000 Dominion Energy Utah G-00000C-11-0081 OPEN MEETING ⁽Docket No. 18-057-03 DEU Exhibit 2.05 Page 1 of 144 BEFORE THE ARIZONA CORPORATION COMMISSION 1 2 3 IN THE MATTER OF THE COMMISSION'S) DOCKET NO. GATHERING OF INFORMATION CONCERNING) G-00000C-11-0081 4 NATURAL GAS OUTAGES IN THE 5 SOUTHWESTERN UNITED STATES. OPEN MEETING 6 7 8 9 Phoenix, Arizona At: March 2, 2011 10 Date: March 16, 2011 11 Filed: 12 13 REPORTER'S TRANSCRIPT OF PROCEEDINGS 14 AGENDA ITEM NO. U-21 15 16 17 18 19 ARIZONA REPORTING SERVICE, INC. 20 Court Reporting Suite 502 21 2200 North Central Avenue 22 Phoenix, Arizona 85004-1481 COLETTE E. ROSS 23 By: Certified Reporter Prepared for: Certificate No. 50658 24 25 ARIZONA CORPORATION COMMISSION (602) 274-9944 ARIZONA REPORTING SERVICE, INC. Phoenix, AZ www.az-reporting.com

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Dominion Energy Utah G-00000C-11-0081 OPEN MEETING Docket No. 18-057-03 DEU Exhibit 2.05 Page 3 of 144 1 BE IT REMEMBERED that the above-entitled and numbered matter came on to be heard at Open Meeting 2 before the Arizona Corporation Commission, in Hearing 3 Room 1 of said Commission, 1200 West Washington Street, 4 Phoenix, Arizona, commencing at 10:16 a.m. on the 2nd of 5 March, 2011. 6 7 8 GARY PIERCE, Chairman BEFORE: BOB STUMP, Commissioner 9 SANDRA D. KENNEDY, Commissioner PAUL NEWMAN, Commissioner BRENDA BURNS, Commissioner 1.0 11 12 **APPEARANCES:** 13 14 For El Paso Natural Gas Company: Mr. Jim Cleary 15 16 For Transwestern Pipeline Company: 17 Ms. Shelley Corman 18 19 For UNS Gas: 20 Mr. Michael Patten Mr. Nathan Shelley 21 For Southwest Gas Corporation: 22 Mr. Justin Lee Brown 23 Mr. Bill Moody 24 Mr. Gary Clark 25 (602) 274-9944 ARIZONA REPORTING SERVICE, INC.

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1 CHMN. PIERCE: We will now organize for Item 2 No. 21.

Today we are here to talk about the incident 3 that occurred in southern Arizona with the outage of 4 natural gas and where that began and how it ended. And 5 we are going from -- here basically is what we are going 6 to do and what I have done. Here is how we are going to 7 organize this so everyone knows. We are going to take 8 9 in this order, and I want -- we are not going to have Commissioner questions. It tends to work well for us. 10 I invite you -- we are going to take them eventually --11 to write down your questions and let us go through a 12 five to ten-minute presentation from each of the 13 companies we are going to call on, go to public comment 14 too, so that we have a perspective up here of where 15 everything is. And then I think we can ask the 16 questions that I think will be most useful. 17

I would invite -- and I see that Jeff Shaw is here, who is the CEO of Southwest Gas, and a number of folks from Nevada. Thank you for being here. By virtue of your being here, I recognize that you know this is important. And that's a good thing.

23 What we are going to do, we will have someone, 24 whoever you designate from your company, or there may be 25 more than one, when we get to questions I am sure you

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1 are going to delegate that question to whoever can best 2 answer. We invite you to do that. And some of you are 3 going to have PowerPoint presentations, and we welcome 4 that. But we would, to start out, like to take five or 5 ten minutes, and it will go in this order: El Paso 6 Natural Gas; Transwestern, these are our pipeline folks; 7 UNS Gas; Southwest Gas; and then Natural Gas Storage.

8 And we would like to remind you we are just kind 9 of wetting the whistle with what you have and letting 10 public comment participators speak. And then we will 11 get in depth, we will go back into your detailed 12 presentations. So you don't have to take a lot of time 13 here to start but something that you, in an opening 14 statement, you would like to say, we would invite you to 15 do that.

So let's begin with El Paso Natural Gas.
MR. CLEARY: Thank you, Chairman Pierce. My
name is Jim Cleary. I am president of El Paso Natural
Gas Company. And we would like to give an overview of
our view of what happened on the cold weather incident
and some ideas about how we can go forward.

22 CHMN. PIERCE: Mr. Cleary, you are the 23 president --

24 MR. CLEARY: Yes, sir.

CHMN. PIERCE: -- of El Paso? Well, welcome to

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1 you, too. I don't think we have met before. 2 MR. CLEARY: No, no. Glad to meet you, sir. I know you have met with some of my colleagues. 3 4 CHMN. PIERCE: Yes, I have. Thank you. Thank 5 you for being here. MR. CLEARY: Let me --6 7 CHMN. PIERCE: We have them. MR. CLEARY: Great. 8 On the first page, just to give you an overview 9 10 of El Paso Natural, we are a large interstate natural gas provider, transporter. We effectively move gas from 11 supply basins like the Anadarko Basin, San Juan, 12 13 Permian. We take gas into our system from pipeline 14 interconnects which might bring gas to El Paso Natural from the Rockies and we deliver to markets across the 15 southwestern U.S. and Mexico. In Arizona we have nearly 16 5,000 miles of pipeline. We have 345 separate delivery 17 meters. And we have 175 employees who are proud to call 18 this state their home. 19 20 I am going to just talk for a minute. Let me just talk from the slides. 21 CHMN. PIERCE: Well, we can probably help with 22 that, can't we, to make sure those move. Why don't we 23 24 do that. 25 MR. GRAY: Yes, absolutely. ARIZONA REPORTING SERVICE, INC. (602) 274-9944 www.az-reporting.com Phoenix, AZ

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1 MR. CLEARY: If you have the presentation, 2 Commissioners, we are on page 2 or page --3 CHMN. PIERCE: But it is helpful for the. 4 audience, especially those who might be commenters. But 5 they can see that. So as long as you, you can see the 6 screen, everyone, we should be okay. But we need to be 7 able to move that screen to click into the next slide 8 anyway. Thank you. 9 MR. CLEARY: Slide 3, please. 10This slide shows in sort of an overview sketch of the role of interstate pipelines in the gas delivery 11 12 system. Gas is produced by independent producers. Gas is then -- typically in the Permian Basin and San Juan, 13 14 it goes to processing plants to remove various 15 substances from the gas to make it ready for pipeline 16 deliveries and ultimate consumption. It moves through 17 the pipelines and then ultimately to customers. 18 The key takeaway is that we are in the business 19 of transporting natural gas safely. The gas is 20 purchased by our customers. Our customers will tell us 21 where the gas should enter into our system, which could 22 be the San Juan Basin, the Permian Basin, wherever, and

23 where they want the gas delivered each day.

The key from operating the pipeline is the gas supply in each day should equal the gas supply out

1 that's delivered to the market each day.

