 185:7 186:13 193:18,22 194:8</p>	<p>197:12 199:3,10</p> <p>Energy's 2:3 5:14 52:15</p> <p>enforceable 188:22</p> <p>enforcement 29:11,12 106:9</p> <p>engage 67:22</p> <p>engaged 16:10 110:15 112:7 113:14 149:14</p> <p>engagement 63:9 79:6 104:6 140:21 145:11 194:20</p> <p>engaging 179:4 193:20</p> <p>engineering 72:11</p> <p>engineers 60:19 80:21 107:6 178:14</p> <p>engrained 134:18</p> <p>enhance 32:3 44:6 77:14 104:16</p> <p>enhanced 21:3 127:8 128:1</p> <p>enhancing 43:16</p> <p>enjoy 31:9</p> <p>enjoyed 13:3</p> <p>enormous 38:17 71:1</p> <p>ensues 78:19</p> <p>ensure 6:6 44:7 61:15 166:10 186:16</p> <p>ensured 83:5</p> <p>ensuring 114:21</p>
---	--	--	---

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>enter 79:11 116:7,22</p> <p>entered 44:18</p> <p>entities 94:15 104:22 111:14 162:4,19 169:13 182:15</p> <p>entity 192:12</p> <p>envelope 23:16</p> <p>environment 3:13 9:10 17:5 31:15 32:5 83:7 109:8 147:21 151:4 161:4</p> <p>environmental 2:18 24:18 34:14 37:7 42:15 57:17 58:11 63:2 68:22 72:11 73:1,12 74:4 76:6 80:20 104:2 107:19 117:3,4,6,13 118:12,16,22 119:3,6 123:5 149:2,5 150:3,8 151:8 152:6 160:12,20 186:16 187:8 188:12 189:2 193:17</p> <p>environmentally 22:19</p> <p>EOR 21:12,15,18 22:5,8,12</p> <p>EPA 107:16 145:5,22 182:21</p> <p>EPSA 40:10</p> <p>equally 86:15 179:3</p> <p>equals 58:14</p>	<p>equation 52:7</p> <p>equities 17:14 40:12</p> <p>equivalent 114:12</p> <p>era 109:22</p> <p>Ernest 2:5</p> <p>erode 189:14</p> <p>error 197:8</p> <p>ESA 82:4</p> <p>escape 27:21</p> <p>especially 63:1 121:20 135:5 148:8 165:11</p> <p>essential 6:9 131:11</p> <p>essentially 55:21 73:18 185:21 191:5</p> <p>establish 116:11</p> <p>established 161:19</p> <p>establishes 58:22</p> <p>establishing 55:13 60:15 106:21</p> <p>estimated 72:4</p> <p>estimates 121:11</p> <p>evaluate 173:18</p> <p>evaluated 175:21</p> <p>evaluating 58:14 59:1</p> <p>event 159:11</p> <p>events 64:1,3</p> <p>eventually 156:9</p> <p>everybody 8:9 43:1 120:2,5 162:2 180:17</p> <p>everybody's</p>	<p>143:19</p> <p>everyone 4:3,6,7 30:21 33:10 40:20 48:5 75:12 102:4 142:4 146:18 195:4 196:9</p> <p>everyone's 184:11</p> <p>everything 77:2 110:2 111:14 122:16 133:11,12 134:14 135:3 139:1 156:4 159:17</p> <p>exactly 9:22 141:6</p> <p>exaggerate 67:15</p> <p>examining 6:3</p> <p>example 18:7 20:19 22:6 25:10,13 26:4 38:20 48:22 54:15 78:9 88:7 99:2 106:19 107:5 116:13 117:2,16 121:22 131:20 138:3 140:2 145:6 163:12 174:13 176:2,16 181:11,15</p> <p>examples 92:9</p> <p>exceptions 134:21</p> <p>exchange 5:1</p> <p>exchanges 175:17</p> <p>excited 191:3</p> <p>exclusion 54:8 124:4</p> <p>exclusions</p>	<p>118:12,20</p> <p>exclusively 120:12</p> <p>excuse 42:4 156:18 157:14</p> <p>execute 85:6</p> <p>executing 47:21 49:3</p> <p>execution 100:10</p> <p>executive 2:19 18:5 77:19 102:18 125:8 161:19</p> <p>exemplifies 17:9</p> <p>exhausting 198:8</p> <p>exhibiting 186:20</p> <p>exist 59:11 88:22 128:14 130:17</p> <p>existing 47:9 53:11,14 77:9 81:5 82:12 107:2 122:3,4,9,17 124:5 143:16 153:2,4 198:15</p> <p>exists 181:6</p> <p>expand 43:22 89:9 104:18 162:16</p> <p>expanding 163:21 187:17</p> <p>expanse 151:13</p> <p>expanses 31:4</p> <p>expansion 22:4 81:10 150:7 167:11</p> <p>expansive 104:11</p> <p>expect 132:18 157:19</p> <p>expectations</p>
---	--	---	---

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>116:12 expected 28:2 expecting 21:18 47:2 expedite 45:2 84:5 89:2 136:3 150:17 177:21 expediting 107:12 expense 74:12 experience 5:4 29:2 30:3 36:4 51:13 94:22 95:1,2,4 115:16 122:11 125:11 139:5 182:20 experienced 45:18 51:3 experiences 52:13 174:8 experiments 172:20 175:10 expertise 10:21 11:5 experts 147:7 180:10,14 explain 68:15 93:1 explaining 64:5 explicit 151:22 explore 61:13 export 9:1 10:7 70:20 75:10 exported 125:16 exports 19:5 express 45:8,10 101:6 114:1 145:4 expressed 41:11</p>	<p>78:7 79:3 104:8 expressions 157:15 extend 145:5 extended 74:8 extending 50:17 extensive 6:13 13:15 externally 158:19</p> <hr/> <p style="text-align: center;">F</p> <hr/> <p>face 79:22 90:4 112:17 132:19 133:18 136:19 152:9 188:7 faced 82:18 192:12 facilitate 96:11 117:7 facilitator 4:14 facilities 21:22 33:6 36:4 44:22 45:3 46:12 50:10 51:4 69:21 71:20 75:7 78:6,8 facility 31:6 facing 109:16 188:9,10 fact 11:10,11,12 17:12 21:15 26:20 36:17 65:16,19 78:15 80:7 91:7 111:12 115:14 120:15,18 121:13 131:6 132:1,21 133:1 167:20 168:21 182:12,16 183:1,6 184:9</p>	<p>195:6 factor 160:8 facts 5:5 130:4 fail 137:10 failure 61:18 70:14 73:12 76:13 failures 80:1 faint 128:10 fair 48:12 63:13 74:17 fairly 63:20 65:9 162:21 198:5 familiar 29:17 33:20 161:21 familiarity 51:1 family 199:3 fancy 189:14 fascinating 60:21 fashion 141:4 Fast 127:19 fatal 127:15 fauna 69:4 favorite 109:2 feat 13:22 features 81:7 federal 4:19 6:5 8:3 10:17,19 12:3,22 27:3 28:14 29:1 30:1 32:13,21 34:3,21 38:12 44:17,19,22 46:6,17,18 47:9 48:11 50:8,19 51:12 53:1,4,5,7,14,18</p>	<p>54:5,12 55:3 58:4,6,13 71:17 77:7,9,20 78:3,7,13,18,21 79:9,11,20 80:5,10 81:10,21 83:11 85:18 86:15 87:2 88:6,8,18 91:5 92:13 94:15 96:10,20 97:1 101:21 102:16 104:22 105:6,14 106:5,8,14 107:9 116:9 117:6,7,12,15,19 121:19,21 122:5,6 123:13 132:4,9,11 139:10 140:16 158:7 162:13,15,17,21 177:17,19 178:4,22 180:2 183:13,19,22 184:1,5 185:15,17 187:14 189:8 192:4,7,8,16 193:7 194:6 199:3 Federally 97:5 federal-state 59:10 fee 107:11 feel 34:12 39:20 42:7 87:11 99:15 feeling 17:16 fees 82:19 fellow 13:19 197:9 FERC 57:20 79:20 131:7 134:8</p>
---	---	---	--

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>FERC's 117:16 fertilization 175:16 fewer 37:6 field 49:15 53:8,18 80:15,19 93:21 97:14,15,17 114:22 123:8 127:21 128:7,11 129:5 133:7 135:13 139:7 172:15 173:1 fields 127:16 Fifth 107:9 fighting 4:22 figure 10:18 85:9 figuring 195:8 filed 72:21 73:11 filing 58:2 128:21 filings 65:9 158:14 final 38:6 39:12 117:17 143:22 144:7,22 146:12,17 195:1 finally 27:5 42:14 48:5,18 82:11 107:9 123:20 158:18 164:16 financial 50:13 61:15 financially 74:7 200:14 finding 38:11 75:19 112:20 113:7 findings 118:20 fines 79:22 firm 58:18</p>	<p>first 6:1 14:17 17:2 18:8 25:1 67:22 80:8 93:10 94:9 106:4 108:15 114:18 116:7 118:2,10 130:21,22 138:20 139:20 150:3 151:2,19 154:3,14,21 164:5 172:16,22 173:4,8 180:4 182:9 183:12 184:14,15 196:18 198:2 firsts 139:1 fish 29:20 154:20 156:4 182:21 188:17 fisherman 8:18 fishing 8:16,17 110:5 111:7 143:9 155:21 fits 106:20 five 93:6 106:2 120:22 125:10 126:17 138:16 143:3,22 168:6 five-minute 42:19 fix 128:18 flaw 127:15 fleet 30:9 flexibility 88:16 156:7 flexible 20:9 flipside 194:4 floating 114:18 floor 5:16 42:21 103:10 197:5</p>	<p>flora 69:3 fly 109:11 Flyaway 103:3 Flyway 3:2 focus 19:13 23:9 25:2 26:20 27:14,15 32:10 53:13 59:7 64:14 70:7,13 102:15 120:12 151:6 159:16 171:21 180:19 186:9 focused 16:4 25:3 79:5 90:12 149:4 focusing 18:11 25:4 folks 12:12 13:9 37:11 53:8 56:14 57:19 76:14 97:16 99:3 111:14,15 141:1 149:15 159:12 165:1 166:13 169:8 180:14 food 109:6 foot 154:17 footnote 40:1 footprint 168:20 force 96:1 130:15,18 138:19 144:1 185:13 186:8 190:21 Ford 114:14 foregoing 200:3,5 foregoing/ attached 201:7 foreign 125:17,18 forest 52:5 75:4</p>	<p>76:7,9 94:2 184:9 forever 170:13 forget 89:22 forgotten 19:3 form 91:13 120:17 121:13,16 128:19 199:7 formal 58:1 137:2,9 171:11 formalizes 191:6 formally 176:8 formation 45:1 formed 114:7 former 141:4 forming 58:7 forms 115:17 formulation 39:11 forth 48:16 144:13 fortunate 28:20 30:11 forum 5:1 101:8 forward 8:4 10:1 12:2 13:7 17:2 19:12 22:22 23:22 24:2 28:18 31:18,20 33:16 37:10 39:16 55:12,22 105:22 111:22 124:11 127:19 130:14 138:19 142:15 148:22 158:17 164:9 167:12,22 168:5 169:4 171:7,10,14 172:15 183:15 187:5 189:7</p>
---	--	---	---

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>199:13 fossil 20:18 foster 117:21 foundation 65:16 founded 49:21 77:4 founding 14:2 Fourche 3:5 103:7 120:1 Fourth 107:4 Foxx 40:7 fragmentation 141:14 framework 51:5 58:8 156:12 168:8 frankly 15:15,19 24:6 26:16 27:18 39:3 90:14 141:3 191:15 free 39:20 frequent 105:5 176:7 fresh 122:16 Freudenthal 111:2 166:14 front 68:3 91:22 120:3 132:16 141:7 193:6 frustrating 85:15 137:15 frustration 149:7 FTRC 64:17 fuel 11:10 fuels 19:18 20:8,18 25:7 140:3 fulfill 124:13</p>	<p>fulfilled 99:15 full 61:12 101:19 121:9 124:6 142:9 146:6,19 fully 36:10 112:7 128:2 function 144:19 183:9 functionality 181:21 functionally 188:2 functions 60:14 fund 193:16 fundamental 150:3,9 funded 163:15 funding 53:7 115:6 142:20 169:7,9 future 9:19 10:12 11:18,20 13:7 15:6 17:21 19:20 20:5 21:18 24:11 27:19 28:16 111:3 128:5 142:22 148:11 157:18 187:21 190:3,4 194:3,8</p> <hr/> <p style="text-align: center;">G</p> <hr/> <p>Gallant 76:7,8 game 27:1 156:4 198:6 gaps 26:16 130:16 gas 2:21 9:5 19:2,9 22:2,16 23:15 26:8 29:18 30:5 34:5,22 35:1,5 43:9 50:11</p>	<p>70:10,11 95:2 102:16,21 103:13,17,18 104:7,13,14,16,2 1 107:20 108:3,6 110:1,18 111:4,14 114:5,20 115:5 117:16 120:9 122:9 126:2,3,9,12 127:3 130:18 131:3,6,11 141:18 145:13 166:18 167:4,8 173:11 174:21 176:7 Gasification 22:10 Gateway 45:8,18 78:10 101:6 gathering 40:11 176:6,10 177:10 geared 24:5 168:4 general 7:19 89:13 171:22 generally 86:21 generate 49:22 183:21 generated 72:6 generation 2:11 35:2 41:22 50:10,18 55:17 60:10 70:21 71:1,3,4 98:11 geographic 3:10 147:15 159:14 161:6 geographical 39:6 159:18 geography 88:14</p>	<p>160:6,7,21 Geologic 192:12 geologists 10:22 geospatial 151:12,22 158:19 159:16 161:22 164:7,8 192:11 geothermal 30:7 gets 90:7 112:11 114:22 190:8 getting 26:7,13 47:15 80:14 82:21 87:4 92:9 100:10 109:17,18 112:8 123:8 131:2 140:21 141:2 143:17 150:17 165:1 girth 66:21 GIS 156:19 159:11 164:4 179:11 GIS-based 154:6 given 84:19 85:4 100:19 136:16 139:5 190:19 200:9 gives 129:4 133:3 166:19 giving 33:19 102:1 166:17,18 195:18 goal 24:3 125:1 127:13 141:14 143:5,6,13,19 goals 32:2 44:3 48:3,4 100:6 104:8 140:4</p>
--	---	--	--