2 This is a picture of the El Paso Natural system. 3 And I will just note the major supply basins so you can 4 orient:

The Permian Basin in west Texas, to the north of 5 that would be the Anadarko Basin that we also access 6 through our El Paso Natural system. The San Juan Basin 7 in northern Mexico is a major supply area. And we bring 8 in gas from the Rockies through various interconnects, 9 interconnects with our Colorado interstate gas system in 10 11 the east, with our Mohave system in the west, and with other independent pipelines coming out of basically 12 north of San Juan. 13

So what did we see on the cold weather event? 14 Clearly this is a weather driven event, record cold 15 temperatures. We had record cold temperatures in 16 Tucson, record cold temperatures in Albuquerque, 45 year 17 record cold temperatures in El Paso, Texas. And that 18 did several things. It increased the demand for natural 19 gas due to the temperature. And we saw loss of gas 20 21 supply. In the Permian area and in the San Juan Basin there were some freeze-offs, which are not uncommon in 22 extreme cold weather, freeze-offs at the wellhead or 23 24 gathering lines areas there.

25 In the Permian especially it was exacerbated by

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power plants went out. And we had in Texas, I think 1 2 ERCOT reported 82 plants went down due to cold weather, 3 representing about 8,000 megawatts. What that did was a series of rolling blackouts on the ERCOT system and on 4 El Paso Electric. El Paso Electric, by the way, is an 5 6 independent company, not affiliated with my company in 7 any way. That interrupted power to processing plants. 8 When they were down, they had some freezing. When the 9 power came back on, they had trouble getting back on. 10 That resulted in less gas supply coming into the system. What we really saw and what was the driver of 11 12 this event was on February 1st, 2nd and 3rd, 13 significantly more gas was taken out of the system by El Paso Natural's customers than their suppliers were 14 15 putting into the system. That resulted in a depletion 16 of the line pack that we keep in our pipeline to 17 effectuate deliveries. And with that, as the pressures in our pipeline declined on the main line, some of our 18 19 distribution customers had trouble making deliveries to 20 their customers, residents, residential customers, 21 particularly at the far end of their systems.

And let me just point to a few numbers here that show you what happened. In Arizona, demand went up between, let's just look January 31st and February 2nd that is outlined, over that two-day period demand

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1 increased by 77 percent.

At the same time, if you will drop down to the 2 supply line, Permian from the 31st to the 2nd supply 3 4 dropped by 60 percent. What happened, you can see some market response at the pipeline interconnects, we saw 5 our utility customers and distribution customers try to 6 7 buy more gas to shore up the decline in Permian and San Juan production at different pipeline interconnects. 8 This was gas that might have come in from the Rockies or 9 other regions. And they were able to do so, but we 10 11 still on a net/net basis had supply exceeding demand by 12 15 to 20 percent on each of those days.

13 So how did that gas get delivered?

14 CHMN. PIERCE: You say supply exceeding demand?
 15 MR. CLEARY: Excuse me, demand exceeding supply.
 16 Thank you.

How did we manage that? Well, we managed it through two assets. We have a storage facility as part of the El Paso Natural system called Washington Ranch. That has a maximum withdrawal capability of about 21 250 million a day. As you can see, on February 2nd, 1st, 2nd and 3rd that ran flawlessly. We were on full withdrawal and the asset worked just great.

24 The next line is the impact on our line pack.
25 Now, we have line -- gas in our pipeline that's kept

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1 under pressure. And that was depleted. That was 2 depleted by about 700,000 a day on February 1st and 2nd, 700,000 over a three-day period. And when that 3 4 happened, we saw lower pressures on our main line because there was no, not enough supply coming in to 5 6 replenish that pressure. And as we have lower pressures 7 on our main line, that's when our customers, Southwest 8 Gas, for example, had trouble making deliveries to their 9 distribution customers.

10 Briefly during the period we were -- our 11 response immediately was we had fully manned our 12 critical compressor stations. So we had people, our 13 technicians, there in case of any weather issues related 14 to those stations. We were in constant contact with our 15 customers. I mentioned Washington Ranch was on full 16 withdrawal. Our line pack, we held it as long as we 17 could, but with that inadequate gas supply coming into 18 the pipe, it depleted. Net/net, though, we delivered 19 every decatherm of gas that our customers put in on 20 those days and more, 15 to 20 percent more each day.

Let me offer a few suggestions going forward. We are going to look at how we communicate with customers and process plant owners and generators. But I think one key takeaway is to see better integration between the electric sector, for example, for the

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electric utilities and generators to include natural gas
 facilities on their critical infrastructure list, not
 only pipeline compressor stations, but processing plants
 and other key production facilities.

Another suggestion, we do mock emergency several 5 times a year. Our mock drill is usually focused on a 6 7 pipeline scenario, one of our plants is out, one of our compressor stations is down. I think this event, to me, 8 illustrates the need to have an end-to-end mock. 9 That would be a mock scenario involving producers, processing 10 plant operators, pipelines and distribution and utility 11 customers. And there are ways to do that. We belong to 12 an industry group called the Western Energy Institute. 13 14SRP is a member. Southwest Gas is a member. And I think a group like that would be happy to sponsor a 15look -- of using a mock emergency that would capture all 16 segments of the industry. 17

We are going to take a look at our facilities, our key facilities. Storage performed just superbly but we are going to look at all 314 meters that we have in this state and make sure everything operated as it is designed, as is expected, and does it integrate well in an optimal way with our customers.

Finally, I think it is time to reevaluate storage. We have proposed in 2008 to expand our

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1 Washington Ranch storage field by 100 million a day. 2 The 250 that we have now helped. 350 a day would have 3 helped more. We had proposed and actually my company 4 has spent, invested \$40 million between 2004 and 2008 to 5 develop storage fields in Arizona. Now, and these would be high volume salt cavern fields. Had either Copper 6 7 Eagle or Arizona gas storage been in place, it would 8 have been a huge benefit in dealing with this situation. 9 So we view that when we propose these projects, that 10 storage would enhance reliability. I think the events 11 of early February just underscore that.

Now, you may ask why didn't those projects go forward after an investment of \$40 million. These are multi \$100 million projects. And to get a project like that done, you need alignment of market, you need alignment of regulators, legislators and other public stakeholders. For various reasons we just didn't get there when we worked on this in 2004, '5, '6 and '7.

But I think the time to take another look at this is now. And my commitment to this Commission and to our customers is that we are ready, willing and able to roll up our sleeves and get to work on evaluating storage and doing what we can to move it forward, and certainly looking forward to working with our customers and this Commission on that.

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1 CHMN. PIERCE: Well, thank you. And I think it 2 is ironic that the senator who was here was the former 3 representative who really put the dagger in Copper 4 Eagle. 5 MR. CLEARY: Well, perhaps we could have another 6 discussion about that off line. Thank you.

7 CHMN. PIERCE: I think so. All right. Because
8 I was there for that discussion. So were you,
9 Representative Stump, former Representative Stump.

10 Okay. Transwestern.

11 MS. CORMAN: Good morning, Chairman Pierce, 12 Commissioners. I am Shelley Corman. I am the senior 13 vice president of commercial and regulatory affairs for 14 Transwestern. And I just have a couple of slides to 15 share with you this morning.

16 First is a picture of the Transwestern system.
17 I don't think it shows up too good overhead. Oh, wait.
18 I have some copies here for you.

19 The Transwestern system carries gas supplies 20 from primarily the San Juan and the Permian Basins to 21 markets in New Mexico, northern and central Arizona and 22 the California border. Transwestern does not own 23 storage. We are connected to one storage facility in 24 Texas, the Keystone storage facility.

25 On this map you can see that we have 18 major

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compressor stations. 75 percent of our compression is
 gas fired, gas fired compressors. And the other
 25 percent are electric compressors, electric motors
 where we buy the power from the utility.

5 Turning to the next page, specifically in 6 central Arizona, we connect to six gas fired generation 7 facilities. We also are connected to two local 8 distribution companies with six active delivery points. 9 We do not reach into the southern Arizona area, into 10 some of the areas of the gas outages that you are 11 discussing this morning.