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>Golden 82:8</p> <p>government 8:3 10:19 12:3 13:1 17:13 27:3 29:2 30:2 32:14,22 38:12 49:2 57:13 77:8 78:4 83:12 87:21 96:11 105:6,17 106:7 114:7 115:12 132:4,9 140:2</p> <p>governmental 72:12</p> <p>governments 2:13 28:15 42:3 58:13</p> <p>Government's 9:17 26:1 123:13</p> <p>governor 2:8 7:8,14,20 8:4,6,8 13:12 16:17 20:19 24:12 31:11 34:6 111:21 128:21 139:2 160:4 164:4 166:14</p> <p>governors 3:8 111:2 112:7 113:9 147:13 149:17 153:14,22 154:5,10 155:8,22</p> <p>Governor's 7:3 164:1</p> <p>grandchildren 109:19</p> <p>grandkids 110:5 143:7</p> <p>grant 24:4</p> <p>granular 171:1</p>	<p>graph 125:22 126:5,10,20</p> <p>grassroots 66:10,13</p> <p>gratifying 160:5</p> <p>great 8:19 10:20 11:3,7,17 12:14,16 15:11 22:9 23:6 24:13 27:21 31:4 51:1 62:7,19 82:2 88:7,10 89:6 94:22 96:14 100:8 106:7 107:14 120:21 130:15 135:4 142:10 181:3 191:13,17</p> <p>greater 47:7 81:16,20 184:15</p> <p>greatly 19:8</p> <p>Green 176:3</p> <p>greenhouse 23:15</p> <p>grid 81:2 83:3 127:11</p> <p>ground 10:17 31:7 33:10 66:4,20 90:1 109:17 117:5 141:1 171:2 175:14 178:12 189:19 192:9</p> <p>group 5:7 15:3 21:7 43:8 62:16 85:1 90:7,8 91:13</p> <p>groups 62:13,18 88:6 187:8</p> <p>grouse 109:3 166:1</p>	<p>grow 10:12 28:11,12 32:2</p> <p>growing 18:21 24:16 35:1 71:6 107:21 172:8 174:16</p> <p>grown 25:17</p> <p>growth 77:15</p> <p>Guarantee 23:12</p> <p>guess 87:3 132:16 134:16 142:2 178:4 192:2</p> <p>guests 41:8 83:19</p> <p>guidance 130:5</p> <p>guide 154:22 172:18</p> <p>gum 182:17</p> <p>guys 37:14 184:4</p> <hr/> <p style="text-align: center;">H</p> <hr/> <p>habitat 81:21 82:4 113:1 149:18 154:4,7,17,20 155:16 156:1,3,5,16 166:2,9,15 169:17,20 171:2 175:16,17,19 176:13 188:11</p> <p>habitats 149:21 156:5 166:17 168:22 169:18 170:17 186:1</p> <p>half 34:18 50:2 73:7 121:6</p> <p>halt 74:10</p> <p>Hamerlinck 3:9 147:14 159:8,10 180:19 187:22</p>	<p>192:2</p> <p>hamstrung 87:12</p> <p>hand 66:14 184:18</p> <p>handholds 119:7</p> <p>hands 65:19,21 66:3 142:12</p> <p>hanging 39:18</p> <p>happen 10:19 63:10 83:13 94:16 142:20 153:1 185:19 193:5</p> <p>happy 56:16 100:21 144:4</p> <p>hard 29:18 30:6 35:14 36:11 40:6 45:6 53:17 85:19 87:7 137:6 141:2 151:2 164:1 166:6 181:2,7 190:12</p> <p>harm 80:2 81:2</p> <p>hat 33:12</p> <p>haul 98:10</p> <p>haven't 27:11 134:22 144:1</p> <p>having 13:3 24:13 59:9 67:15 81:11 95:3 99:14,15 110:7 131:21 142:4,6,9 148:8 165:8 180:5 181:22</p> <p>head 61:1 137:5</p> <p>headlines 120:16 123:3</p> <p>headlong 139:14</p> <p>headquarter 93:20</p>
---	---	---	--

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>headquartered 114:5</p> <p>headquarters 78:22 80:17</p> <p>heads 18:11 110:21</p> <p>health 67:19 69:5</p> <p>hear 8:11 26:22 68:1 78:15 108:18 112:6 147:3 160:5 190:7 196:3,9,12,15 197:16</p> <p>heard 84:2 115:15 130:2,6 131:17,18 149:7 153:18 162:9 165:21 177:13,21 195:1 197:13</p> <p>hearing 8:4 33:17 37:10 39:16 58:2 64:4 68:10 142:13 198:13 200:3</p> <p>hearings 58:19,20 89:3</p> <p>hearts 47:18 98:16</p> <p>heavily 71:9 182:10,11,12</p> <p>heavy 53:19 140:21</p> <p>height 61:6</p> <p>heightened 27:15</p> <p>helium 9:6</p> <p>he'll 31:19</p> <p>help 7:9 11:10 18:13 57:11 64:6</p>	<p>92:22 96:19 101:12 132:4 135:11 140:12 151:14 158:9,16 162:3,5 173:18 179:6 194:1 199:6,7</p> <p>helped 15:5</p> <p>helpful 5:2 19:22 47:4 52:10 87:9 100:20 101:1,4 142:12 194:10</p> <p>helping 7:6 29:15 199:10,12</p> <p>helps 163:17 175:2</p> <p>Hemingway 45:22</p> <p>hereby 200:3 201:4</p> <p>Here's 174:13</p> <p>hereto 200:14</p> <p>he's 112:12</p> <p>hierarchy 174:3,6</p> <p>high 8:17 36:14 43:15 57:14 60:13 92:4 100:5 106:11 189:16</p> <p>higher 185:5</p> <p>highlight 125:10</p> <p>highlights 52:21</p> <p>highly 25:3 167:13 181:4 189:21</p> <p>highway 99:6</p> <p>highways 121:12,16</p> <p>hiring 123:7</p> <p>historic 37:8 174:14</p> <p>historically 51:16</p>	<p>89:20 95:14</p> <p>history 18:19 54:20 172:7</p> <p>hit 74:13</p> <p>Hladik 2:14 42:4,5,7 62:2,3 89:7,11 95:7,8</p> <p>Hladik's 98:14</p> <p>hold 97:3 141:20</p> <p>holding 89:3 139:21</p> <p>Hole 16:19</p> <p>home 63:17 184:12</p> <p>homes 69:4</p> <p>honestly 17:11</p> <p>honey 109:7</p> <p>honor 4:12 5:11 13:13 14:19</p> <p>Honorable 42:1</p> <p>honored 147:6</p> <p>hope 46:8 47:12 99:18 100:2 101:20 150:16 171:8 186:8 197:19</p> <p>hopeful 124:12</p> <p>hopefully 31:19 52:10 92:21 158:16 170:2</p> <p>hopes 75:17</p> <p>hoping 164:15 196:2</p> <p>horizon 126:12</p> <p>Horn 127:20</p> <p>host 36:6 157:17</p>	<p>hosts 157:17</p> <p>hours 101:16</p> <p>house 2:13 42:2 46:13 68:11 158:6 198:12</p> <p>housed 155:1 158:19 192:22</p> <p>housekeeping 4:17</p> <p>housing 156:21</p> <p>Hub 164:9</p> <p>huge 29:15 30:9 36:22 75:11</p> <p>Huh 178:16</p> <p>human 80:2</p> <p>hundreds 27:13 36:8</p> <p>hunting 110:5 111:6 143:9 155:21</p> <p>hydrocarbon 19:6</p> <p>hydropower 30:8</p> <hr/> <p>I</p> <hr/> <p>Iceland 60:19</p> <p>I'd 15:17 41:4 44:15 54:1 100:12 121:22 130:4 137:13 140:19 141:6 145:1 165:7 177:15 180:3 181:19</p> <p>Idaho 46:1,2 71:12 73:3,17,19 75:5 88:12</p> <p>idea 63:11 65:14 110:4 132:3 136:2 162:7</p>
--	--	--	---

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>170:22 185:4 Ideally 175:6 ideas 33:17 37:10 45:5 111:17 135:4 191:17 identified 45:12 55:18 94:12 128:13 identify 26:16 37:5,19 67:14 118:14 150:1,11,21 171:3 identifying 59:21 125:12 139:6 152:18 IIP 52:19 53:9 54:2 79:4,8,13,16 I'll 15:12,13 56:4 72:18 74:21 89:11 108:19 118:19 136:6,7 138:21,22 141:19 152:14 154:3 171:21 178:14 180:19 187:22 197:2 I'm 12:5,6 15:1 29:7 31:6 37:9,13 39:18 47:3 49:16 56:3,16 69:17 70:6,13,16 75:20 103:8 108:20,22 113:21 119:14 125:7,9 128:9 137:14 138:13 141:20 143:13 144:4,14 149:4,8 153:13 164:15 165:9,13,16</p>	<p>177:11 182:6 184:14 190:18 imitate 144:19 immediate 133:10 immediately 108:22 impact 54:6,15 76:6 83:6 118:3,16,21 119:3 148:13 149:2,20 160:7 173:7,11,12 174:4 186:12 188:14 190:2 impacts 28:6 61:4 118:22 126:19 148:9,14 175:18 impede 81:10 82:6 impediments 136:21 impeding 118:7 implement 15:9 142:18 implementation 53:2 86:11 97:14 142:16 193:10 implemented 86:8 137:4 implementing 14:17 82:8 implication 81:17 implications 17:4 implies 24:22 importance 19:16 22:17 27:18 167:18 193:4 important 15:16 16:6,11 25:22 26:13,19,21</p>	<p>27:7,20 28:7 32:4 34:12 37:3,4,7 39:6 49:14 51:11 52:6 63:18 65:18 86:6,15 87:2 89:21,22 93:22 98:2,4,5 103:15 109:3,15 110:7,10 138:10 152:21 155:18,20 157:5 160:7,22 164:12 166:9 169:18 171:3 174:10 187:13 192:13 194:19 195:11 198:9,18 importantly 173:17 imports 18:22 19:3 impose 105:3,5 imposed 107:5 impractical 105:3 improve 44:5,18 55:7 68:9 77:9,18 83:8 88:2 115:12 144:14 151:3 172:10 173:19 177:7 improved 78:21 105:13 improvement 9:15 77:10,22 175:17,19 179:15 improving 53:13 105:7 106:9 168:3 184:1</p>	<p>inaccurate 123:17 inaudible 9:13 67:9 175:7 inbox 40:21 Inc 2:4 incentives 116:15 169:10,20 incentivize 169:11 183:22 184:4 include 6:12 63:8 64:22 65:8,9 106:1 130:9 138:19 155:5 156:8,11 158:12 included 14:14 44:3 57:22 93:8 140:13 includes 38:19 156:4 including 30:5 35:21 70:20 71:3 94:18 130:10 133:17 155:19 income 126:16 inconsistencies 26:17 inconsistent 82:7 117:17 incorporate 37:4 168:17 177:20 incorporated 179:13,15 incorporating 149:4 150:7 152:12 195:5 incorporation 149:16 151:8 increase 69:4 82:3</p>
--	---	---	---

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>141:12 144:14 increased 19:8 53:7 increases 82:19 163:1 increasing 18:22 82:16 141:15 incredible 34:10 incredibly 110:9 142:12 increment 188:6,12 incumbent 56:8,12,14 indeed 105:8 Indian 32:17 82:12,20 indicate 196:17 individual 4:21 5:4 81:12,13 86:10 129:5 155:1 192:8,9 individuals 5:10 64:9 96:2 industrial 21:21 industrialized 189:21 industries 111:10 169:13 industry 35:6 79:19,22 103:15 112:3 113:8 115:8 120:9 133:12 135:22 136:12 155:9 166:13 175:2 176:4 180:15,22 inefficiencies 63:3</p>	<p>inertia 93:16 inexpensive 174:5 inform 27:2 155:14 177:6 information 3:10 5:1,3,5 21:16 52:17,19 64:18,22 66:21 147:15 149:12,17 151:8,12 152:1 155:4 156:17,18 157:9,14 158:2 159:3,15,18 161:9 162:18 163:8 164:18 172:16 178:17 179:12,17 181:18 192:5,14 193:18 informational 154:13 173:10 informed 46:3 infrastructural 53:16 infrastructure 1:6 2:9 6:4 7:1,4 11:1 15:19 16:7 22:5,7 25:5,8 27:8 28:22 30:4,14 32:10,20 38:13,19 39:2,3 41:18 43:20 44:2,13 47:7 59:13 71:4 77:10,21 81:5 83:1,10 85:10 94:1 98:1 100:7,18 101:2 102:16 103:16 104:10,15 107:15,21 108:9</p>	<p>109:15,17 114:3 115:13 125:11,13,20 126:7,14,20 127:2 128:6 138:20 148:16,22 149:20 152:18 153:2,5 161:8,10,11,13,1 8 162:9,11 164:18 171:22 174:3,10,20 175:8 176:9,11 192:3,6 194:14 inherent 21:4 inherently 89:20 initial 100:14 124:16 initially 17:3 124:3 Initiative 14:2 149:19 176:19 initiatives 45:5 47:10 48:2 77:17 187:5 inland 38:21 inner 6:2 innovation 23:9,17 28:13 innovative 24:2 107:10 132:3 140:8 input 4:21,22 16:3,12,14 28:18 39:9 40:9 52:12 58:3 91:10 101:20 103:14 118:13 Insanity 47:1 insect 109:13</p>	<p>inseparable 9:11 inside 115:7 166:17 insist 48:19 installed 114:18 instance 182:9 instances 188:4 instead 94:1 Institute 2:18 3:13 42:16 76:21 127:9 147:20 173:9 176:20 instituting 132:5 institutional 63:12 134:18 institutionalizes 191:6 instructing 124:1 instructional 123:22 instrumentality 43:20 intact 166:2,8 integrate 60:4 164:13 168:8 integrated 11:16 52:18 79:4 integration 65:1 integrative 44:9 intended 71:14 145:20 149:19 180:8 intensity 148:7 149:9 intentions 87:13 inter 25:18 interact 56:12</p>
--	---	---	---

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>161:3 interaction 81:18 180:9 interacts 161:4 interagency 26:5,15 52:18 78:20 79:4 115:18 116:5,8,19 138:3 163:13 Interconnect 92:7,8 interconnection 71:9 interest 17:18 51:14 66:10 157:14,15 interested 7:22 31:6 32:16 38:11 66:12 114:21 142:13 173:7 183:8,9 190:12,17 200:15 interesting 34:11 90:6 102:11 130:3 153:19 interests 33:4 59:12 138:8 189:3 interface 37:11 Interior 2:7 5:8 12:12,17 17:9,19 26:12 29:5 30:17 31:17 33:18,21 38:14 40:5 41:14 45:11 54:18 55:3,11 59:8 98:2 142:5 152:15 165:8 166:5 168:2,15</p>	<p>171:13 193:13 Interior's 4:4 51:22 intermix 183:12 internal 191:22 internally 51:3 156:21 interpretation 86:11 interpretations 82:7 intersection 171:20 interstate 45:13 46:10 57:14 92:17 98:10,21 99:6 131:6 Intertie 70:18 71:13 Interties 91:5 intimidates 68:13 intimidating 64:4 introduce 5:11 13:14 14:19 29:3 30:16 41:10 122:1,6 introducing 41:15 121:20 197:9 introduction 7:13 invest 170:16 invested 59:17 investment 59:21 117:21 169:12 183:22 184:1,3 186:4 investments 20:13,15,16,17 23:10 83:1 115:5</p>	<p>186:15 investor-owned 77:6 103:18 invisible 174:18 invited 159:12 inviting 60:6 involved 44:20 52:3 75:6 86:5 92:14 110:17 113:14 116:12 137:20 182:10,11,12 involvement 169:6 involves 51:12 66:8 involving 53:4 106:6 ironic 189:1 irreplaceable 177:5 isn't 63:21 109:16 134:5 139:11 169:22 isolating 55:21 issue 12:10 75:11,13 103:15 107:14 108:9 109:16 112:10,14 113:15 139:9 169:19 issued 5:21 45:20 issues 13:4 16:21 17:5,16 18:12,13 21:8 26:8 27:15 36:7 38:21 46:11,20 49:12 54:14 57:11 61:8 69:22 73:20 75:6</p>	<p>88:12,13,15 89:4 101:11 102:17 109:1 119:9,11 125:13 130:1 132:19,21 133:19 134:1 136:20 150:10 152:12 160:8 164:17 178:12 179:5 183:11 185:16 186:6 195:5,12 items 153:20 it's 5:11 13:13 15:7,11 16:11 18:13 21:10 24:5 28:5,7 30:15 31:8 34:9 37:3,4 42:6,7,17 51:11 56:15 63:18 78:10,22 84:17,18 85:1,2 86:6 87:5,15 88:20 89:4,16,22 90:5 91:13 93:2 95:13 96:7 98:10,11 99:5 103:13 109:3,15,18 112:10 113:4,22 135:19 136:11 137:6,7 140:4,15 145:6 153:19 159:10 161:1,3,14 163:3 164:2,12,19,20,2 2 165:9,19 167:5 168:9 169:9,17,22 172:6 173:5 178:16 179:16 180:20,21 191:13,16 192:13 197:18</p>
--	---	--	--