12 But we did think it was helpful to show you a 13 picture of what was going on in our system. And really 14 I will echo many of the same themes of Mr. Cleary. 15 During the recent winter weather we did experience 16 impacts on the Transwestern system. We didn't lose 17 power at any of our compressor stations. We had 18 capacity to serve our customers. And we continued to 19 make customer deliveries out of line pack, but we did 20 experience the same phenomena of loss of supply in the 21 system.

And this, Mr. Cleary showed it on a table form, this is a graph form of the same sort of thing. What you are looking at on this graph is the legend. On the left-hand side is plotting in MMBtu the receipts and the

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deliveries on the system. And along the right side you
 are seeing the pressure on the main line of the system.
 This is not in the central Arizona area. This is along
 our main line in New Mexico.

And you can see that for a period of time during 5 the gas day of February 2nd, nearly 400,000 more MMBtus 6 7 were going out of the system than were coming into the Transwestern system, As a percent of Transwestern's 8 line pack on a good day, we have four bcf of gas in the 9 We started into the winter events on 10 system. Transwestern with about that amount of gas in the 11 system. So 10 percent more gas was going out of the 12 system than was coming in for a large part of the day on 13 14 the 2nd of February.

And like others in the industry, we are trying 15 to learn all the impacts. It was, that loss of gas 16 supply was split between the San Juan and the Permian 17 There were some anecdotal information that that 18 Basins. 19 was power outages, that was freeze-offs, but we are 20 still trying to learn and work with all the interconnect parties to understand what all the problems they 21 encountered in putting gas into the system. 22

Luckily, on the western part of our system in the central Arizona and the California border areas, we had good pressure on the system. We never fell below

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1 800 pounds. But certainly our lower pressures on the 2 main line were affected and impacted some of our other 3 customers.

4 So in sum, really I will echo the comments of 5 Mr. Cleary. For us it was primarily an impact at 6 managing to serve our customers out of line pack during 7 the winter weather of February 1st through the 5th. We 8 don't have a storage resource to count on in the 9 Transwestern system. And we did that by allowing 10 customers to draw gas down out of line pack as long as 11 we were able to continue to operate our compression, to 12 push as much gas to the New Mexico and the Arizona areas 13 to keep pressures up as long as we could.

14 Thank you.

15 CHMN. PIERCE: Thank you.

16 Okay. Now we will hear from UNS Gas.

MR. PATTEN: Good morning, Chairman Pierce,
Commissioners. Michael Patten on behalf of UNS Gas.

As you know, UNS Gas serves portions of northern Arizona as well as the Nogales area. UNS Gas did not experience any retail customer outages or curtailments as a result of that cold weather event a few weeks ago. We did reduce the gas flow to the UNS Electric Valencia plant down in Nogales as a precaution, but that reduction did not have any impact on the UNS Electric

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1 customers either.

We have provided information to the Commission regarding our emergency plan and other questions that Commissioner Kennedy had. And we do continue to monitor events like this to help us prepare better for the future.

7 We thought rather than a presentation here we would have appropriate people to answer the questions 8 you may have. And we have brought Mr. Nathan Shelley, 9 who is the general manager of UNS Gas. We have Mike 10 Flores, who is the manager of transmission and 11 distribution engineering. And we have Theresa Mead, who 12 13 is the lead analyst for gas transportation systems for 14 UNS Gas. And we will be prepared to answer any questions that you have at the appropriate time. 15 Thanks. 16

17 CHMN. PIERCE: Thank you.

18 Okay. Southwest Gas.

MR. BROWN: Good morning, Chairman Pierce,
 Commissioners. Justin Lee Brown on behalf of Southwest
 Gas.

22 We welcome the opportunity to provide a brief 23 presentation to the Commission, providing an overview of 24 some of the already written responses that we have 25 provided to some of the questions the Chairman,

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Commissioner Kennedy, as well as Commissioner Burns has
 presented through letter format.

3 With me today is our vice president of gas 4 resources, Bill Moody, as well as vice president Gary 5 Clark, who is the southern Arizona division vice 6 president. They will be providing an overview from a 7 gas supply as well as the operations perspective on the 8 weather related event of the 1st of February that others 9 have already touched on.

10 Thank you.

MR. MOODY: Good morning. Is this on?
CHMN. PIERCE: Press the button.
MR. MOODY: There we go. Good morning,
Chairman, Commissioners. I am Bill Moody, vice
president of gas supply.

We are the utility of record. We had the customers out. So we brought both the supply and operations side. We will keep a brief presentation here but attempt to give summary answers to all the Chairman's and Commissioners' questions and the letters, and, of course, be happy to elaborate if this isn't enough information.

First off, we are here to discuss the loss of natural gas service to our customers in Sierra Vista and Tucson. And none of us wants a customer outage. In

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fact, we all do, from the Commission through all of our 1 companies, our suppliers, do a lot of planning around 2 trying not to lose service. And we also do significant 3 planning investment about service restoration. And we 4 are going to talk about both of those things today. 5 We regret and understand, having been in the 6 customer side of the business awhile, a customer without 7 gas is angry. And that's the end of that story. You 8 can't make him happy because you already took the 9 service away. In this case, there is a lot of evidence. 10 We feel like we reacted well to what we knew beforehand 11 and afterwards, and we were a victim of this weather 12 event just like our customers are. That doesn't dismiss 13 14 their feelings on the matter because, when we put our corporate logo out, we understand we are providing a 15 service. 16

17 I think the causes of the outages are pretty 18 well established. And I am going to give some detail 19 that some of you have seen in separate meetings about to 20 put perspective around our Arizona weather event. This 21 slide simply mimics what our pipeline suppliers have 22 told us about the supply basins. And we experienced 23 every single problem that they described.

24 Bentek is a research firm that does national and 25 international gas research. And they sent a market

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1	alert out after the event that kind of put in	
2	perspective what the production loss means to all of us	
3	in the gas community. 5.6 bcf nationally is 10 percent	
4	of the gas supply for the entire nation for a day. It	
5	is a big number. And a bcf of that was in the three	
6	basins where we purchased our gas for our Arizona	
7	customers. And so a bcf of gas loss means we don't know	
8	until afterwards when we go out to purchase that gas and	
9	perhaps even the sellers of that gas to us are not	
10	certain whether or not that gas will show up.	
11	Think of this as a very real-time situation.	
12	Hold on just a second.	
13	COM. BURNS: I thought I had it already but it	
14	is different. So	
15	MR. MOODY: We have been morphing. We have some	
16	more copies if you need one.	
17	COM. BURNS: I need one. Thank you.	
18	CHMN. PIERCE: We have got one here.	
19	MR. MOODY: Okay, okay.	
20	CHMN. PIERCE: Thank you.	
21	MR. MOODY: Thank you. This looks similar to	
22	the one you saw in your office, yes. Okay.	
23	We now know the numbers greater than 50 this	
24	report was done very quickly afterwards but at least	
25	50 power plants offline. And Texas experienced this	

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1 peak gas burn higher than any time in their history. In 2 the meantime, out here in Arizona and across New Mexico 3 we are having one in 60 year weather, which is beyond 4 any of our design parameters.

5 To put that in perspective, the green bar is the 6 one in 30 year weather event. I have been working at 7 Southwest Gas for 30 years and I can tell you that that 8 bar kept getting warmer for my entire career until this 9 year.

10 The blue bar is the actual weather if you went 11 to the weather service and looked. Then when we order 12 gas every day for you, our customers, we have a very 13 sophisticated modeling system that takes into account 14 humidity and wind, all the things that might affect how 15 cold a customer feels or how a dwelling may react to gas 16 so we know how much to order.

And that red bar really puts in perspective this 17 weather event. Those of you who are in Tucson, and my 18 compatriot, Gary Clark here, runs that division, when I 19 talked to him that day it was cold and it was windy, but 20 the words were you can't believe the wind. And that 21 proves it out. In Tucson, Arizona, we had 42 degree day 22 23 effective weather compared to a design or a 30 year event of 35 and a half. That's a lot colder, not just 24 that little tiny red bar. And notice that Phoenix, 25

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Arizona is at a peak as well. I had the opportunity to
 visit Phoenix. I never felt it this cold on that day
 when I was here. I lived here for awhile.

4 So the gas company reacts in the way that we 5 can. Our gas buyers on February 1st, we see that the 6 green bar is the gas we actually took. The blue bar is 7 what we ordered or tried to purchase from our suppliers. 8 And the red bar is what was scheduled. And scheduled 9 means that supplier and pipeline and customer all agree 10 that that gas was put into the pipe. Obviously the 11 problem is the difference between the red and the green 12 line.

13 But in answer to the Commissioner's question, 14 did the gas company react to this event, you can see by 15 the blue bar that we ordered more gas than we expected 16 would show up to try and make the net/net be helpful to 17 the pipeline as well as account for the cuts that we 18 knew were going to occur in the basin. And in that blue 19 bar it includes all firm purchases. And in some cases 20 that was beyond the capacity we would normally own on 21 our pipeline. So we actually purchased capacity from a 22 seller so that we would have it firm all the way to our 23 gate.

And then what happens is what was described by the pipes. They have a responsibility to tell both ends

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of the pipe if the basin is not performing, either we
 are not taking your gas in or, Southwest Gas, your gas
 is not showing up.

Another issue that occurred was advanced 4 warning. And I want to assure the Commission we 5 absolutely had advanced warning. We watched the weather 6 7 forecast multiple days in advance. This was a classic cold event, which it got colder as the day got closer. 8 The weather forecasts typically either miss one side or 9 the other, but, so we are always dealing with that. But 10 as I told most of you separately, you are paying us for 11 judgment. And we exercised our best judgment. We also 12 13 have 24-hour monitoring of our system. Distribution and the inlet pressures that are at topic here this morning, 14 15 we understood what was going on there.

And then we also receive routine pipeline 16 communications. By tariff, part of the agreement is, if 17 we have a problem or, more importantly in this case, if 18 the pipeline is experiencing, there are a number of ways 19 we would learn the condition of our line. One is each 20 of the people involved in purchasing gas every day have 21 on their screen the ability to look at the line pack in 22 El Paso's line, in TW's line. They do that. That is 23 part of their gas buying process. They can see things 24 were happening. 25

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At the same time the pipeline issues us 1 2 warnings. In this case the SOC stands for a strained 3 condition, which means the pipeline anticipates they may have a problem, and they signal customers. And we try 4 to take action. And then it turns into a critical 5 6 operating condition emergency, which is the worst 7 possible condition, which is we are experiencing major difficulties of some sort. And those are typically 8 9 described to us. And then we have ongoing constant 10 communication that stretches from the pipeline through 11 our gas monitoring facilities to the division.

Now, none of this meant outages were certain.
We don't run out and turn people off on the guess that
people may go off.

15 So now I am going to hand this over to Gary 16 Clark, who is your vice president of operations for 17 Tucson, to talk a little bit about what happened in the 18 operating division.

MR. CLARK: Good morning, Mr. Chairman andCommissioners.

Southwest Gas does indeed have an emergency plan manual and a winter operations guide that we follow on a regular basis during the cold weather portions of our year. We attend the winter operations meetings that the Commission sets up around the October time frame. And

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1 we take those meetings very seriously. And we look at 2 our operations. We look at all aspects of our pipeline 3 systems to try and ensure that we will have adequate 4 capacities to serve our customers.

I will begin on the morning of February 2nd. 5 At that time, as Bill has indicated, we were looking at the 6 weather, we were looking at pressures from our telemetry 7 systems on the pipeline and we were anticipating that 8 9 there could be potential problems if there wasn't some recovery of pressures on that pipeline. We met together 10 as a management team. We looked at our curtailment 11 plan. And we instructed certain management people to 12 13 make calls to customers and alert them of a potential 14 curtailment.

During that process, many of our customers voluntarily who had alternate services went from natural gas to an alternate energy source. And at Fort Huachuca, the base cooperated with us and put out an order that all thermostats would be lowered to approximately 50 degrees during this cold weather event to help us out.

We took those steps. We also looked at some modeling that had been done previously that would enable us to see what would happen as our pressures and the demand on our system, if the degradation occurred that

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1 we thought in this weather event would occur.

And lastly, we implemented, per our winter operations plan, the process of having our field personnel out at critical facilities starting at 10:00 p.m. that night throughout the night to monitor and make sure there were no mechanical issues that would occur as a result of the cold weather.

8 In the morning of February 3rd then, we received 9 our first alarm on our telemetry system in the night in 10 the Sierra Vista area. And we recognized that in that 11 area that pressures were dropping at a significant rate 12 and that if it continued during the morning peak that 13 there would be outages.

14 Similarly, in the Tucson area, on the Houghton 15 Road system, this was the system that we were 16 particularly concerned with, it services approximately 150,000 customers, and what you see in this graph is 17 18 ultimately as a result of this event, the areas in blue 19 are the customers that we ultimately lost as a result of 20 not having enough capacity in our distribution system to 21 serve them.

Immediately following the outage, we began the restoration of service to our customers. We notified the gas safety group of the Arizona Corporation Commission and let them know of both the Sierra Vista

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1 event and the Tucson event and subsequently kept them
2 informed as well as other members of the Commission of
3 what was going on.

We made calls to our other operating areas in central Arizona, in the Phoenix area, and in Nevada and California and asked for assistance of getting personnel on their way to come to Tucson to assist in restoring service to our customers.

9 That restoration event began immediately upon 10 the outages. We began by having to go and turn off 11 meters to customers. And ultimately the restoration 12 efforts, once they began, our first service restoration 13 attempt was completed at all customers that were lost 14 within two and a half days.

During this time period, we were very busy in communicating with various media resources to keep them alerted to what was going on during our outage. We immediately released news releases and ultimately initiated and responded to 376 media contacts. As a result of that, we communicated both in Tucson and Sierra Vista.

Now, it might be of interest that in Sierra Vista they have no television media within that community. And, therefore, in Tucson, we were providing information to Sierra Vista, to the Tucson media. But

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it was not making it down to the Sierra Vista customers.
 So we relied heavily on giving updates to the Sierra
 Vista Harold, the local newspaper, and multiple radio
 stations in the area to keep them apprised of what was
 going on with our efforts.

6 We also participated in news conferences with 7 the Pima County Office of Emergency Management. And in 8 Cochise County, we were in constant contact with their 9 emergency services manager and representatives of the 10 public service agencies down there to keep them 11 informed.

As a result of all of these efforts, we feel that, from a field perspective, everything went as we had hoped. Service was restored as quickly as possible. However, several recommendations have come out of this process. And briefly let me go over those recommendations.

18 We feel that we need to develop a system to 19 capture field information regarding relight locations 20 and estimated times. This would give our customers 21 up-to-date information as per when service technicians 22 would be knocking on their door. That was the single 23 biggest concern that our customers had, when will you be 24 at our house. And we feel that we will investigate and 25 try to implement a system that will enable us to do

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1 that.