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>I've 31:8 49:16 69:18,22 77:1 84:2 97:12 102:9 141:21 146:4 164:2 177:13 178:14 183:9 190:19</p> <hr/> <p style="text-align: center;">J</p> <hr/> <p>Jackson 12:7 16:18</p> <p>Janice 2:6 26:11 29:21 30:10,17</p> <p>January 5:22 7:14 14:3 16:16 44:3 73:17</p> <p>Jeff 3:9 147:14</p> <p>Jefferson 73:10</p> <p>Jeffries 2:19 102:18 103:8 125:5,6,7 130:20,22 136:14,15 137:5 138:21,22</p> <p>Jewell 40:5</p> <p>job 32:8 33:18 59:20 68:21 85:14 87:13 134:9 148:14 153:11</p> <p>jobs 17:6 28:12 35:20 97:16 198:5</p> <p>John 197:15</p> <p>Johnathan 2:14 42:4 72:14</p> <p>join 40:14 41:4 102:1,6,12 105:13 146:9,13 195:17 198:6</p>	<p>joined 165:10 191:20</p> <p>joining 4:7 182:17</p> <p>jointly 40:5 55:11 150:20 191:21</p> <p>Jonah 182:12 188:8</p> <p>judicial 58:21</p> <p>July 71:21 123:21</p> <p>June 17:3 54:15,17 72:21 73:4</p> <p>jurisdiction 48:15 81:10</p> <p>jurisdictional 33:7 81:7,9 135:21 138:8</p> <p>jurisdictions 36:9 138:11</p> <hr/> <p style="text-align: center;">K</p> <hr/> <p>Kaliszewski 196:21</p> <p>Kansas 2:13 42:2 67:13 88:14 155:7</p> <p>Karen 2:2 5:12,16 14:22 18:8 30:19 197:12</p> <p>Kasperick 196:22 197:2</p> <p>Kathryn 2:21 102:20 103:11</p> <p>Kemper 22:7</p> <p>key 48:11 57:19 84:6 106:8 113:8 117:1 119:9 192:10</p>	<p>keys 168:7</p> <p>Keystone 123:3</p> <p>kick 7:12</p> <p>kids 143:8,9</p> <p>kilometers 176:11</p> <p>kilovolt 71:11</p> <p>kindly 37:20</p> <p>kinds 33:7 151:11 162:18 163:9 178:4,12 194:13,14</p> <p>kit 159:4</p> <p>knew 166:21,22</p> <p>knowledge 13:15 198:15</p> <p>knowledgeable 53:2</p> <p>known 52:16,19 87:5 158:3 176:8</p> <p>Korfanta 3:12 147:19 171:17,18 191:1,3</p> <p>KORFONTA 184:13 189:20</p> <hr/> <p style="text-align: center;">L</p> <hr/> <p>lack 46:19 56:1 75:1 115:18 116:3 126:6,13 174:18</p> <p>lackey 111:16</p> <p>lacking 78:22 128:6</p> <p>lag 78:14</p> <p>Lakes 88:7,10</p> <p>Lance 3:11 147:17 165:6,7 182:5,6</p>	<p>188:2 191:12 192:19</p> <p>land 2:7,11 26:10 29:4,9 34:3,16 35:13 36:9,14,21 41:21 43:14 44:22 49:18 53:5 54:11 55:2,15 59:8 80:5,10 81:7 82:12,20 86:20 88:15 89:19 92:13 113:5 148:10 155:13,14 169:8,17 175:3 179:1 185:20,21 186:3 194:6,18</p> <p>Lander 12:14 127:21</p> <p>landmark 108:10</p> <p>landowner 170:15</p> <p>landowners 62:10 67:22 68:1 90:8 194:7</p> <p>landowner's 55:4</p> <p>lands 34:18 38:15 46:17 50:20 51:13 52:5 53:4 55:14 61:5 71:17 80:14 81:8 97:4,7 111:11,12 121:21 183:13,19,22 184:1,5 185:18 186:2,11 187:15 188:20,21 189:8</p> <p>landscape 151:13 152:17 183:14</p> <p>landscapes 187:4 189:22</p> <p>landscape-scale</p>
--	--	--	---

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

Page 27

<p>168:7 language 57:22 58:5 96:22 145:22 172:17 185:7 languages 59:11 large 32:20 35:21 36:20 75:18 76:1 82:18 115:6 118:14 131:5 136:10 166:1,8 192:18,20 largely 110:18 117:15,17 136:7 larger 57:11 large-scale 175:17 largest 34:2,3 43:3 54:18 170:3 last 13:20 15:10 17:3 18:16,19 25:9 31:8 35:4 40:6,13 52:1,20 77:2 103:8 113:1 127:1 133:2 135:15 136:16 144:20 175:14 181:19 late 18:20 72:19 198:5 lately 62:7 later 31:4 69:13 119:12 124:15 174:5,7 latest 74:6 Latham 30:1 latitudes 28:4 Laughter 119:15,19 139:4 law 7:18</p>	<p>laws 86:7,8,11 lawyer 165:9 lay 110:11 layers 162:2 lead 23:14 28:12 63:6 134:9 137:21 138:1 leader 31:16 113:15 leaders 66:13 leadership 43:17 47:13,19 84:5 100:15 106:4,8 108:8 110:15,22 111:10 112:5 113:7 132:9 134:12 141:4 leading 165:22 190:13 leads 109:7 learn 8:1 172:9 175:10 176:16 learned 84:7 99:19 130:17 146:4 167:22 173:20 learning 182:2 leasable 35:14 lease 35:5 leasing 35:12 least 19:6 21:18 39:9 59:7 62:11 66:17 78:11 91:4 98:6 150:2 leave 13:2 109:19 led 15:4 39:1 44:22 73:13 104:1 105:9 128:4 176:4</p>	<p>leg 133:3 legal 30:2 legislators 57:8,16 legislature 128:21 legitimate 63:1 length 71:16 less 33:20 144:17 167:20 174:5,22 176:13 189:13 lessen 189:4 lessons 8:2 84:6 89:10 130:17 173:20 let's 133:14 134:5 148:2 153:6 175:9 185:10 Letter 52:22 53:9 letters 54:2 64:7 level 35:9 37:5 53:7 63:10 78:15,22 79:1 86:4 87:1 90:19,21 92:4 93:21 94:20 105:17 107:10 116:20 118:22 119:12 126:14 129:8 135:9 140:9 157:2 161:16 162:15,21 163:3,4 180:22 192:4 levels 39:5 78:3 105:16 106:6,10 132:8 185:15 193:9 LGS 176:16 liaisons 107:11</p>	<p>Liaison's 192:11 liberty 133:20 licensing 30:8 LIDAR 181:4 life 6:9 43:17 44:7 80:2 82:22 142:11 light 31:19 77:16 128:12 143:12 likely 155:17 187:21 194:13 limitation 141:13 limited 49:13 87:15 190:1 line 43:6 45:10,13 46:16 48:12 50:17 57:15 64:20,21,22 65:3,11 67:11 81:18 122:2,3,4,8,9 187:17 linear 33:6 69:21 lines 33:5 38:18 58:4 61:4 64:15 65:4 68:16 69:11 70:9,10,11,12 81:17,20 82:6 89:15 92:18,21 95:15 131:10 lining 169:19 links 65:8 158:18 liquids 120:17 176:6,9 list 8:17 67:20 listed 72:17 166:3,4 167:5 listen 39:19</p>
---	---	---	---

(866) 448 - DEPO

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>listened 109:2</p> <p>listening 100:2 110:13 147:2 184:14 196:11 197:6,11</p> <p>listing 81:16 82:2,4 112:2,19 133:10 166:22 167:1,4</p> <p>literacy 192:14</p> <p>litigated 190:3</p> <p>litigation 115:21 119:7 172:17</p> <p>little 1:11 15:13 31:8 33:19 36:18 39:19 40:1 49:20 63:17 65:2,7 67:7 70:2 72:1,19 88:1 94:21 110:17 112:11,13 114:4 126:1 127:10 128:10 135:15 164:1,2 175:5 180:20 185:6,10</p> <p>live 51:5 52:4 86:6 87:6,8 99:9</p> <p>lives 49:17 62:21 77:14</p> <p>livestream 4:8 101:18 196:9,11,13</p> <p>livestreaming 41:9 83:18 102:13 147:3</p> <p>living 148:19</p> <p>LLP 3:11</p> <p>load 50:10 56:8,13 71:5 90:11 99:1</p>	<p>loads 50:7</p> <p>loan 23:12 24:4</p> <p>local 2:2 5:13 18:12 32:17 33:4 53:7 63:14 65:20 78:22 83:11 86:9,17,21 87:1,11 90:19 94:15 96:19 102:16 104:22 105:14 124:21 132:13 136:9 162:19 163:3,4 177:14 180:21 182:14</p> <p>localized 63:10 89:20</p> <p>located 50:4</p> <p>location 161:1 175:18,19</p> <p>locations 50:21 170:21</p> <p>long 33:6 76:8 98:10 126:17 172:7 195:14 197:18</p> <p>long-asset 82:22</p> <p>longer 31:20 39:19 92:11,17 101:16</p> <p>long-term 157:12 186:12</p> <p>loop 122:2,3</p> <p>losing 109:12</p> <p>loss 176:13</p> <p>lost 112:22 113:2 126:13,15 133:22 165:9 197:18</p> <p>lot 12:11 29:17</p>	<p>32:19 34:22 35:11,12 59:18 64:8 65:4,17 66:9 68:14 70:8 85:19 89:7,15,16 91:19 92:5,7,16 93:14,16 97:19 146:4 165:22 166:13,15,16 168:4 181:1,5 188:4,5 190:2 191:7 193:12</p> <p>lots 56:20 70:20 71:2 74:17 147:1</p> <p>loudly 177:11 178:1</p> <p>Loughery 2:18 42:14 76:17,18 92:3,4 93:9,11</p> <p>Louisiana 126:3</p> <p>low 19:16 20:5,11 24:10 150:11,16 162:22</p> <p>lower 19:20 28:4 73:15</p> <p>lowest 35:9 135:9</p> <p>Loyd 7:6</p> <p>LTE's 64:6 67:9</p> <p>luck 13:9</p> <p>Luis 54:21 55:16</p> <p>lying 27:17</p> <hr/> <p style="text-align: center;">M</p> <hr/> <p>macro-siting 154:18</p> <p>Madam 39:13 57:2</p> <p>magnitude 15:15</p> <p>main 6:21 66:22</p>	<p>153:17,20</p> <p>maintain 47:6 83:9 138:10 189:6,16</p> <p>maintained 161:15 179:12</p> <p>maintaining 46:12,16 50:13 61:9 141:15 164:21 174:13</p> <p>maintenance 80:7 81:5 82:6 179:14</p> <p>major 16:2 17:14 18:7 19:2,7 20:13,15,16,17 23:7,10 24:2,6 25:19 27:14 33:22 34:19 38:21 39:2 71:20 75:7 76:12 81:17 114:20 172:14</p> <p>majority 42:8 133:17</p> <p>maker 58:22</p> <p>makers 65:20 98:8 151:14</p> <p>mammals 109:11</p> <p>man 7:11 13:14</p> <p>manage 6:15 28:15 29:15 50:16 120:10 131:9 172:4 181:8</p> <p>manageable 22:20 25:3</p> <p>managed 36:14 183:18</p> <p>management 2:7 19:11 29:4,9,10 34:3 53:5</p>
--	--	--	--

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>80:5,11,13,16 81:19 104:1 124:2 127:21,22 128:13 156:15 163:14 174:12,16 175:3 183:17 194:6,18</p> <p>Management's 34:16</p> <p>manager 2:11 34:3 41:21</p> <p>managers 53:3</p> <p>managing 22:21 23:3 29:17</p> <p>mandatory 79:21</p> <p>maneuver 14:6</p> <p>mankind 166:3</p> <p>manned 71:9</p> <p>manner 91:17 108:5 122:22 143:13</p> <p>map 166:6 170:21 174:18</p> <p>mapping 160:2</p> <p>maps 154:7 155:4 158:8</p> <p>marbles 184:11</p> <p>Marcellus 114:15</p> <p>market 36:3 75:15 114:22 175:18</p> <p>market-based 173:12</p> <p>markets 75:15</p> <p>mass 43:14 169:16</p> <p>massive 118:3</p> <p>match 128:15 139:6</p>	<p>material 147:1</p> <p>Matt 2:8 111:3 197:14</p> <p>matter 39:17 85:7 169:7</p> <p>may 37:11 46:12,19 58:6,9 59:14,20 60:1 66:20 72:9 73:10 88:13 91:19 101:8 104:9 112:19 117:14 130:11 139:2 187:17</p> <p>maybe 8:17 15:2 26:8 27:8 62:11,17 63:16 65:21 66:2 77:1 96:10 134:20 186:13</p> <p>McGovern 197:14</p> <p>Mead 2:8 8:6,8 111:3 160:4 164:4</p> <p>mean 153:9 166:22</p> <p>meander 36:7</p> <p>meaning 122:20</p> <p>meaningful 68:7 145:10</p> <p>means 19:14 48:6 106:15 131:13 174:9</p> <p>meant 45:2,14</p> <p>measurable 48:4</p> <p>measure 48:19 82:1 131:17</p> <p>measures 105:15 141:8</p>	<p>meat 120:13</p> <p>mechanism 58:12</p> <p>mechanisms 162:5 173:13</p> <p>media 63:14 65:21 159:3</p> <p>meet 58:10 79:20 85:16 97:1 100:5 142:3 148:12 195:10</p> <p>meeting 1:5 4:5,14,18,20 5:10 6:19,22 7:7,12 8:15,19 16:20 28:18 60:9 83:20 109:20 116:15 132:6 135:18 140:3 141:19 146:21 151:19 153:16 196:10 197:18 198:22 199:1,11,14,16</p> <p>meetings 16:4,9 40:8 64:9 72:13 73:5,7 198:7,9,18</p> <p>megatons 21:14,20 22:11</p> <p>megawatt 71:22</p> <p>megawatts 35:18 43:5 45:14 55:17 71:15</p> <p>member 43:7 49:22 50:18 51:6 77:5 78:16 86:19 131:18</p> <p>members 43:16 66:10 90:9</p> <p>member's 50:20</p>	<p>membership 66:17 136:8</p> <p>memo 44:14 135:17,18</p> <p>memoranda 191:4 192:1</p> <p>memorandum 5:22 6:12 44:4,8 80:12 84:18 104:8 124:1 158:13</p> <p>memorialized 117:19</p> <p>mention 49:14 98:7 115:7 134:13 146:6 152:14 160:6</p> <p>mentioned 20:20 23:11 40:2 72:9 78:10 87:10,11 95:22 160:4 164:5</p> <p>merely 136:20</p> <p>messages 27:20</p> <p>messaging 141:3</p> <p>met 46:2 132:1,2</p> <p>meta 162:3</p> <p>meters 43:6</p> <p>methodically 175:22</p> <p>methodology 94:16</p> <p>methods 69:6,10 98:15 147:8 179:3 185:12</p> <p>meticulous 166:8</p> <p>metrics 173:17 176:22 191:10</p>
---	--	--	--