25

2 Secondly, we are going to look at the potential of predictive dialing technology. In Tucson, we were 3 4 able to partner with Pima County's emergency management 5 and use their reverse 911 calling system to put out a message to our customers. And that was a one time 6 7 opportunity to put out a message to all customers within 8 the outage affected areas. A predictive dialing system 9 in-house would enable us to put out those messages on an 10 ongoing basis.

11 We need to look at the correct way to utilize 12 the spread of social media in our communications stream. 13 We recognize that this today is an important opportunity 14 for us to pursue and to see what opportunities are 15 there, again, to communicate with customers.

16 We want to look at software which will update in 17 an emergency, technology on our website so that that 18 information is current and accurate and ongoing.

We need to look at implementing an on-call system for other departments that aren't affected in the outage, including some of our corporate staff departments, so they are available on an on-call basis to assist operations with technological needs and other areas.

Right now we have discovered that in our

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engineering area, our maps and information doesn't translate over to our customer service system. So we need to look at the potential of getting those two systems to talk to each other.

5 And lastly, we are going to look at implementing 6 a notification system within house company-wide to 7 ensure that all of our departments are aware of an 8 outage in a particular area so they aren't scheduling 9 maintenance of a critical system or anything else at the 10 same time or in an emergency mode during an outage.

11 I will turn it back to Mr. Moody.

12 MR. MOODY: Moving forward, we have already had 13 one debriefing session with our pipeline provider, El 14 Paso, and have been in contact with our suppliers. 15 Trust me when I say there is a big mess of bookkeeping 16 on the back end of this. Every gas customer who was 17 purchasing gas or selling gas into a pipeline was 18 hitting their scheduling system. And we will be working 1.9 through that for a long time to find out all the facts. 20 But, more importantly, I wanted to make sure that you understood that it doesn't stop after this happens. 21

This weather event is clearly outside of our planning criteria. So our planning process says that we will take this weather event, which hasn't occurred in February in 60 years, we will put it back into our

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planning processes. And it will directly impact our 1 2 long-range forecast for volume that our customers may require, our firm capacity commitments on pipelines and 3 infrastructure improvements. And that's probably the 4 most important one. In a moment I will comment on 5 storage. But also understand that we are in constant 6 7 discussions with our pipeline providers. We build a system and they build a system and they have to 8 peacefully interact in order to serve our customers. 9

10 So there is a lot of work that is going to occur 11 from this. That's part of a routine process that we 12 don't just do for winter preparedness. In my department 13 we will do it ten years in advance because many of these 14 projects are significant.

15 An example of that would be storage in Arizona. 16 Now, I realize we are switching away a little bit from 17 our customer communications and our gas purchasing. But 18 this was a question on everybody's mind. It has been 19 kicked around in Arizona for a long time.

As utilities we responded by forming the Arizona Storage Coalition in 2007. And as kind of the storage activity maybe lost a tiny bit of momentum, we are still all working on it. Commission Staff was involved. We keep them apprised. And generally this occurs following the Picacho Basin.

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And political issues, I wish I was as eloquent 1 2 as Mr. Cleary, on the ground, those political issues 3 revolve around the important work ADEQ does. And brine 4 injection is an issue, where we are putting water back 5 into the groundwater. And I am not a scientist so I can't comment on that. I just know it is an issue. 6 And 7 then, of course, the municipalities that were affected 8 by salt that was evaporated that needed to be stored 9 somewhere near Eloy, they also were out there working.

10 So Mr. Cleary said it best. There is a lot of constituents around gas storage. But the question we 11 12 were asked is would it have solved this event. And the 13 answer, without being deflecting, is maybe. Generally storage improves reliability. I think every utility in 14 15 the state is on record that it will improve reliability. 16 The question is where will the next requirement be and 17 will the hardware system adequately support that. But 1.8 that should not slow us up from pursuing storage. We 19 agree with everyone that gas in the state is an 20 important asset. Many states are making that play.

Finally, I will conclude our discussion with just a basic picture. Those green lines represent El Paso's system in our state. And in a sense, in essence that red line plus the green line that comes down by the R in Arizona is where Transwestern would be.

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Transwestern terminates out in that little red box. And
 that little red box represents the Picacho area.

3 So all of our pipeline systems are around that 4 area, and there happens to be salt there. I think that 5 any of us who were -- you were -- a couple of 6 Commissioners were in the legislature back in the days 7 of Copper Eagle. That was quite a bit bigger political 8 mess back in those days.

9 So that's what we are up against for something 10 that we support and would like to work on over the next 11 three to five years.

12 CHMN. PIERCE: Thank you. And we will get back 13 to Southwest Gas with questions after we hear -- let's 14 hear from Natural Gas Storage. Then we will have public 15 comment.

MR. CROCKETT: Chairman Pierce, Commissioners,
Jeff Crockett of Brownstein Hyatt Farber Schreck
appearing today for NGS Energy.

19 NGS Energy is developing an underground gas 20 storage project in this Picacho area that was shown on 21 Mr. Cleary's slide as the Arizona Natural Gas Storage 22 project located near Eloy.

I would like to introduce, if I could, some folks that are here with me today. Laura Luce is the president and CEO of NGS Energy. Chad Whited is vice

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1 president of project development with NGS. Deirdre 2 Mccaffrey is the managing director of this project here 3 in Arizona. Also with us here are Daniel Pastor, who is 4 from Tetra Tech, who is involved with the permitting and 5 environmental issues around this project, and then Jim 6 Bowe, who is with Dewey & LeBoeuf, outside counsel. I 7 am going to turn it over to them in a moment but I would 8 just say a couple of words about this.

9 We have heard that natural gas storage or 10 underground natural gas storage would have improved 11 system reliability and would have certainly benefited 12 the state in this outage that we have just been through. 13 I would ask the parties and the Commissioners to 14 consider the question if not now, when is the time for 15 underground natural gas storage.

We believe that the circumstances exist today that are -- there will not be more favorable circumstances than exists today to get a project like this done. And we are working hard on this project in Arizona and we invite the parties to work with us toward the goal of having a more reliable natural gas supply in the State of Arizona.

With that, I turn it over to Dan, who has got a
PowerPoint presentation.

25 MR. PASTOR: Thank you. I am happy to be here
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1 today talking about the Arizona Natural Gas Storage 2 project.

Just a brief introduction. My name is Dan 3 Pastor. I am a principal with Tetra Tech. We are a 4 company that provides environmental and engineering 5 consulting services specializing in the development of 6 underground natural gas storage projects. And our 7 purpose, our role in the project is to support the 8 facility permitting, which is fairly extensive, to 9 ensure environmental compliance, and we also support 10 water management and geotechnical engineering for the 11 development of the project. 12

And I have personally worked with NGS, which is 13 the parent company to Arizona Natural Gas Storage, in 14 the development of other projects around the country, 15 specifically the Tres Palacios project in Texas, which 16 was developed and in service at this time; the Leaf 17 River project in Mississippi, which is currently being 18 developed; the Windy Hill project in Colorado, which is 19 also under development at this time; and, of course, the 20 Arizona Natural Gas Project, which we have been working 21 on for about two years now. 22

Just briefly, a quick summary of underground natural gas storage. I think most people have the idea how it works, but essentially it is cavern storage in

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1 salt, so in a salt body that has suitable properties. 2 There is the dissolving of a salt cavity for storage, which is then taken off of the interstate pipeline 3 4 system, placed in the storage cavern and then drawn off whenever it is needed. It is done in a very safe 5 6 manner. And it is widely used around the country. 7 There are about 400 natural gas storage facilities that 8 store gas underground in the U.S., but none in Arizona. 9 So just briefly, why is it needed? I think we 10 have talked about why the need is here. It is its 11 reliability, flexibility and security. Storage can

12 provide both supply and pressure to the systems to meet 13 peak demand. And it also serves an important role in 14 providing gas fired generation backup to renewables. So 15 as additional renewables come on line, there is a need 16 for gas storage and gas fired backup. And it also helps 17 with the operation of the pipeline systems to make that 18 more efficient.

In particular you can see on the graphic there there are a number of states shaded in gray where there are no sources of natural gas within the state, and so the state is dependent upon pipeline service for its natural gas.

24 So specific to the Arizona Natural Gas Storage 25 project, we have talked about the Picacho Peak Basin

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near Eloy. That's where the project is located, about
 midway between Phoenix and Tucson.

And the facility itself, I wanted to give just a 3 quick overview of what the components are. There will 4 be eight storage caverns that provide a total capacity 5 of 20 bcf. And that provides for up to one bcf per day б of withdrawal capacity. Those caverns are shown here on 7 the facility map with the green dots. And it may be 8 difficult to see but there is a little brown halo around 9 that, that circle. That's actually the diameter of the 10 caverns where the gas will be stored underground. 11

12 In addition, there will be up to 22 brine ponds, 13 which we will talk about a little bit later, and surface 14 facilities, including gas compression to deliver the gas 15 into the caverns and then redeliver it back to the 16 pipelines.

17 This is gas fired generation, so not dependent 18 upon any other source. We have plenty of sources of gas 19 there at the facility. So it is not subject to 20 emergency conditions, plenty of backup gas supply there. 21 The facility also has a water intake structure 22 that will take water out of an adjacent canal. And then

24 the pipeline infrastructure.

23

25 And specifically they will -- the project

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there are pipeline systems that connect this facility to

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1 includes a nine and a half mile dual 24-inch pipeline 2 header that runs up and would tie into the Transwestern 3 and El Paso pipeline systems with pipeline laterals out 4 to two power plants.

5 So just briefly, a question that we get all the 6 time is how are these salt caverns created. And the way 7 it works, it is pretty straightforward. Water would be 8 taken from an adjacent irrigation canal. No chemicals 9 are added to it. It is just injected directly into the 10 salt bed, dissolves the salt just like you would 11 dissolve table salt in a cup of water, saturates the 12 water. And then that water is circulated back up to the 13 surface where it is diverted to some solar evaporation 14 ponds where the water can be evaporated.

15 Another question that we get a lot is why use 16 evaporation ponds. Well, there is really only one other 17 feasible option for brine disposal, which is deep well injection. From a technical standpoint, you can't 18 19 discharge it to the surface. And we have looked at that 20 option at the site and found that there are no suitable 21 injection zones there at the site beneath the salt for 22 that water to be disposed of. We have also looked at a 23 potential zone above the salt, but there are concerns 24 about disposal into that interval because it directly 25 underlies the regional aquifer system and it runs the

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risk of potential salt water intrusion into the aquifer
 system, which we can't have. And that would definitely
 be something that would be a concern to Arizona
 Department of Environmental Quality.

5 There is also an issue from a structural 6 standpoint about injecting water above the salt in that 7 it runs a risk of potentially damaging the cap rock 8 structure on the storage vessel that you are putting the 9 storage into.

10 So for those reasons we don't believe injection 11 is feasible at the site. Therefore, we have gone to the 12 evaporation pond options.

So the construction and operation of an underground natural gas storage facility is highly regulated both at the federal level as well as the state level.

17 The overarching agency for permitting of the 18 facility would be the Federal Energy Regulatory 19 Commission, which takes the lead authority on that. The 20 ANGS project is in the prefiling process with FERC. We 21 have been in prefiling for a little bit over a year at 22 this point.

23 The other lead agency that gets involved at a 24 federal level is the US EPA. They provide permits for 25 the solution mining steps, so the injection of the water

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1 to create the caverns. We have been working with EPA 2 and have submitted an application for the last three 3 injection permits for this site. And that's underway. 4 Those permit applications have been in for about a year 5 now.

6 There are other federal entities that are 7 involved as well as state entities. So the Arizona 8 Department of Environmental Quality has an aquifer 9 protection program that we are working with them on to 10 ensure that there is no leakage from any of the brine 11 ponds or leakage from the well casing during the 12 solution mining step.

One other interesting aspect of this project is that, given the size of the embankments for the solar evaporation ponds, we also have to engage the division of water resources for a dam safety protocol to make sure that we can construct those embankments safely and have a permit to do so.

We are also regulated by the Arizona Oil and Gas Conservation Commission as well as Pinal County Air Quality Control District.

A few other folks that are involved as well -it is a long list of folks, and that's why permitting one of these projects takes quite awhile -- is the Arizona State Land Department is involved. There are

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some properties there that the site would, the facility would be located on. And then, of course, we go through endangered species and the potential for any kind of cultural resources in the area, to make sure we are not going to have negative impacts on any of those resources through development of the project.

7 So that's a quick summary of the project. Next 8 Jim Bowe with Dewey & LeBoeuf will talk a little bit 9 more about the benefits of the project from a commercial 10 basis.

MR. BOWE: Thank you. Good morning, MR. BOWE: Thank you. Good morning, Mr. Chairman, Commissioners. Jim Bowe of Dewey & LeBoeuf for Arizona Natural Gas Storage. And I want to thank you for the opportunity to speak with you about market area storage in general and the Arizona Natural Gas Storage project in particular.

I think the reason my client asked me to appear here is storage has sort of been my life, which is a depressed, sad commentary. For the last 15 years I have been involved in nearly 40 gas storage projects all over the United States and elsewhere in the world, including all the projects that Dan described as having been undertaken by Natural Gas Storage, by NGS Energy.

24 First let's talk definitional terms. Market 25 area storage, which is what I am going to be touting for

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1 the balance of my comments, in my mind is the storage 2 that is located relative to major load centers such that 3 peak day and peak hour requirements can be satisfied in 4 substantial part by storage withdrawals.

5 Ideally, market area storage is located in the 6 hearts of the market. It happens that the Arizona 7 Natural Gas Storage project which is planned for Eloy 8 would be located conveniently between Phoenix and 9 Tucson, in the heart of the Arizona market, providing 10 about as good a location for reinforcing the gas 11 delivery structure in the state as you could imagine.

12 What value does market area storage bring? In other markets that have had the benefit of market area 13 14 storage for decades, California would be one example, 15 Michigan is another, the New England northeast states a 16 third, the availability of market area storage has 17 permitted long-haul pipelines to be sized to meet base 18 load requirements, average requirements instead of 19 having to be sized to meet peak requirements. Those 20 peak requirements can be supported in large measure by 21 gas withdrawals from storage facilities. That provides 22 real efficiency benefits in terms of pipeline design and 23 sizing.

Arizona has had the luxury of being able to rely for its peak day and peak hour requirements on pipeline

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deliveries without having the benefits of gas storage.
 But that has been to some degree a free ride that is
 coming to an end as the nature of gas demand in the
 marketplace changes.

5 And it carries risks to be reliant entirely on 6 pipelines for deliveries on the peak day and during the 7 peak hour, particularly in extraordinary weather events 8 or in the event of infrastructure upsets, which can come 9 not just because of freezing weather in the winter but 10 because of a major power plant or group of power plant 11 outages in this market in the summer.