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>Mexico 50:6 114:14 155:7</p> <p>Meyers 1:21 200:2,20</p> <p>mic 119:14 134:4 195:22</p> <p>Michael 2:16 3:4 42:12 103:4</p> <p>Mickey 61:1</p> <p>micro 64:17</p> <p>microphone 57:6 196:4 197:17,22</p> <p>microphones 141:22</p> <p>mics 37:19</p> <p>mid 153:9</p> <p>middle 76:10 133:16 136:5</p> <p>Midwest 62:7,16,19</p> <p>migration 174:14,17 175:1</p> <p>Migratory 82:9</p> <p>Mike 2:9 7:5 41:17 43:2 69:17 113:21</p> <p>mile 43:7 46:7 70:4</p> <p>miles 36:8,20 37:1 43:6 50:4,16 65:5 70:6,8,9,10,11 71:15,18 98:22 104:12 120:11 121:14,15</p> <p>milestones 94:11</p> <p>million 34:18,20 35:5 50:2</p>	<p>74:9,11 103:20 104:12 114:11 121:15 141:9 169:17</p> <p>millions 59:16</p> <p>mind 131:1</p> <p>minds 47:18</p> <p>mine 31:5</p> <p>mineral 29:4 30:6 34:7,21 35:12,14</p> <p>minerals 2:7 9:6</p> <p>Mines 43:9</p> <p>minimal 83:6 116:16</p> <p>minimize 148:13 188:4</p> <p>minimizes 149:1</p> <p>minimizing 168:19</p> <p>minimum 66:5 68:6</p> <p>mining 29:12 30:6 35:13</p> <p>minute 189:13</p> <p>minutes 37:18 93:6 138:16 143:3,22 194:22</p> <p>misaligned 47:10</p> <p>mismatches 129:3,20 139:14</p> <p>miss 137:9</p> <p>missing 116:17</p> <p>mission 43:14,21 47:21,22 48:1,3 50:12 100:13</p> <p>Mississippi 22:6</p> <p>MIT 14:1,8</p> <p>mitigate 27:19</p>	<p>149:2</p> <p>mitigated 118:19 188:7</p> <p>mitigating 173:7,11</p> <p>mitigation 28:8 68:18 105:19 118:21 143:18 147:8 152:16,20 165:14 168:3,8 171:21 172:5,8,15,19 173:1,5,16,18 174:3,8,11 175:9,10,13,21 176:17,19 177:2,3,5 185:11,18 186:1,4,16 187:4,11 190:4,7,15,16 191:5,7,11 195:15</p> <p>mitigations 189:22</p> <p>MIT's 14:2</p> <p>model 48:10 50:22 96:1 98:18 132:13 140:15</p> <p>modeling 156:8</p> <p>models 62:8 107:12</p> <p>MODERATOR 4:2 37:17 38:2,6 39:12 40:13,18 41:7 42:9 49:6 56:19 57:5 69:14 76:17 83:15 85:20 87:19 89:6 90:22 92:3 93:4 94:5 95:6 96:14 97:9 99:10 101:14 102:4,9</p>	<p>108:13 113:17 119:16,20 125:4 129:22 131:14 132:15 134:2 135:1,14 137:1,11 138:5,13 139:15 140:17 141:16 143:1,21 144:6,22 146:3,12,16 153:6,8 159:7 165:4 171:16 177:9 179:19 180:18 182:4 185:9 190:18 194:21 195:13,20 196:7 197:3 199:15</p> <p>modernization 104:1 106:3</p> <p>modernize 104:10 114:3</p> <p>MODERTATOR 61:22 136:13</p> <p>modified 97:1</p> <p>modifying 59:11</p> <p>moment 31:12 41:3 145:4 195:22</p> <p>money 51:16 123:7 163:15 190:8</p> <p>monitoring 176:12,22</p> <p>Moniz 2:5 5:18 13:14,20 14:20,22 32:1 38:1,5,9 39:22 76:19</p> <p>Montana 69:19</p>
---	--	--	--

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>70:4,6,7,8 71:1,12 72:6,22 73:2,10,11,14 74:4 75:3,7,17 76:4,5 88:12 155:6 Montana's 70:19 month 126:4,10 150:14 157:16 monthly 126:11 months 18:16 27:9 45:10 55:20 67:5 73:20 122:13 123:19,20 157:8 164:10 monuments 54:10,12 Moring 3:11 147:18 morning 4:2 8:9,15,19 13:4 24:11 30:21 43:1 69:16 76:18 78:7 103:11 119:22 125:6 146:5 160:4,9 mostly 70:7 motivation 17:7 MOU 44:18,22 Mountain 70:18 71:12 91:4 131:4 Mountains 120:12 MOU's 116:8,11,13,18 117:1,9 Mouse 61:1 move 45:6 55:22 69:9 71:4 87:16 106:20 111:22</p>	<p>127:15 130:8 142:15 148:22 164:9 172:14 174:15 187:5 189:7 199:12 moved 171:10 movement 58:10 174:1 moving 35:15 39:10 47:22 55:12 124:11 MSTI 70:8 91:13 mule 174:14 175:16 176:8,13 multi 114:5 multi-agency 17:8 40:2 103:22 105:4 multiple 45:19 106:6 116:9 117:14 137:18 multi-state 58:3 myself 142:5 198:12 <hr/> <p style="text-align: center;">N</p> <hr/> Nadia 196:21 narrow 25:4 narrowed 25:2 narrows 126:21 national 3:2 15:21 27:10 53:3 54:10 59:1,6 70:5 76:7,9 80:11,16 86:4 93:21 94:2 96:17 103:2 104:7 114:5 117:6 118:12 161:16,17</p>	<p>162:11 164:14 191:16 192:3,5 nation's 43:12,14 44:7 83:3 100:6 nationwide 34:20 81:11 natural 3:13 21:13 46:14 50:11 70:10 103:18 104:12,14,16,21 107:20 108:3 117:16 126:2,9,11 127:3 131:3,6,11 145:13 147:21 155:11,18 159:20 173:11 174:21 176:7 nature 16:1 17:10 20:4 50:22 53:21 74:19 117:15 136:10 151:13 181:9 navigate 158:9 nearby 55:10 Nebraska 50:6 70:5 necessarily 13:18 necessary 105:1 123:9 133:20 necessity 80:15 needless 105:21 negation 82:14 negotiated 117:9 negotiation 82:16 neither 200:10 NEPA 51:19 53:2,12 86:7 97:14 118:17</p>	<p>119:4,10 129:10 130:7 134:9 158:14 184:22 185:1,6 NERC 79:21 nested 160:16 net 176:13 network 6:7 43:12 104:12 129:1 Nevada 150:16 155:6 newest 189:18 news 65:10,21 67:4 nexus 172:1 NGO's 111:16 149:15 Nice 153:11 Nicole 3:12 147:19 nine 16:10 93:12 Noah's 111:13 nobody 134:5 181:5 189:15 nominated 13:20 non 80:1 154:5 156:22 nonetheless 112:13 non-governmental 91:15 non-hydro 60:2 nor 200:10,14 Norine 196:22 normal 108:4 North 2:17 3:4 22:9 25:13 42:13 69:18,20 70:2</p>
--	---	---	---

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>73:6 103:5 114:16 121:2,12,15 Northern 120:11 Northwestern 91:14 Norway 114:6,19 Norwegian 114:7,8 note 6:11 21:17 51:11 54:5 72:13 75:21 180:4 noted 36:16 140:8 198:10 notes 4:17 77:3 199:5 201:6 not-for-profit 49:21 nothing 85:14 134:20 170:12 noticed 66:21 notion 166:21 168:18 171:6 notwithstanding 120:15 November 45:19 123:10 nowhere 110:4 NREL 194:16 NSDI 161:17,19 162:10 nuanced 66:15 118:11 nuclear 15:6 19:10 20:16 NYMEX 126:3</p> <hr/> <p style="text-align: center;">O</p>	<p>Obama 5:21 35:2 Obama's 44:8 object 5:6 189:18 objective 6:6 24:6 48:11,13 objectives 48:2,17 objects 137:10 observations 91:2 obstacles 63:6 obtain 5:7 81:12,13 105:1 obtaining 78:7 82:11 obviate 110:8 obvious 40:1 80:9 obviously 17:19 18:22 32:8 34:17,22 35:12 36:21 74:12 138:7 occupied 113:3 occur 55:14 56:1 132:8 occurred 70:8 occurring 107:7 occurs 153:16 Ocean 29:10 October 6:21 16:14 39:10 52:20 73:14 101:2 168:1 odds 177:7 184:16 offer 16:6 57:9 64:6 100:12 137:13 179:22 180:3,15 offered 35:4</p>	<p>offers 89:9 office 2:3 5:14 7:3 9:17 18:1,10 29:11 35:2 73:17 104:1 123:15,22 124:2 127:21 129:5 135:13 137:21,22 offices 86:9 87:11 96:20 97:15,17 124:21 128:7,11 137:19,20,22 139:7 192:9 official 40:21 146:7 officials 65:20 offset 140:11 175:18 188:13 offshore 29:16 114:17,19 141:18 oftentimes 160:13,18 163:4 of-way 82:14 Oh 179:8 Ohio 114:15 oil 9:5 18:22 19:9 21:3 22:2,16 25:14 26:8 29:18 30:5 34:5,22 35:5 43:9 102:15 110:18 111:4 114:5,8,12,20 115:5 120:8,12 121:2 127:8 128:1 130:18 141:18 166:18 167:4,10 okay 38:3 42:9 93:11 102:9</p>	<p>119:21 138:13 142:1 190:18 196:22 197:4,21 Oklahoma 88:14 older 143:10 Olsen 3:4 103:4 113:19,20,21 119:18 134:3,4 141:16,17 OMB 105:9,10 ones 35:21 36:22 166:12 one-size-fits-all 15:21 130:8 135:10 ongoing 54:14 134:19 157:20 178:3 online 68:9 150:18 157:10 158:4 163:14 164:8 onset 37:2 onshore 29:15 on-shore 9:4 onsite 189:22 open 16:13 37:21 59:10 65:1 68:11,20 157:16 195:22 197:5 open-ended 94:9 opening 90:13 operate 47:6 51:2 120:9 operating 81:20 operation 80:4 operational 124:14 operations 108:4</p>
--	---	---	---

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>114:10,13 operators 57:18 opinions 67:8 183:1 opponent 68:16 opportunities 6:4 11:7 15:22 59:14,21 142:22 152:7 178:3 opportunity 10:7 11:18 12:3 15:8 18:16 24:1 30:22 31:1 32:19 34:10 49:9 52:11 56:17 57:4 76:21 99:20 100:19 108:12,17 112:3 129:4 138:16 148:5 152:11 157:7 159:13,22 166:16 171:19 oppose 66:5 opposed 66:18 182:17 183:5 191:21 opposition 62:12,15,22 72:15 91:11,22 option 150:14,15 options 24:10 83:4 order 6:4 33:1 37:9 77:20 85:6 100:5 155:14 161:19 168:3,14 Oregon 155:5 organization 18:11 89:9 95:8 organizational 47:14</p>	<p>organizations 57:17 91:15 organization's 4:22 organize 18:14 organized 62:15,18 oriented 78:3 98:11 original 185:4 Orlando 60:22 others 65:14 90:4 96:11 128:3 131:18 136:12 142:7 144:6 165:14 170:4 179:13 181:15 189:9 194:16 otherwise 23:18 200:15 ours 122:4 ourselves 9:1 32:14 outcome 200:15 outcomes 107:19 outdated 75:8 outlets 159:3 outline 6:5 output 141:15 outreach 6:14 62:5 outside 6:16 99:1 overall 18:2 27:7 73:9 overcome 63:5 overlapping 160:15 overlay 171:4</p>	<p>overlying 167:15 overly 79:14 oversight 29:9 46:14 overturned 73:15 overview 154:17 overwhelming 182:1 owing 126:6,13 owners 43:8 owner's 55:2 ownership 139:10 <hr style="width: 20%; margin: 0 auto;"/> P <hr style="width: 20%; margin: 0 auto;"/> p.m 199:17 pace 148:7 PacifiCore 46:1 pads 176:7 Pam 3:6 147:10 panel 12:7 26:19 39:20 40:19 41:2,6,10,16 76:20 90:5 96:3 101:5,11,17 102:2,5,8,11,15 131:19 135:15 136:16 138:15 146:10,13,15,17 164:15 165:11,12 190:20 panelists 41:4,11 92:9 102:6 146:20 177:12 197:9 198:3,21 panels 16:13 184:15 panel's 146:18</p>	<p>paper 66:11,19 131:21 papers 66:9 par 145:16 paradigm 193:2 paragraph 6:12 parallel 91:17 122:4,9 parcel 55:5 181:10 parcels 181:16 Park 70:6 partial 45:20 participant 103:21 participate 30:22 49:9 56:17 58:14 64:2 79:13 108:12 159:11 198:4 participation 12:20 92:1 particular 10:2 16:5 32:9 59:12 74:13 75:13 118:2 133:7 161:2 particularly 28:21 31:18 32:1,11 108:10 115:4 144:15 171:12 180:2 parties 72:20 110:15 182:13,14,20 200:11,14 partisan 154:12 partner 76:9,10 160:2 partners 32:18</p>
---	--	--	---