I want to make sure that it is clear that the sort of excursion that this area had to deal with resulting from cold weather could just as easily result from the loss of a number of sources of supply into the market during the summer which could lead to a loss of a great deal of power generation. And the consequences would be pretty significant for the state.

19 The availability of pipeline capacity into the 20 state that allows the state to meet its peak day and 21 peak hour needs has really caused the utilities to defer 22 committing to gas storage. And that's why we have been 23 talking about this now for a long time. I have a sense 24 of deja vu. I was here in 2003 in a gas storage 25 conference convened by the Federal Energy Regulatory

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Commission to explore the need for gas storage in 1 2 Arizona shortly after FERC denied an application by Red 3 Lake Gas Storage project for a certificate to develop a 4 project up in the northwestern corner of the state. We 5 have been talking about gas storage in Arizona since 6 even before 2003. Here we are again. But, as my 7 colleague pointed out, now seems to be the time for the 8 commitments that are required to be made.

9 Where it exists, what does market area storage 10 do? What does it allow the gas infrastructure to do? 11 Over the short term and the near term, market area 12 storage can support service on the peak day. It 13 provides physical insurance against disruptions of 14 flowing gas supply. And that, those sorts of 15 disruptions can come from pipeline or compressor 16 outages, from gas supply interruptions, as apparently 17 happened in the Permian Basin, well freeze-offs, things of that nature. It can also compensate for sudden 18 spikes in demand, gas fired generation suddenly being 19 20 called upon in large quantity. It can provide overall 21 system support so that a system in need of additional 22 gas supplies, as was true in the Tucson area, could be 23 supported in part by withdrawals and displacements of 24 gas from a market like Phoenix that was better supplied. 25 Over the longer term, market area storage

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permits more confident reliance on gas fired power generation. Given the load fouling characteristics of gas fired power generation, it is the source of incremental generation for the foreseeable future in this part of the country.

The availability of market area storage permits 6 more efficient operation of the long-haul pipeline 7 8 systems, of the local distribution systems connected to them, and of the regional energy infrastructure, 9 including gas fired power plants as a whole. Over the 10 longer longer term, having market area storage would 11 allow more efficient sizing and operation of the 12 long-haul transmission systems. 13

So, overall, having the availability of market 14 15 area storage would improve the overall reliability and security of the energy infrastructure in the state. So 16 over all periods, having market area storage in place 17 would offer a physical hedge to gas LDCs and power 18 generators and to other major consumers of natural gas. 19 20 There are price benefits as well, which I won't get into now but would be happy to speak to. Having the 21 availability of storage in the heart of the market 22

23 allows you to be a little bit less of a price taker than 24 would be true if you had to go to the market in the peak 25 hour for an additional source of supply. And it also

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allows you to reduce your exposure to being long gas and
 having to dispose of it when there is an opportunity to
 store the gas rather than sell it at fire sale prices.

4 So there can be real gas cost benefits as well, 5 but here I want to focus more on reliability and 6 security as one of the major virtues of having market 7 area storage. And this is not new. This is something 8 that has been recognized in a lot of other markets, as I 9 mentioned, California, Michigan, the northeastern 10 states, and most recently Alaska.

11 I am working on a gas storage project in Alaska. 12 It would be the first one in Alaska being developed in 13 recognition of declining deliverability into the 14 Anchorage and Kenai Peninsula area. The Alaska, or 15 Regulatory Commission of Alaska had to wrestle with some 16 of the same issues you have to wrestle with having never 17 had gas storage in the state and has approved the Cook 18 Inlet Natural Gas Storage Alaska project to support 19 deliveries in the Anchorage and Kenai area because of 20 the benefits market area storage provides to maintain 21 system reliability and stability.

Arizona has been discussing this, as I said, for a long time. I went back and looked at comments that were filed with this Commission in 2003 by El Paso Natural Gas and, at that time, Copper Eagle Gas Storage.

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The same essential points were made in the presentations 1 that El Paso filed with this Commission and made today. 2 I point out in particular that it is generally 3 recognized that where market area storage is available 4 the customers can meet their peak needs through storage 5 withdrawals, and that would allow for more efficient and 6 cost effective and reliable satisfaction of market 7 8 needs.

9 I wanted to see if we can go to one slide just 10 to give you a sense of what graphically having storage 11 close to the market can mean. Obviously having storage 12 close to the market here would have helped. I think 13 there is no real disagreement among all the participants 14 in this proceeding.

I wanted to show you something that I had 15 personal experience with. This is a salt cavern gas 16 storage project called the Southern Pines Energy Center 17 located in Mississippi, very close to the Florida 18 market. There were two hurricanes back to back in 2008 19 20 just a few months after this facility went on line. In fact, it was just barely operational. The two major 21 excursions down, or the major withdrawals from the 22 storage facility, for three days this storage facility, 23 which had emergency backup power generation, was on line 24 and able to supply half a billion cubic feet a day to 25

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1 the Florida market in place of offshore platforms that 2 had been shut in and processing facilities that had been 3 shut in. The pipeline that was supplying Florida, 4 Florida Gas Transmission, actually wrote a thank you 5 letter to my client for having actually been there and 6 having kept the system up.

Half a billion cubic feet would be what this
project could do, as it is currently designed, to inject
gas right into the heart of the market.

Just recently, just last week TransCanada 10 11 Pipelines lost a main lane in its northern Ontario 12 That reduced the deliveries to eastern Canada svstem. 13 and northeastern United States by several 14 hundred million cubic feet a day. The system was able 15 to respond with gas storage located in Michigan and in 16 Ontario and in the northeastern U.S. to maintain service to all of the major markets, including the New York City 17 18 market which is supplied in part by Canadian gas. 19 Having storage close to the market was the difference 20 between a problem and a very serious problem for one of 21 the most populated areas in the United States.

So perhaps that is enough to make the point that market area storage can really make a difference and could have made a difference in the excursions that Arizona dealt with February 1st, 2nd, 3rd.

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1 Now, why haven't we gotten there yet in Arizona? Well, there are a number of reasons. One, it is 2 expensive. No gainsay in that. Developing underground 3 4 gas storage, particularly in this part of the country, is costly. It is technically challenging; although, we 5 are confident in our ability to overcome all those 6 technical challenges. And, in fact, contrary to what 7 has been suggested, we have not encountered any 8 significant opposition to the use of brine evaporation 9 ponds for the management of brine that would be produced 10 11 in the development of these caverns. That is simply not a correct characterization of the situation. 12

13 These things take a long time to develop, which 14 leads me to my final point. What is required is 15 commitment. This project will take two to three years 16 from the time it receives its permits to get the first 17 cavern in place and be able to inject the first 18 decatherm of natural gas.

We need contractual commitments from the market in order to proceed. This is not a cost free exercise. It is a risky exercise. In order for in infrastructure improvement to be undertaken, the market has to commit. And as is true for any long-term relationship, really, commitment is critical. The customers need to execute long-term agreements for services that the project would

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1 provide. They need to be confident that they won't be 2 second guessing making the long-term commitment to gas 3 storage. They need to be confident that they will be 4 able to recover the costs that they incur in subscribing 5 to gas storage. All of those things are critically 6 important for the customers.

7 So, to close, what needs to happen and permit 8 this project to happen? All stakeholders have to place 9 value on the insurance policy that market area storage 10 would provide. All need to recognize that the free ride that Arizona has enjoyed on the pipeline systems is 11 12 essentially over. It just should not be acceptable to 13 go forward planning on continuing to depend entirely on 14 growing pipeline supplies given the consequence of having those supplies not be available. Market area 15 16 storage can hedge against that.