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>36:11 83:12 167:18 189:8 partnership 59:10 partnerships 162:8 party 107:11 137:10 pass 187:22 passed 93:12 past 11:19 54:17 67:5 69:9 140:14 187:20 path 13:7 55:9 65:6 71:22 91:16 169:4 183:15 paths 39:6 pathway 72:5 patience 102:14 196:8 patient 146:17 patterns 38:22 174:1 Pause 196:6 pay 167:18 payers 45:16 paying 150:13 PCAST 14:12,16 peak 21:1 peaking 66:9 peer 69:7 Peggy 2:4 4:9 5:17 6:18 198:1,10 penalties 79:22 116:16 pending 81:15 Pennsylvania</p>	<p>114:15 people 11:2,3 34:12 45:6 47:18 64:1 65:13 66:3,13 68:14 85:11,15 90:1,7 97:21 98:19 111:15 126:19 133:10 178:21 189:5,16 193:13 196:12 197:19 per 114:12 121:11 132:21 percent 12:10 43:13 45:15 51:12 71:16 97:4 113:1,2 141:11,13 167:6,8,10,20 perform 80:6,13 81:4 performance 61:16 performed 119:9 perhaps 116:16 132:5,12 136:12 187:17 peril 165:11 period 6:21 18:18 19:3 57:21 65:12 75:16 145:6 189:11 permanent 186:13 permission 154:1 permit 46:8,9 47:5 51:4 78:13 79:10 83:9 105:2,20 121:4 124:13 131:21 170:2 permits 35:8,9</p>	<p>78:7,12 81:11,12,13 105:1 122:18 140:10 permitting 2:11 4:22 41:21 44:21 46:6,11 49:10,17 51:14 52:2 54:7 64:16 74:16 77:9,11,18,21 79:1,12 81:1 84:11 85:10 91:19 102:17 103:22 104:10 105:8,18 106:2,21 108:10 114:3 115:1,3,9,13,16 116:6,22 117:12 118:10 121:20 122:7,12 123:1 130:2,19 131:22 132:7,12 139:22 140:11,16 143:16 147:9 149:6 150:17 158:2,21 169:14 182:9 perpetuity 170:11 188:20,22 person 49:16 151:20 192:21 196:18 personal 5:4 personality 13:17 personally 16:10 personnel 80:15,19 perspective 26:12 32:4 34:17 49:19 65:7 66:1 100:21 171:4 190:9</p>	<p>perspectives 96:4 171:10 pertains 136:17 petition 112:18 petroleum 127:6 PFC 11:1 ph 196:21 197:1 Ph.D 2:21 3:9,12 Ph.D.'s 165:10 phase 142:16 phases 180:7 physical 33:8 physics 15:2 picture 24:19 94:4 96:21 piece 66:7 164:10 190:14 pieces 63:15 67:7,9,10 pillars 160:11 pilot 59:17 118:6 Pinedale 176:2 182:10 pioneering 62:8 pipe 120:11 152:2 pipeline 2:20 3:5 11:2 22:5,7 102:19 103:7 106:13 120:1,7,8,10 121:8,9 122:21 125:8 126:6,13,22 127:8,11 128:20 129:1,2,17,18 130:19 131:3 139:12</p>
---	--	--	--

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>pipelines 22:3 26:8,9 33:5 36:2,22 104:13 120:15,16,21 127:6,7 128:9 131:7 136:19,21 138:9 161:14</p> <p>pipes 16:8 38:18</p> <p>places 37:5 69:3,11 90:14 95:15 128:15 171:3 174:11</p> <p>Plains 22:10 62:7,19</p> <p>plan 17:4 110:21 111:3,22 112:8 123:10,12,15,21 124:2,10 127:21,22 141:9 150:11 194:8</p> <p>planned 6:20 159:5</p> <p>planners 155:14 158:5</p> <p>planning 33:11,12,13 37:5 92:19 129:18 151:19 152:1,2,6 153:18 154:18 158:16 172:18 176:15 177:7 178:6,10 179:1 185:8 193:19</p> <p>plans 53:5 75:1 128:14 140:21 154:22 179:2 187:19</p> <p>Plant 22:7,10 69:7</p> <p>plants 21:21 24:3</p> <p>plate 185:7</p>	<p>platform 140:5</p> <p>play 23:20 33:22 36:14 105:7 114:16 161:9 164:19 189:2</p> <p>playbook 177:2</p> <p>player 34:19</p> <p>players 115:8 130:9</p> <p>playing 134:11</p> <p>plays 90:10 160:21 162:8</p> <p>please 37:18,21 40:14 102:1,6,10 146:9,13 147:4 159:1 195:17</p> <p>pleased 8:11 147:6</p> <p>pleasure 13:13 30:15 31:3 42:17 103:13 113:22 159:11</p> <p>plenty 19:5</p> <p>plotting 12:4</p> <p>plus 73:6</p> <p>POD 124:16</p> <p>podium 159:9</p> <p>point 12:2 26:13 37:13 40:11 47:12 74:10 77:3 92:6 98:14 106:18 124:22 137:11 177:10 178:5</p> <p>points 97:12 99:17</p> <p>polarities 133:8</p> <p>poles 113:9</p> <p>policies 54:6 55:13 86:7 106:1</p>	<p>policy 2:3,14,15,21 3:2,8 5:14 6:6 15:18 17:15 18:1,2,9 24:14 28:13 42:10,11 48:11 58:5 59:20 62:5 86:4 93:11 102:21 103:3,12 117:6 118:12 119:11 131:16 147:12 153:14 154:2 186:22</p> <p>policy-level 119:4</p> <p>policymakers 116:20</p> <p>policymaking 13:16</p> <p>political 19:21 33:8 53:20</p> <p>politically 55:2</p> <p>pollinators 109:13</p> <p>popular 63:20,21 70:21</p> <p>population 59:6 126:18</p> <p>populations 166:11 172:3 174:2 190:11</p> <p>portfolio 12:9 50:10</p> <p>portion 91:18</p> <p>portrayed 160:14</p> <p>position 5:7 18:18 33:14 50:14 165:11</p> <p>positive 106:19 112:4</p> <p>possibility 70:22</p> <p>possible 5:9 54:9</p>	<p>115:2 157:11 177:5</p> <p>post 157:13</p> <p>posted 135:19</p> <p>posts 125:1</p> <p>potential 54:8 55:8,16 82:5 109:12 178:8 189:22</p> <p>potentially 186:21</p> <p>Potomac 191:14</p> <p>Powder 2:9 41:19 43:2 100:13</p> <p>power 21:21 35:18 43:5,6,16 46:16 50:1 69:7,19 81:3,17,18,20 170:21</p> <p>powerful 140:4</p> <p>PowerPoint 103:9</p> <p>PowerPoints 165:5 171:17</p> <p>practiced 7:18</p> <p>practices 58:7 67:20 72:17 81:19 105:11 158:13 172:19 175:9,21</p> <p>practitioner 49:15</p> <p>PRB 43:9</p> <p>pre 43:5,12 105:18 154:17</p> <p>pre-application 52:18 53:10 79:4</p> <p>precludes 117:17</p> <p>pre-defined 118:19</p> <p>predictability</p>
--	--	--	--

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

187:3 preferred 55:1 premise 131:16 premised 117:20 premises 168:5 prepare 41:2 146:17 prepared 119:11 pre-planning 154:15 157:6 pre-project 105:15 pre-regulatory 72:10 prescribed 176:14 presence 68:9 present 173:9 presentations 84:1,3 148:2 presented 157:9 preserve 170:16 President 2:16,21 3:2,5 5:21 14:14 15:4 19:12 26:3 32:2 35:1 42:12 44:8 48:10 69:17 102:21 103:2,7,12 120:1 Presidential 5:21 6:11 44:4 104:8 President's 14:10 17:3 34:1 36:15 48:17 100:5 press 133:7 pressing 107:14 pretend 112:10,14 pretty 35:21 38:10 62:17	previous 144:19 previously 54:2 113:3 price 126:1,3,4,8,9,21 priced 43:15 primarily 50:5,11 115:17 135:10 149:4 156:13 163:22 primary 7:16 31:19 50:11 primers 173:10 principle 117:18 principles 50:15 Prior 13:22 priorities 53:6,19 87:14 93:21 156:11 157:11 Prioritization 98:4 prioritize 140:12 prioritizing 106:16 107:13 priority 45:12 106:11 136:11 174:12,17 private 7:18 32:21 50:20 56:7,10 61:14 86:20 97:7 139:2 140:9 169:11 183:13,18 184:4 185:20 186:2 187:15 188:20 proactive 8:13 10:18 proactively 9:18 probably 72:18	77:22 85:17 91:12 112:17 115:14 122:15 141:19 145:8 problems 79:15 88:21 116:5 125:12 128:19 proceeding 201:5,8 proceedings 117:14 process 4:13 6:3 15:13 18:10 24:21 26:5,15 35:22 44:21 47:5,12 51:15 52:18 53:10 62:11 63:12 68:13 71:7,19,22 72:9,20 73:8,9 74:22 76:6,10 77:9,11,21 79:5,8,13,14,16 82:11,14,16 84:6 86:15 91:17,22 92:2 94:10,11 95:9,11 96:8 99:18 100:3 101:10 103:22 104:3 105:9 115:1 117:7 119:4 122:7,12 123:1 125:1 129:10,19 130:10,12 132:7 133:21 137:3,9,17 140:11 143:16 145:8 149:6,12,22 150:8,20 151:7 152:3 158:11,16 168:9 177:17,19	178:7,10 179:10 180:17 182:8 183:2,21 184:22 185:6 195:4 198:19 199:8,12 processed 35:7 processes 52:2 53:12,14 58:3,16 78:15 86:17,18,22 87:2,4 92:19 105:2,8 106:22 115:13 117:4 134:19 136:3 149:13 155:15 158:22 177:21 178:4 179:1 193:20 195:11 processing 35:8 produce 10:8 107:19 produced 125:15 180:21 producer 114:20 producing 21:11 23:2 167:7 product 109:18 production 9:5 19:9 20:18 35:1 39:1,5 114:11,22 126:11 167:7,9,10 productivity 44:6 products 25:18 125:15 131:13 159:18 162:18 professionals 51:3 professor 14:1 profound 148:9
--	---	---	--

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>program 23:13 37:15 62:4 192:11</p> <p>programmatic 55:12,20 119:3</p> <p>programmatic-level 119:10</p> <p>programs 24:3,4 53:14 107:11</p> <p>progress 36:17 46:19 48:4 49:3 87:6</p> <p>project 21:4 30:8 44:19 45:11,12,18 46:5,7 53:3 55:6,7 59:2 63:6,15 65:22 66:6,16 67:2 68:2 70:17 71:10,11,14 72:3,4,16 74:10,12,15 76:1,3,11 78:17 80:3,8 101:6 106:13 107:13 117:13 118:2 119:12 120:20 121:1 122:22 123:2 137:15 149:9 154:15,17,22 157:2,5 158:5 160:1 176:3 180:6,7,12,22 184:19 187:6,7 193:9</p> <p>projects 21:2 23:12 30:5,7,8 33:1 35:17 36:6,12,20 45:4,9 51:9,20 53:3,16 55:9</p>	<p>56:8,11,13 59:18 62:21 63:7 66:18 67:6,13 70:14 74:18 75:18 76:1,3 78:14 81:3 89:16 97:18 104:15 106:12,22 107:2,6 115:4,6 118:7,14 122:1 131:10 139:13 140:13 150:18 175:15 184:9,10 187:3 188:5</p> <p>project's 118:4</p> <p>promise 191:7</p> <p>promised 124:14</p> <p>promising 62:21</p> <p>prompt 115:9</p> <p>pronghorn 174:15</p> <p>pronounce 42:5</p> <p>pronounced 42:6</p> <p>proper 157:1</p> <p>properties 183:16</p> <p>property 50:8 55:2 80:2 99:6 122:5,6</p> <p>proponent 187:16</p> <p>proponents 187:7</p> <p>proposals 56:7 60:7</p> <p>proposed 53:11 58:3,15 79:3 80:20 81:6 108:2 122:8 180:11,12 187:16</p> <p>proposes 99:4</p> <p>prospect 128:1</p>	<p>protect 31:14 34:13 107:18 170:18 188:12</p> <p>protecting 32:5 148:18</p> <p>protection 58:11 80:20 82:8 104:2</p> <p>protocols 116:18</p> <p>proud 11:10,11,12,15</p> <p>proven 120:18</p> <p>provide 5:1,3 6:7 11:4 50:12 52:12 60:9 64:18 72:5 85:5,12 100:14 101:9 103:14 104:17 106:14 107:4 108:2 116:13,18 140:12 155:18 157:3 168:14 194:5 197:2,3</p> <p>provided 12:1 46:15 52:14 55:8 128:2,3</p> <p>providers 63:5</p> <p>provides 29:8 43:5 58:1,6,8,12,18 117:16 119:6 154:16,21</p> <p>providing 43:17 60:11 90:6,17,18</p> <p>provision 140:14</p> <p>provisions 93:13 106:18</p> <p>public 1:5 6:20 26:10 29:16 36:20 38:15 50:1 58:2,19 59:3,20 61:4,9,16 62:22</p>	<p>63:8,9 64:3,6,7 68:10 71:19 72:12,15 73:7 80:14 88:15 89:3 91:10,11,22 92:1 93:3 94:18 98:7,12 99:8 101:8 110:9 111:11 118:13 129:11 131:15 158:19 169:5,6 184:2 185:18,20 186:3</p> <p>publications 69:8</p> <p>publicly 27:1</p> <p>published 27:9 65:11</p> <p>PUC's 96:19</p> <p>pull 57:5</p> <p>purpose 4:18,20 5:19 32:7 72:4 118:5 119:17</p> <p>purposed 155:21</p> <p>purposes 89:1 156:14</p> <p>Pursuant 4:19</p> <p>pursue 106:1 149:8</p> <p>push 23:16 113:9</p> <p>putting 16:15 22:14 48:16 97:6</p> <hr/> <p style="text-align: center;">Q</p> <hr/> <p>QEP 176:4</p> <p>QER 15:5 24:21 32:7 40:5 47:12 93:8 99:18 100:3 101:10 130:15 138:19 140:5 144:1 146:8</p>
--	--	---	---

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>185:13 190:21 198:19 199:6,8 qercomments@hq .doe.gov 40:22 41:1 147:5 Quadrennial 1:4 4:4,13 5:19 6:2 14:15,17 15:14 17:1,10 24:22 30:13 108:11 qualified 165:15 qualify 124:4 quality 43:15,17 44:6 73:1,12 74:5 88:9 117:5 151:12 185:22 quantify 175:22 quantity 88:9 quantum 15:2 quarries 167:15 191:15 quarterly 101:3 quest 172:4 Questar 176:5 question 16:7 89:12 91:10 136:7,17 138:14 139:18 145:14 186:10 188:15 190:5 questions 4:15 37:14,18,21 38:2,3 40:14 56:16 68:9,13 101:7 111:21 112:5 135:17 144:9 148:6 171:14 177:15 quick 125:9</p>	<p>quicker 169:14 quickly 56:5 112:17 140:7 quite 13:21 21:10 95:13 96:8 126:7 135:19 153:18 198:8 quote 100:1 <hr/> R <hr/> radar 21:11 rage 110:2 rail 25:14,16 rain 145:17 raise 36:7 raised 7:17 89:5 185:17 raises 82:13 ramp 99:7 ran 74:20 ranch 7:17 ranchers 43:10 ranching 111:7 range 16:21 81:18 113:3 167:5 175:15 195:10 rangeland 29:19 ranges 174:16 ranging 43:8 rapid 26:3 36:15 45:1 52:15 77:19 158:3 159:4 169:7 rapidly 19:1 rate 45:16 169:7 rates 127:18</p>	<p>rather 5:7 32:14 44:15 48:19 94:9 100:11 129:4 162:10 ratify 88:20 rating 71:22 rational 182:18 rationale 166:20 reach 33:3 50:20 68:5 133:20 react 95:20 real 52:12 54:13,16 160:21 181:12 188:15 190:13 reality 168:22 188:8,17 realized 169:5 176:1 really 16:11 20:22 22:14 24:19 28:17 30:21 31:6 32:12,15 33:10 34:4,9,10,11 36:5 39:4 62:7 63:8,18 65:1 66:2 72:19 73:18,20 75:8 85:15 87:12 90:13,15,21 93:13 95:11 96:12 112:9 121:17 130:3 134:19 138:1 142:6 145:7,11 148:6 153:22 157:1,2,9 160:7 168:11 169:17 172:14 173:4 177:15 178:16,20</p>	<p>180:4,11,15 186:9 190:1,9 191:17,19 195:11 reason 7:22 8:12 89:21 110:20,21 143:13 reasonable 127:18 reasonably-priced 77:13 reasons 6:22 32:8 78:6 95:16 reauthorization 106:17 reauthorized 140:14 recall 100:14 receive 16:14 72:15 received 123:22 124:16 129:12,15 199:5 recent 7:15 31:19 54:16 77:17 106:16 120:16 recently 12:14 40:9 66:19 122:18 173:12 191:5 192:13 reckon 195:7 reclamation 11:14 29:12 recognition 53:4 192:4 recognize 9:10 10:10 32:12 96:20 109:15 132:18 133:5,6 recognized 88:5</p>
---	--	---	--

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>recognizes 88:11</p> <p>recognizing 22:20 59:15 96:17 142:8</p> <p>recommend 83:17 113:13 135:20 137:3 177:18</p> <p>recommendation 14:14 15:4 93:7,15 94:13 134:16 138:18 142:10 190:21 192:17</p> <p>recommendations 5:3,9 6:5 14:13 30:13 39:11 57:10 84:12 94:8 96:5 105:10,12 116:1 130:14 193:15 199:7</p> <p>recommended 61:13 87:20</p> <p>recommends 79:8</p> <p>reconcile 195:7</p> <p>reconciled 107:8</p> <p>record 45:11,20 54:4 58:20 89:1 146:8 200:8</p> <p>recorded 12:15 200:6</p> <p>recordings 201:6</p> <p>recover 144:21</p> <p>recovery 21:4 106:14 127:8 128:1</p> <p>recreation 29:19 111:6</p> <p>recreational 155:21</p>	<p>rectified 139:13</p> <p>redo 73:18</p> <p>reduce 61:3,6 149:20 155:8</p> <p>reduced 23:14 126:8 141:10 176:10 200:7</p> <p>reduces 118:22</p> <p>reducing 35:8 141:14 153:3</p> <p>reduction 24:7 140:3</p> <p>re-energizing 192:10</p> <p>reference 139:1 165:17</p> <p>referenced 119:12</p> <p>referential 185:2</p> <p>referred 70:17</p> <p>reflect 82:22</p> <p>reflective 157:10</p> <p>reflects 126:22</p> <p>refuge 94:3</p> <p>regard 11:14 12:15 26:8 31:17 74:3,18 75:13 130:18</p> <p>regarding 5:5 107:16 117:10</p> <p>regardless 84:17</p> <p>regards 110:19 187:9,10</p> <p>regime 169:21 171:8</p> <p>region 16:5,22 44:3 64:17 93:1 131:4 152:6</p>	<p>regional 16:1,9 20:2 46:10 57:16 59:1,7 76:1 84:9 86:2 92:5,19,22 96:17 116:20 135:16 136:1 150:6 153:18 156:22 163:16 164:14 177:14 185:15</p> <p>regions 20:10 21:7 23:2 27:2 28:3 58:9 107:5</p> <p>regularly 158:8</p> <p>regulated 131:7</p> <p>regulation 79:17,18</p> <p>regulations 47:9 158:7,10 188:17</p> <p>regulatory 51:5 57:19 68:13 73:8 81:1 108:3 115:1 125:1 154:6 157:1 158:1</p> <p>reiterate 192:19</p> <p>reiterated 97:13</p> <p>rejected 58:18</p> <p>related 149:7 158:7 182:8 186:6 200:10</p> <p>relates 133:6</p> <p>relationship 12:17</p> <p>relationships 28:14 161:1</p> <p>relative 165:12 183:7 200:13</p> <p>release 65:17</p> <p>released 66:19 168:2</p>	<p>relevance 16:21</p> <p>relevant 141:19 145:13</p> <p>reliability 55:8 58:9 61:9 79:21 80:1,16 83:5 98:19</p> <p>reliable 24:15 50:12 60:16 77:13</p> <p>reliance 184:15</p> <p>relied 123:13</p> <p>reluctant 61:17</p> <p>rely 122:17 175:18</p> <p>remain 19:15 68:10</p> <p>remaining 23:21</p> <p>remains 63:20 78:8 190:2</p> <p>remarkable 21:10</p> <p>remarks 140:8 145:2 160:6</p> <p>remember 28:9</p> <p>remind 42:18 101:17 146:18</p> <p>reminder 127:4</p> <p>remove 128:9 176:6</p> <p>renewable 30:3 35:2,15,17 45:3,15 55:9,17 60:2,10 62:6 63:5 72:5 75:14 144:15 149:22 150:1,12 151:5 186:13</p> <p>renewables 19:10 20:15 23:6 60:16</p>
--	---	--	---

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>renewed 80:11 renewing 82:12,19 repair 145:16 repairs 80:7 repeat 39:8 107:1 repeating 21:9 rephrase 137:2 replacements 107:1 replicate 121:13,17 report 14:13 16:16 133:8 138:20 168:15 reported 1:21 48:5 49:3 reporter 200:1,2 Reporter's 201:6 Reporting 1:21 reports 15:7,9 represent 166:8 representative 56:22 57:1,7 62:1 84:9 87:19 88:4 96:15,16 144:12 151:21 representatives 2:13 42:2 46:13 130:10 represented 126:4 represents 103:17 127:1 136:8 request 52:17,19 74:6 123:4 157:13,14 requests 71:8 194:14</p>	<p>require 118:17 required 44:10 46:3 79:13 117:13 187:18 requirement 38:17 requirements 23:13 27:4 79:21 81:1 105:4 107:5 187:9,20 requires 48:8 51:1 122:7 176:21 185:5 186:19 requiring 105:15 reroutes 74:6 research 24:4 59:17 66:22 194:20 reserves 172:2 residents 43:10 resides 163:5 resiliency 81:3 resolution 162:22 resolve 129:9 134:1 resolving 125:13 resource 23:8 94:21 104:20 105:4 123:7,14 124:2 127:20,22 128:13 159:20 167:13 174:22 resources 3:13 6:15 10:6,7 11:7,8 22:14,18 28:11 29:16 34:13,14,15 35:14 44:1 46:14 68:20 70:20 85:6,14,16</p>	<p>106:17 118:8 124:19 132:12 147:21 150:1 155:1,11,18 167:21 169:2 172:5 177:4 185:22 193:22 194:5 respective 117:10 respond 67:20 131:22 195:1 responded 52:17 responding 68:21 response 20:10 26:3 36:15 45:1 52:15,16 77:19 129:15 139:20 responses 116:14 139:22 responsibilities 105:18 117:11 responsibility 84:20,22 85:4,7,13,17 rest 12:6 59:9 131:4 182:18 183:3 restricting 116:10 resubmitted 123:20 result 61:19 78:3 81:11 119:5 176:14 194:13 resulting 115:17,19 results 45:8 47:2 48:20 176:22 retelling 44:12 return 27:5</p>	<p>reusing 153:3 reverse 93:9 review 1:4 4:5,13 5:20 6:2 14:15,18 15:14 17:2 30:14 58:21 69:8 77:21 91:13 106:9,16 108:11 117:3,13 118:1 139:9 reviewed 71:18 158:8,15 reviewing 59:8 71:19 reviews 17:10 105:5 106:6 107:13 119:6,11 130:6 157:2 revise 124:2 revision 152:16 revisions 127:20 RFP 60:6 Ribbon 15:6 rich 70:19 Richard 2:18 Richards 197:15 Rick 2:11 41:20 42:14 right-of-way 54:14 rights 2:11 49:18 rights-of 98:16 rights-of-way 61:7 82:12,19,20 Rim 182:11 risk 6:3 61:18 150:12</p>
---	--	--	--

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>risks 150:4 151:15 152:7 River 2:9 41:19 43:2 100:13 169:16 176:3 rivers 144:20 RMP 12:14 road 158:7,8 roadblock 55:5 roads 33:6 161:13 robust 24:15 166:12 rock 29:18 30:6 35:14 169:9 Rockies 3:3 103:3 Rocky 120:11 131:4 Roger 1:21 200:2,20 role 7:20 18:5,15 19:19 20:9 25:22 33:22 36:15 38:15 48:1 90:9 105:7 113:7,12 134:12 157:20 159:4 roles 17:14,21 rolled 156:3,9 room 4:6 9:14 10:20 21:6 41:8 66:11 76:14 83:18 101:18 102:10 177:11 182:18 196:10,16,20 197:19 roughly 12:9 23:21 28:3 126:18 167:8</p>	<p>176:11 round 102:2 195:18 rounds 105:20 route 55:1 124:10 175:1 routes 58:15 154:19 174:17,19 routine 80:6 107:2 routing 71:16 73:19 row 47:16 84:15 100:11 191:2 royalty 126:16 RRDT 45:13 RRTT 52:16,21 54:2 Ruckelshaus 3:12 147:20 173:9 176:19 rule 80:22 81:2,6 107:18 108:2 145:3,11,12,21 rulemaking 104:4 107:16 180:12 run 113:9 running 56:3 93:4 121:8 runs 139:14 159:17 rural 2:15 42:11 43:10 50:5 51:17 62:4 65:1 Rutledge 3:2 103:1 108:14,15 113:18 132:15,16 138:7</p>	<p>140:18,19 144:4,8 165:18 Ryan 3:11 147:17 <hr/> S <hr/> safest 120:16 safety 29:11 61:9 104:16 106:13 sage 109:2 166:1 sagebrush 112:8,16 175:16 sage-grouse 12:15 73:19 75:11 81:16,21 82:2 110:16 112:9,18,21 113:3,4 132:22 141:8 165:18 166:11 sage-grouses 74:6 sake 60:8 Salazar 54:18 55:19 San 54:20 55:16 sandwiched 165:10 Sandy 25:10 Satoil 113:21 save 88:9 savings 45:16 saw 111:3 137:16 scale 15:15 21:22 118:5 148:7 149:9 152:6,17 157:4 171:1 183:14 scenario 100:2 schedule 16:18</p>	<p>45:10 46:6 198:6,8 schedules 142:8 Schneider 2:6 26:11 29:21 30:10,17,19 39:14 40:4 76:19 school 7:18 science 3:10 13:15 14:5,10 18:1 133:1 147:15 159:15 scientific 190:14 scientist 13:19 scientists 13:19 27:13 172:12 188:1 Scolari 3:8 147:12 153:10,11,13 179:20,21 187:1 192:18 scoping 72:12 73:5 74:3,22 score 139:20 scorecard 132:6 screen 164:12 scroll 146:22 seats 102:11 second 64:13 66:7,8 106:11 116:22 125:17 134:7 139:5 173:21 183:20 184:21 secondly 23:15 96:22 140:7 Secretarial 168:14 secretariat 18:6</p>
---	---	---	--

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>Secretary 2:5,6 5:18 6:10 8:16,18,21 10:5 11:8 12:5 13:14,20 14:16,20,22 18:15 29:4,8 30:16,19 31:22 32:7 36:2,16 37:20 38:1,3,5,7,9 39:13,14,15,22 40:3,4,7,15 54:18 55:19 57:2,3 76:18,19 93:6 99:12,13 100:19 120:4 138:17 139:3 140:20 142:6 143:4 160:5 168:2 198:12</p> <p>Secretary's 40:19 59:16</p> <p>sector 32:21 61:14 148:17 149:15</p> <p>secure 6:8 44:5</p> <p>security 17:6 32:3 44:7</p> <p>seeing 54:8 56:6 109:9 175:12 185:19 191:18</p> <p>seek 154:2</p> <p>seeking 5:8 104:5 142:20 157:12</p> <p>seem 66:14 136:19</p> <p>seems 113:11</p> <p>seen 25:8 27:11 28:5 78:9 92:18 133:1 141:11 175:15</p>	<p>segment 77:7</p> <p>segments 45:21,22 128:12</p> <p>seldom 133:6,19</p> <p>self 185:2</p> <p>selfish 11:9</p> <p>Senate 13:21</p> <p>sending 191:22</p> <p>senior 2:11,14 3:4,6 41:20 42:10 103:4 116:20 147:10 197:15</p> <p>sense 15:20 21:10 25:4 37:6 91:8 92:5 101:9 105:15 124:20 135:12 189:11</p> <p>sensitive 184:14</p> <p>sent 22:11</p> <p>sentence 153:9</p> <p>sentiment 89:13</p> <p>September 201:13</p> <p>sequestration 21:3</p> <p>series 16:9 65:16 109:1 117:9</p> <p>serious 22:14</p> <p>seriously 131:12 145:8</p> <p>seriousness 77:5</p> <p>serve 43:19 51:8 99:1 107:21 154:14</p> <p>served 14:9</p> <p>service 43:16,18 50:4 51:2,12,17 54:7 61:10 64:7</p>	<p>70:4 71:8,10 75:4 76:2 87:8 99:2,3 100:15,17 104:18 182:22 184:10 188:18</p> <p>services 44:5 52:5 60:12</p> <p>serving 14:12 56:8,13 103:19</p> <p>session 5:6 31:1 32:9 195:22</p> <p>sessions 9:21</p> <p>setback 69:4</p> <p>sets 8:3 179:11 181:13</p> <p>setting 134:11 166:15</p> <p>settlement 126:4</p> <p>seven 123:20</p> <p>several 6:19 27:12 51:8 57:22 78:10 94:7 109:20 116:1 128:11 147:7 148:1 155:2 164:10 182:15</p> <p>sexy 90:6</p> <p>Shale 114:14,16</p> <p>share 38:7 48:13 104:7 115:11 143:6 177:1</p> <p>shared 117:20 172:17 177:6</p> <p>shareholders 74:13</p> <p>sharing 66:2 142:14 192:15 195:17</p>	<p>shed 29:20 61:4,8</p> <p>sheep 75:5</p> <p>sheets 65:16,19</p> <p>Shelf 114:9</p> <p>she'll 30:12</p> <p>shift 150:9</p> <p>shiny 189:18</p> <p>shooting 183:5</p> <p>shortcomings 181:11</p> <p>shorter 76:3 82:21</p> <p>shortly 114:7 146:20</p> <p>shot 165:16</p> <p>shots 91:6</p> <p>shoulder 48:12 60:9</p> <p>showcasing 66:3</p> <p>showed 131:1</p> <p>showing 68:17</p> <p>shown 141:9</p> <p>shows 9:13 155:7 156:13 162:20 166:7</p> <p>shy 37:22 38:1 144:10</p> <p>sidelines 182:16</p> <p>sifting 137:7</p> <p>sign 196:16</p> <p>significance 106:12 119:1</p> <p>significant 7:20 22:4 66:21 70:22 79:22 81:14 82:3 117:2 118:15,21 139:10 178:8</p>
---	--	--	--

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>194:3 significantly 75:15 167:16 similar 26:7 61:3 107:6 116:8 simple 120:14 simply 119:12 143:5 167:2,12 169:2 sincerely 129:14 single 54:19 67:17 112:10 131:9 135:8 141:21 sit 63:4 101:15 182:15 site 19:11 47:5 51:4 83:9 148:15 174:2,19 siters 158:5 sites 150:15 185:2 siting 1:6 7:1 16:7 26:7,10 28:22 30:14 32:10 44:20 45:2 49:9,17 51:13 52:2 54:6,22 56:15 57:15 58:2,7 62:11 67:2 69:21 70:15 71:19,20 72:2 74:16 75:7 77:18 78:14 79:1 82:6 84:5,11 85:10 89:15 91:16 94:12 95:5 102:17 103:16 109:15 115:13 121:4 130:3,19 131:8,9 144:18 147:8 149:6 157:6 158:21</p>	<p>172:19 174:9 175:4,8 177:17,19 180:7 195:5 sitings 110:18 situation 54:17 95:18,19 six 21:1,3 62:17 67:14 73:9 76:8 122:12 123:19 157:8 168:6 six-month 123:1 size 106:20 Sky 76:5 slide 125:22 slides 103:9 125:9 slightly 62:15 138:8 slip 29:6 Sloan 2:13 42:1 56:22 57:1,7 62:1 84:9 87:19 88:4 96:15,16 144:12 slow 184:19 small 43:11 169:16 smaller 92:17 smart 33:2 37:4 166:4 smarter 33:14 snapshot 181:14 social 33:8 159:3 socialize 64:9 societal 160:19 society 3:2,7 83:2 103:2 147:11 149:14 151:20</p>	<p>160:12 189:9 software 156:19 182:1 soils 181:15 solar 30:6 55:12,13 60:4,16 150:11,15 solicitations 60:7 solid 172:18 solution 113:11 128:18 135:11 solutions 90:19 112:20 178:11 182:19 183:4 191:21 195:9 solve 57:11 79:15 somebody 29:1 181:3 187:16 somehow 93:20 109:6 someone 99:4,5 139:8 somewhat 25:2 97:12 somewhere 113:2 133:16 sooner 39:17 sophisticated 21:7 sorry 12:5 56:19 128:9 141:20 sort 32:13 87:4 96:12 111:13 137:7 160:16 162:6 165:19 168:4 175:3 182:1,6 198:15 sorts 162:5 sound 22:19 50:13</p>	<p>source 125:18 sources 19:10 20:14 21:14,22 22:15 50:18 156:20 South 70:5 71:12 southeast 46:1 Southern 54:21 Southwest 71:5 128:11 Southwestern 71:11 space 164:19 spanning 67:13 spatial 161:10,17 162:11 163:13 192:3,14 spatially 151:22 speak 12:7 108:17 120:3 137:14 177:11 178:1 196:17 speaker 28:21 165:5 speakers 148:1 speaking 165:19 spearhead 106:5 special 18:5 69:3 84:19 106:21 speciate 171:2 species 54:9 81:15 110:19 112:10,16 133:15 138:12 155:19,20 156:6 167:17 170:8,17 189:12 specific 57:9 59:22</p>
---	---	---	--

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>84:12 93:7 94:8 98:11 101:7 106:22 116:11,14 135:13 138:12,18 139:5 155:4 177:18 190:20</p> <p>specifically 6:13 18:12 21:1 25:5 88:11,17 151:6</p> <p>specifics 183:7</p> <p>speech 110:12 165:17</p> <p>speed 26:6 130:12 132:18</p> <p>spend 32:6 33:19 44:15 49:11 64:8 104:14 193:12</p> <p>spending 144:20</p> <p>spent 69:18 123:6 142:4 190:8</p> <p>spied 8:18</p> <p>sponsored 73:5,6</p> <p>spread 50:7 60:14</p> <p>square 43:7 50:3 70:4</p> <p>stab 93:10</p> <p>staff 53:15 57:17,20 87:7 93:20 94:21 122:14 123:4 142:7 199:10</p> <p>staffed 51:3</p> <p>staffing 53:6</p> <p>staffs 51:7 80:17 97:19 98:4</p> <p>stage 5:20 7:7 41:5,6 64:16</p>	<p>102:6,8 146:13,15 175:7</p> <p>stages 51:9 154:15</p> <p>stake 34:21</p> <p>stakeholder 6:14 104:3,6 145:7 193:19 198:18</p> <p>stakeholders 32:16 33:3 57:19 79:7 94:18 137:8 142:3 173:6,16 192:22 193:21 198:14 199:12</p> <p>stakes 58:14 100:4</p> <p>stand 124:8</p> <p>standard 185:5 188:16 189:4,17</p> <p>standardization 173:15</p> <p>standards 58:12 80:17 138:10 189:6,7 190:6</p> <p>standing 37:19 196:4</p> <p>standpoint 75:8</p> <p>stands 154:4</p> <p>start 16:15 39:10 70:16 78:17 108:19 120:20 121:20 133:8,11 136:4 138:21 148:2 149:16 177:22 189:13,14 191:1</p> <p>started 10:4 62:14 70:17 72:9 110:13 121:1 163:10 169:22</p> <p>starting 26:15</p>	<p>97:20 186:2 194:17</p> <p>startup 121:7</p> <p>state 2:2,13 5:13 7:10 8:1 9:1,2,8 10:16,22 17:19 18:12 28:14 34:5,8,13,19 42:3 43:21 46:2 48:22 50:19 57:8,13,16 59:3 71:16 72:22 78:15 83:11 85:22 86:17 87:21 88:13 89:15 94:15 96:19 100:20 102:16 104:22 105:14 107:10 117:8,10,12,18,2 0 120:14 121:4,16 126:14,18 127:16 129:8 131:10 132:13 137:18 139:12 140:9 155:3 156:22 157:3,10 158:6 159:21 162:19 163:2,12,21 164:7,13 167:6,12,19 169:1 180:10,14 182:13,21 183:11,13 184:3 185:14 187:15 189:1 192:16</p> <p>statement 19:21 20:1 58:1 76:6 100:14</p> <p>statements 101:19 119:3 146:7,19</p>	<p>198:20 199:4</p> <p>states 11:12 17:16 22:22 25:22 27:2 32:16 44:8,19 58:6 78:17 88:5,8,18 91:5 92:11,17,20 96:19 97:2,5 110:22 117:1 139:9,11 140:22 154:8,12 155:1,2 156:7,10 157:19 179:1 180:5 192:9,21 193:1</p> <p>state's 43:22 49:2 59:5</p> <p>States 55:15 70:18 71:12 72:7 75:3,4 91:4 104:4 107:17 125:19,21 145:3,19 157:7 170:4</p> <p>State's 54:19</p> <p>statewide 167:1</p> <p>state-wide 129:7 163:17</p> <p>station 75:5</p> <p>Statoil 3:4 103:5 114:4,6,13,21</p> <p>status 151:13</p> <p>statutorily 68:5</p> <p>statutory 48:15 92:14</p> <p>Stavanger 114:6</p> <p>stay 125:2 159:2</p> <p>staying 41:7</p> <p>steep 182:3</p> <p>Steering 77:20</p>
---	--	--	--

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>stellar 146:10</p> <p>step 37:14 96:11 112:6 139:12 151:2 158:11 164:5 173:4,8 191:11</p> <p>steps 115:12 143:18 174:5</p> <p>stood 189:9</p> <p>stop 109:4 154:14</p> <p>storage 60:5,8,14 61:12,17</p> <p>storing 25:6</p> <p>Storm 25:10</p> <p>storms 25:9</p> <p>story 23:6 25:14 45:9 70:15,16</p> <p>strategic 47:14 48:8 49:1 100:9,10</p> <p>strategies 195:15</p> <p>strategize 164:22</p> <p>strategy 2:21 7:21 8:13 9:9,17 10:4,5 34:1 44:10 48:22 49:3 100:6 102:21 103:12 128:17 152:16,17 164:1 168:6,19 170:6 191:15</p> <p>straw 73:22</p> <p>streamline 26:6 51:15 52:1 58:2 77:22 90:20 94:11 114:2</p> <p>streamlining 89:22</p> <p>strengthened</p>	<p>194:19</p> <p>stress 135:6</p> <p>stretches 111:6</p> <p>stricture 19:17</p> <p>stringent 117:3</p> <p>stripped 67:7,8,10</p> <p>strong 76:10 134:11 154:11 157:20</p> <p>strongly 93:16</p> <p>structure 61:1 186:5</p> <p>structures 60:20 61:7</p> <p>studies 61:6 72:11 121:5 122:15 123:9 172:9</p> <p>stuff 92:9 134:14</p> <p>Subcommittee 61:12</p> <p>subject 28:22 49:12 52:11 56:15 110:11</p> <p>sub-layers 156:9</p> <p>submission 115:22 124:16</p> <p>submit 40:20 54:1 147:4 197:20</p> <p>submitted 54:3 105:10 123:10,14,15 158:15</p> <p>subsequently 39:9</p> <p>substance 67:11</p> <p>substantial 77:10 80:22 186:19</p> <p>substantially 77:8</p>	<p>substantive 116:16 180:11 192:20</p> <p>Substation 46:1</p> <p>substitute 192:20</p> <p>substitutes 180:9</p> <p>success 12:14 24:13 63:14 66:9 70:15 76:2 120:21 121:13,16,18 127:2 131:2,11 132:6 176:22 177:7</p> <p>successes 76:13</p> <p>successful 37:9 150:15 173:18 176:18 190:6 199:11</p> <p>succession 111:1</p> <p>succinctly 158:3</p> <p>suffered 126:8,12</p> <p>suffering 27:16</p> <p>suggest 48:21 100:11 116:6 133:4 139:8 144:9 185:13</p> <p>suggesting 124:1</p> <p>suggestion 60:18</p> <p>suggestions 84:8 88:2 124:18 144:12 185:9,12</p> <p>suit 73:11</p> <p>summaries 198:22</p> <p>summarizing 99:13</p> <p>summary 42:19</p> <p>summer 140:15</p>	<p>174:15</p> <p>Sundance 43:4</p> <p>sunlight 132:4</p> <p>Super 25:9</p> <p>superior 113:12</p> <p>supplemental 46:4</p> <p>supplies 20:3</p> <p>supply 11:11 22:8 31:13 50:12</p> <p>support 4:10 32:1 48:3 60:12 64:12 66:4,17 77:14 79:3 100:17 121:2 128:20 151:9 163:17 164:4,19 174:8 192:6 195:10</p> <p>supported 45:12 57:20 150:20</p> <p>supporters 66:16</p> <p>supporting 4:12 59:15 192:8</p> <p>supports 107:18 171:6</p> <p>Supreme 73:15</p> <p>sure 24:15 33:10 47:3,4 56:10 76:14 139:17 142:19 143:8 168:9,10 181:17 183:16 186:14</p> <p>surface 10:17 29:12 139:10 141:14 174:22</p> <p>surprised 36:18</p> <p>surprises 155:9</p> <p>surrounded 50:8</p> <p>surrounding</p>
--	---	---	---

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>104:3 162:7 survey 156:12 192:12 suspect 90:4 suspicion 8:17 sustain 20:15 175:12 sustainability 160:10,11,13,18 sustainably 172:5 swaps 183:17 Sweetwater 169:15 sword 166:10 sworn 7:13 200:5 sync 92:18 system 6:7 20:6 24:15,16 27:3 47:20,21 49:1 86:20 104:17 106:3 127:14,17 151:9 154:13 163:14 176:6,10 systems 2:3 5:15 33:6 48:8 50:18,20 62:6 104:17 System's 18:9</p> <hr/> <p style="text-align: center;">T</p> <hr/> <p>T&E 54:9 table 20:21 96:2 111:13 159:12 167:7,9,11 182:13,14,15 183:3 189:5 194:12 tackle 130:20</p>	<p>138:6 Tad 3:5 103:6 119:22 taking 64:1 134:9 145:7 152:17 talk 4:18 12:11 15:13,18 22:3 63:15 64:19,20 65:2,5 67:5 69:13 74:21 87:22 89:21 95:13,19 96:3 101:15 108:22 115:10 120:14 130:16 147:7 148:21 158:11 160:9,10 161:7 163:10 164:11 165:13,15 167:11 168:3 169:15 171:19 185:10 talked 67:8 89:7 109:1 135:16 148:18 167:21 talking 5:18 8:16 19:5 20:20 21:19 22:4 44:15 52:7 63:16 108:20 160:8 161:6 163:6 164:18 178:13,22 193:13 talks 135:20 targeting 53:15 task 96:1 130:15,18 138:19 144:1 185:13 186:8 190:21 tax 126:15 167:19</p>	<p>team 26:3 36:15 45:1 52:16 77:19 84:19 85:2 157:17 teams 95:5 technical 4:10 technique 140:1 techniques 105:19 technologies 19:19 20:8 61:18 192:14 technology 13:16 14:11 18:2 23:9,16 24:10 28:13 61:15 144:14 173:5 196:13 telemetry 170:22 template 191:16 temporary 145:15 ten 45:21 46:8 62:17 78:11 110:17,22 tend 185:1 tens 35:19 tent 41:3 term 29:7 155:16 terminology 173:2,16 terms 17:21 22:15 23:16 26:22 27:1 28:5 38:15,18,21 68:19 82:21 88:19 94:12 130:2 135:5,7 169:6 183:7 188:19 192:13 terrestrial 155:19</p>	<p>terrible 197:8 terribly 72:14 terrific 16:20 territories 136:11 territory 43:7 50:4 51:2 54:8 70:4 76:2 87:8 test 11:16 testimony 46:15 200:4,6,9 Texas 88:14 114:15 thank 5:17 7:5,8 8:6,8,9 12:13,17 13:8,10,12 16:17 28:17 30:20 37:15 41:7 42:22 49:5,6,8 56:17,19 57:1,2 61:21,22 62:3 69:14,16 76:16 83:14,15 85:20 87:18 89:6 94:5 95:6 96:16 97:9 99:10,21 101:13,14,22 102:4,13 108:11,13,15,16 113:16,17,20 119:21 120:2 125:3,4,6 129:21,22 134:2 135:1,14 136:13 139:15 140:17 143:1,20 146:5,14,16 148:3,4 153:7,8 159:6,7,10 165:3,4,7 171:14,16,18 177:8 179:19 180:18 182:4</p>
---	--	---	--

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

194:21 195:3,16,20 196:7 198:1,2,19 199:9,11,15 thanking 40:14 146:9 thanks 14:22 108:7 171:18 that's 6:8 16:1 18:8 21:19 24:8,19 26:15 35:18 39:6 62:22 63:12 65:11 68:4 69:11 70:7 85:17 87:8 90:15 94:13 97:21 99:1,8 100:11 112:9,14 113:4,12 120:5 121:14,16 128:19 129:12 132:7 133:17 135:4 136:17 137:14 141:18 142:20 143:15 150:20 151:1 152:10,21 157:9 159:16 161:10 167:13 169:9 170:11 172:13 173:2,8 178:7 179:16 183:6 188:20 189:13 190:3,12,13 191:11 194:18 196:13 198:14 theme 19:4 141:4 themselves 192:7 thereafter 200:7 therefore 17:22 20:12 51:18 115:9 118:16 157:1 158:15	there's 30:9 42:19 60:22 66:21 88:15 89:17,19 93:16 98:10 101:6 133:4 137:20 142:16 146:22 162:1,3 164:11 182:15 190:1 191:7 192:19 they're 38:1 52:3 56:10 68:11 84:21 85:3 87:13,14 109:11 112:18 175:6 181:2 183:18 189:3 they've 195:1 third 26:19 27:10 60:18 72:20 106:20 107:11 175:9 184:6 thirdly 152:22 Thompson 2:11 41:20 49:7,8 85:21 86:1 97:10,11 Thompson's 89:14 91:2 thoughtful 102:1 169:3 189:10 thoughts 38:7 39:12 141:17 144:1,7,22 179:20 183:2 184:13 195:2,17 thousands 35:20 37:1 thread 159:17 177:13	threads 17:18 84:3 threat 6:3 threats 25:11 threshold 188:11 throughout 72:6 81:17 111:10 throw 182:16 Thursday 1:7 thus 114:2 ticked 34:6 tie 192:13 timber 29:19 timeframe 55:10 timeframes 87:5 timeline 58:19 timelines 116:14,17 131:19 193:6 timeliness 124:19 135:5 139:21 timely 80:6,13 87:17 108:5 122:22 title 78:1 today 4:15,18 9:19 11:21 16:6,12,20 21:11,13,15 31:5 33:16 39:9,19 40:4,15 41:12 42:18 52:4,8 54:1 56:18 62:16 63:4 70:13 76:22 81:9 84:3 90:10 95:13 96:3 99:19 103:14 108:12 109:2 114:10 115:10,15 120:3 121:9 128:14	135:7 144:2 146:13 147:6 148:2,5,21 149:7 152:4 153:17 154:3 162:9 163:6,11 171:19 173:9 177:13 178:13 195:1 196:14 197:11,17 198:21 today's 4:20 5:6 26:19 31:1 49:9 83:22 146:21 199:1 Tom 2:13 7:6 42:1 tool 129:2,19 140:4 151:7,17 154:4,5,6,11 155:17 156:10 157:10,22 159:4 164:4,6 174:11 179:13,16 toolbox 181:22 Toolkit 158:2 tools 63:22 97:16 147:8 151:10,11 152:5 153:21 155:3 158:20 163:18 175:13 177:14,16,20 178:4,6 179:3,10 180:1 181:20,22 185:10 189:14 top 9:5 137:5 topic 5:5 19:7 49:10 52:9 65:10 topics 66:12 topographic 181:3 total 34:18
---	---	---	---

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

167:8,10 totally 91:7 119:18 touch 116:2 117:22 168:11 touched 74:21 94:19 145:2 tough 16:19 92:10 93:2 145:8 towards 19:16 39:10 track 23:3 40:7 tradeoff 181:21 trade-off 89:19 tradeoffs 151:15 tradition 92:11 traditional 48:15 174:15 185:22 traditionally 134:8 traffic 176:7 transact 184:8 transactional 181:9 transcript 199:1 201:5,7 transcription 201:1,8 Transcriptionist 201:14 transcripts 199:4 transferability 173:19 transition 42:13 62:10 97:20 translate 121:14 190:10	translated 126:15 translating 187:14 transmission 2:11,12,16 25:21 26:4 30:7 32:11 33:5 36:2,16,20 41:21,22 44:21 45:1,13 46:10 49:10,18 50:17 51:8,14,19 52:1,16 54:7,22 55:9 56:1,7,13,16 57:15,17,18 58:4,15 59:2 60:20 61:1,4 62:18 63:15,21 64:11,12,14,15 67:6,13 69:18 70:9,12,17,18 71:8,9,13 75:10 77:11,19 78:5,14 80:3 86:5,19 90:5,16 91:4,16 94:22 95:2,13 96:6 98:9,10,20,22 104:13,16 131:13 136:18,22 150:7 151:19 152:1,2,9 154:19 155:13 157:6 158:4,5,7,21 transmissions 45:3 90:10 transmitting 25:6 transparency 67:19 101:9 transparent 27:1 115:8 168:10 transparently	175:22 177:6 transportation 25:12 38:22 40:8 120:17 transporting 121:10 TransWest 45:8,9 101:5 trap 133:4 travel 121:15 traveled 198:3 travels 13:5 Treaty 82:9 tremendous 23:1 24:1 123:7 tremendously 89:2 trenches 145:15 Tri 85:21 tribal 2:2 5:13 18:12 54:14 58:13 104:22 105:14 tribes 32:17 44:20 tried 141:21 trigger 80:22 118:3 triggered 51:19 124:3,5 triggering 130:7 Tri-State 2:11 41:22 49:20 50:9 51:6,21 54:21 56:14 77:4 Tri-State's 49:20 53:9 trona 9:6 trouble 112:22	truck 121:14,15 176:7 trucks 121:11 true 3:5 15:3 63:1 103:6 119:20,21,22 135:2,3 137:12,13 143:2,3 180:20 200:8 201:7 truly 31:16 192:5 trust 68:14 trusts 134:5 189:15 try 13:6 26:6 27:19 57:9,11 63:17 84:14 93:14 97:16 127:10 129:8 134:6 149:15 150:21 162:16 trying 9:22 11:16 15:9,14 24:20 75:9 87:13 88:9,21 127:15 128:18 133:18 144:20 148:13 149:8,22 170:18 194:1 tuned 159:2 turbine 114:19 turn 15:1 22:1 24:14 41:15 143:12 163:8 197:21 turned 70:14 twelve 62:17 two-year 57:21 type 75:22 98:12 118:3 121:18
---	--	--	---

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>124:10 149:10 151:7 161:10,12 162:8 176:20 typed 201:4 types 36:4 60:10,20 116:2 159:19 163:5 172:14 180:22 typewriting 200:7 typical 28:4 typically 80:18</p> <hr/> <p style="text-align: center;">U</p> <hr/> <p>U.S 6:9 41:13 44:5 51:17 77:7 80:21 114:12 145:12 192:11 ultimately 73:14 74:11 124:13 143:19 157:17 180:16 193:10 unacceptable 167:12 unanticipated 105:5 155:9 unbiased 53:3 uncertain 196:19 uncertainty 78:19 82:17 131:19 143:15 underestimated 72:14 underground 176:5 underlying 14:5 Undersecretary 14:4 understand 16:18 47:22 48:5 65:22</p>	<p>68:18 76:14 79:17 80:15,18 90:9 93:22 98:12 141:2 151:15 understanding 66:15 80:12 129:6 158:14 160:22 190:15 194:11 undertake 119:2 139:8 unending 74:3 94:10 Unfortunately 80:18 105:2 196:12 unified 183:18 uninformative 119:5 United 54:19 55:15 72:7 75:3,4 104:4 107:17 125:19,21 145:3,19 170:4 units 125:16 University 3:10,13 127:9 147:16,22 159:15 unless 69:1 182:8 unlike 59:3 unlikely 118:15 unmistakable 28:5 unrelated 123:2 untenable 167:2 update 90:16 updates 179:14 upgraded 78:5</p>	<p>upgrades 104:17 upload 156:18 157:7 upon 10:13 18:6 53:20 71:8 77:12 98:17 116:3 154:9 156:12 189:17 upper 62:6,16,19 176:3 upping 27:1 up-to-date 181:18 uranium 9:3 34:6 urban 43:10 urge 40:20 81:21 105:22 199:1 useful 106:15 163:8 users 156:13,17 194:7 utilities 56:14 80:6,12 83:10 103:19 104:14 161:13 utility 51:4,17 56:8 57:18 59:4 61:16 63:16 68:3 69:19 77:12 79:19 145:13 189:15 utility's 66:2 utilization 21:5,9 utilize 99:7 utmost 193:4</p> <hr/> <p style="text-align: center;">V</p> <hr/> <p>Valley 54:21 55:16 VALORI 201:4,13</p>	<p>valuable 155:10 180:1 181:8 value 44:1,11 59:2,5,9 60:17 126:8,13 151:15 163:1 175:5 181:1 values 37:8 149:3 170:10 180:6 195:6 variables 82:15 variety 23:10 50:19 96:1 various 15:9 30:2,3 34:7 50:17 51:9 60:10 158:9,13 159:2 192:22 varying 107:5 vast 54:10 vegetation 80:13,16 vegetative 171:4 Venn 160:14 verbal 99:13 vernacular 172:22 versus 56:8 vested 51:14 via 4:7 41:8 101:18 196:9,11 Vice 2:16,21 3:2,5 42:12 69:17 102:20 103:1,6,12 120:1 victory 7:15 view 15:17 19:5 53:12 61:3,8 71:10</p>
--	--	---	---

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>views 41:11,12 115:11 146:19 183:1 Virginia 114:16 vision 47:17,19 vision's 59:6 visiting 31:5 vital 36:15 155:16 voltage 57:14 60:12</p> <hr/> <p style="text-align: center;">W</p> <hr/> <p>WAC 178:5 wait 123:19 184:18 WALSH 76:17 190:18 warming 27:17 28:3,6 Washington 6:16 13:22 14:6 29:6 53:22 88:13 97:15 113:22 155:5 189:2 191:17 wasn't 74:16 watching 101:18 110:6 196:8 water 29:19 81:2,7,8,12 88:9 104:3 106:17 114:13 145:17,18 161:13 169:8 waters 80:21 81:8 107:17 145:3,12 148:10 waterway 38:22</p>	<p>Watkins 30:1 Wayland 2:2 5:12,17 8:8 13:12 28:20 40:16 197:12,16,22 198:1 ways 23:11 38:11 39:4 61:15,20 88:5 118:8 134:1 163:7 178:18 181:17 web 198:21 WEBER 201:4,13 website 83:20,21 135:19 146:20 159:2 164:12 173:14 WECC 151:18 152:4 158:20 179:10,16 we'd 96:12 100:21 121:13,16 154:16 191:19 week 40:6 164:8 weeks 21:16 22:9 25:14 198:22 welcome 4:3,6,7 8:19 42:17 120:4,6 we'll 15:2 31:5 57:11 64:18,19,20,21 65:2 84:15 136:4 164:9 196:4 wells 167:7 Welsh 2:4 4:2,9 37:17 38:2,6 39:12 40:13,18 41:7 42:9 49:6</p>	<p>56:19 57:5 61:22 69:14 83:15 85:20 87:19 89:6 90:22 92:3 93:4 94:5 95:6 96:14 97:9 99:10 101:14 102:4,9 108:13 113:17 119:16,20 125:4 129:22 131:14 132:15 134:2 135:1,14 136:13 137:1,11 138:5,13 139:15 140:17 141:16 143:1,21 144:6,22 146:3,12,16 153:6,8 159:7 165:4 171:16 177:9 179:19 180:18 182:4 185:9 194:21 195:13,20 196:7 197:3 199:15 we're 10:6,8 11:10,11,12,13 15:14 20:20 31:20 34:19 35:11,12,15,22 36:21 39:15 43:4 50:4,6,7 52:7 56:6 57:8 60:1,15 63:10 64:13 65:18 68:17 76:10 90:13,15 93:4 98:21 99:5 100:6 109:8,9,12 112:22 122:1 124:10 128:18 129:13 143:17 148:10,14 150:5 152:11 160:1,17</p>	<p>161:6,9 162:16 163:6,21 164:17 166:18 170:6,11 172:20 175:12 178:12 181:12,13 183:4 185:19 186:6,10 189:12 190:11,17 193:8 195:21 196:3 198:13 west 34:4 45:18 71:5 78:10 92:10,12 99:2 114:16 148:8,20 193:3 western 2:17 3:8 25:22 42:13 45:22 50:6 55:14 69:18,20 70:2 72:7 73:6 92:8,11 97:5 147:13 149:17,21 150:5 153:14 154:5,8,10 155:7,22 192:21 193:1 West's 155:10 West-wide 150:19 we've 6:19 11:17 12:13 23:19 36:17 51:16 69:8 75:22 76:2 78:9 92:18 109:1 111:1 112:22 113:2 130:1 131:2 133:1 153:17 162:9 163:10 164:5 171:10 173:10 175:15 176:20 177:20 190:5</p>
---	---	--	--

Capital Reporting Company
 Quadrennial Energy Review Public Meeting # 11 08-21-2014

194:9 197:18 198:7 WGA 153:20 157:12,18 158:1 160:1 163:16 179:11 WGA's 159:2 WGISC 159:22 whatever 16:8 60:3 95:3 142:21 180:12 Whereupon 199:16 whether 58:16 79:10 85:1,2 127:13,14 128:5 142:20 145:14 175:20 180:21 184:6 196:10,11,17 white 66:8,11 198:12 Whitehouse 17:22 whittled 67:6 whole 16:7,21 23:1 93:1 98:17 wholly 118:4 whom 48:6 200:2 whose 84:22 200:4 WIA's 43:21 wide 119:9 widen 61:7 wider 117:18 widget 189:18 Wilderness 3:7 147:11 149:14 151:20 189:9 wildlife 29:20 94:3	144:17 148:9 149:18,21 154:7,10,20 155:12,19,22 156:15 157:3 163:18 171:21 172:3 173:11,13 174:1,12 175:12 182:22 188:18 190:9,11,17 willing 52:12 197:17 win 31:19 wind 9:4 23:7 30:6 31:6 34:6 60:4,15 63:19 65:1 70:21,22 71:3,4 114:17,18 166:18 173:11 winter 174:16 wires 16:8 26:7 Wisconsin 67:14 WISDOM 160:2 163:13 179:11 181:11 witness 200:4,6,9 witnesses 46:15 work 6:14 7:2,9,21 8:2,12 10:18 11:19,20 12:3 14:8,16 15:10 17:15 28:8 29:17 31:13 32:20 33:3,9 35:11,13 37:9 45:6,7 47:18 49:15 53:17 62:12 63:20 66:7 78:4,18 83:12 85:8 87:6,22 88:6 90:19	104:21 105:2 107:1,3 111:19 127:18 130:11 133:16,22 138:4 141:2 142:17,19,22 145:16 146:1 150:13 157:17 161:22 163:7 175:20 183:10 184:10 195:9 worked 14:12 30:11 95:11 117:11 138:1 working 28:14 29:18 30:1,3,10,12 31:18 36:1,10,21 80:10 85:19 87:15 92:11,13 105:8 110:18 121:1 122:2,11 150:5 151:2 156:11 172:9 177:15 186:6 workload 48:13 53:19 works 98:13 115:2 151:3 153:20 182:7,17 184:19 189:6 world 43:8 52:4,13 86:6 87:6 99:9 109:9,11 120:18 172:2,21 186:13 world-class 172:2 world's 114:18 worth 27:12 100:2 126:12,15 WOTUS 104:4 wrapping 75:20	159:1 WRDA 106:18 write 66:1 177:2 written 40:20 52:14 99:14 101:19 115:22 146:7 197:2,3,20 wrote 74:11 99:13 www.energy.gov/ qer 83:21 146:21 Wyoming 1:12 2:8,9,20 3:9,10,13 4:6 6:22 7:2,4,17 8:22 9:7,13 11:6,9 12:11,22 15:11 16:21 23:7 26:21 30:10 31:2,9 34:4,12,19,21 35:22 36:22 37:12 41:18 43:19,21 44:2 46:21 48:22 50:5 70:19 88:12 100:17 102:19 109:21 110:19,20,21 111:6,8 120:5,6 125:8,15,17,19 126:2,7 127:5,7,9,12 128:12,19,22 131:3 139:8 141:7 147:15,16,22 155:6 159:14,16,21 163:13 164:8 166:11 167:4,14,18 168:1 169:18,19
--	---	--	---

Capital Reporting Company
Quadrennial Energy Review Public Meeting # 11 08-21-2014

<p>170:1 171:9 172:1,8 174:8 176:4 188:8</p> <p>Wyoming's 7:13 8:14 43:3 44:1 48:21 100:20 111:12 125:10 128:17 160:2</p> <hr/> <p>X</p> <p>Xcel 54:22</p> <p>XL 123:3</p> <hr/> <p>Y</p> <p>Yellowstone 70:5</p> <p>yesterday 7:15</p> <p>yet 7:21 23:2 24:17 71:2 168:12 174:17</p> <p>you'll 127:1 197:3 198:22</p> <p>yours 5:16 42:21 103:10</p> <p>yourself 37:19</p> <p>you've 13:6 33:9 68:17 70:3 89:7 184:3,4</p> <hr/> <p>Z</p> <p>zones 149:22 150:16</p>			
--	--	--	--