17 The LDCs and power generators need to be 18 encouraged to plan for the future. They need to be told 19 that if they do so and they prudently commit to capacity 20 in a market area storage project, they won't be second 21 guessed having made that commitment. They need to be 22 able to recover their costs.

23 With the contractual commitments that we have 24 been discussing with the Arizona Storage Coalition for 25 more than a year, in hand with this Commission's support

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and with the continued cooperation of El Paso Natural Gas, which has been very cooperative with this project in the past, the Arizona Natural Gas Storage project can result and in about three years can provide the kind of insurance that this state really requires for its gas delivery infrastructure.

7 So we are prepared to go. We are well advanced 8 in the FERC permitting process. With the support of the 9 market, with the support of this Commission, we can move 10 that process even more quickly, and we would like to get 11 on with it. Thank you.

12 CHMN. PIERCE: Thank you.

13 Okay. What we are going to do is we are going 14 to take a break in just a minute. But I only have Dan 15 Pozefsky from RUCO from the public. Are there any 16 elected officials here -- we invited some -- that would 17 like to give public comment?

18 If not, Dan, if RUCO would like to, we would 19 like you to be able to come up and make your public 20 comment, and any other members of the general public 21 that are here. And then we will take a break.

22 MR. POZEFSKY: Thank you, Mr. Chairman. Daniel 23 Pozefsky -- by the way, good morning, Commissioners, 24 Mr. Chairman. Daniel Pozefsky on behalf of RUCO. I 25 have got some very short comments. I shouldn't hold you

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1 up too long on the break.

2 We have been also informed from the various 3 folks who have been talking, some of them about what has 4 been going, so we have been following it, too. And, of 5 course, we are very concerned, especially about the 6 outage. In fact, we were really surprised at how 7 vulnerable ratepayers are under the circumstances here, 8 which really amounted to what I would say is a slight 9 change in climate, which if it was in another area that 10 was equipped for it, we wouldn't even be having this 11 discussion.

But it does raise the issue. And, you know, it brings to mind that certain things probably should be done, such as the things we are talking and discussing. And we look forward to that discussion.

16 I did want to say on something that -- a 17 And I heard it alluded to in the El Paso comment. 18 presentation. And that is that we think at least, at 19 the very least, at this point that the Texas PUC should 20 put national gas plants on the critical infrastructure 21 list so, when there are rolling blackouts or there are 22 rolling brownouts, our utilities don't get power cuts, 23 because when plants go down, it affects the interstate supply of gas. So we think that that's something at the 24 25 very least that we should be thinking about anyway.

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1 And that's all I have. Thank you. CHMN. PIERCE: Thank you. And that's Dan 2 Pozefsky with the Residential Utility Consumer Office. 3 4 What we are going to do is we are going to take 5 a break and give the court reporter an opportunity for a But at the same time, when we come back, because break. 6 there will be questions, and we can get into some deeper 7 8 presentations, although I think people pretty much made them, but what I would like you to do, if we could, is 9 make sure we have everybody who made presentations, 10 11 let's get close to a mike, use the tables that are here, 12 because Commissioners are on the board with all kinds of questions I am sure, and we would like to do that as 13 14 efficiently as possible. Then we will go to 12:30. And then, if there is more to go, we will take a lunch break 15 and we will come back. Okay? 16 All right. We will take a ten-minute break and 17 18 then you will be first up. (A recess ensued from 11:30 a.m. to 11:50 a.m.) 19 CHMN. PIERCE: Okay. We have three of us here. 20 21 Here is what I would like to do, and if we could hold it to this. We have an order on the board as far 22 as how everybody has weighed in. And what I would like 23 to do, instead of having any of us go too long, what I 24 25 would prefer is each of us as Commissioners maybe take

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1	five minutes, then pass it on to the next one. Then I
2	will just come right back in that order, if that works
3	for everybody, until we are done. We will get to
4	everybody's questions but I would like to give everybody
5	a chance to take a breather and let someone ask a
6	question. Will that work? All right.
7	Here is the order: Commissioner Newman,
8	Commissioner Stump, then me, Commissioner Burns, and
9	Commissioner Kennedy. And that's established strictly
10	how fast they got their finger on the button. We will
11	start with
12	COM. STUMP: Like Jeopardy.
13	CHMN. PIERCE: I don't know if someone wants to
14	continue a presentation. That is not my agenda that
15	way, but I really felt like you abused my ten minutes,
16	some did not, and that you have said quite a bit. So
17	let's and I know we have, we have Commission Staff
18	here.
19	Thank you, everyone, for being here.
20	So if there is a question for Staff or if Staff,
21	if they hear something and they need to make the record
22	clear for us, if you would please join in.
23	Commissioner Newman.
24	COM. NEWMAN: Thank you so much, Mr. Chairman.
25	Good afternoon good morning good afternoon
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to everyone. I appreciate this briefing. Thank you,
 Mr. Chairman, for scheduling this hearing.

3 The first thing -- the reason why I am going 4 first is, of course, my name is Paul Newman. I am aka 5 Fast Draw Eddie Felson and a very good hustler pool 6 player. So I got my finger on the button.

The first thing I would like to say is that all 7 8 of these presentations show that the energy system in the United States is a system that relies on other 9 systems. And we are an integrated system. And it was a 10 11 unique, well, it was a unique weather event. That many plants going down in the midwest, the power conditions 12 in the midwest were something that I know that all the 1.3 regulators in the country are very concerned about. 14

15 I just came back from a meeting in Washington where this was a subject. Although we didn't have 16 extensive conversations about, about what happened here, 17 there were extensive conversations, as you know, about 18 San Bruno and other issues, other safety issues on the 19 pipeline that sort of have a higher priority in terms of 20 true safety for lives in the country. But this is 21 certainly, because it is an incident that occurred on 22 our watch in Arizona. 23

24 And as some of you may know, I represent 25 southern Arizona, or at least I am from southern

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1 Arizona. I represent the whole state but I am the one 2 Commissioner who lives in Tucson, was a former Cochise 3 County supervisor and lives in Bisbee and knows the 4 Sierra Vista area very well. So I am very -- I know a 5 lot about the neighborhoods where it went down, talked 6 to individuals that were affected. And it is a serious 7 thing.

8 The biggest complaint that I got was the turn on 9 period, as how long it took to turn on. And the first 10 question I have, there seems to be a discrepancy. Ι 11 believe the representative from Southwest Gas, I forget 12 who it was, could have been Mr. Clark, could have been 13 Mr. Moody, but there seems to be a discrepancy about 14 whether or not everything, all power was turned back on between -- in two and a half days. I thought I heard a 15 16 statement that said that it was two and a half days.

17 I also have in hand a copy of an Arizona Daily 18 Star report. And, by the way, I was down in Tucson 19 during this period, so I experienced all these 20 conditions. And I have not -- my gas didn't go out 21 because I don't live in the Foothills. I live in 22 central Tucson. But there is a discrepancy between this 23 two and a half days and what I have seen some reports of 24 as long as six, seven days before power was turned on. Is that the truth, that it took six or seven 25

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1 days? Which is the true statement?

2 MR. CLARK: Okay. Mr. Chairman and Commissioner 3 Newman, my name again is Gary Clark. And let me try to 4 address that question.

When a natural gas outage occurs, three things 5 need to happen. Firstly, we have to go and visit every 6 home and literally turn the meters off so that there is 7 8 no opportunity for an unsafe condition to take place within that home. Once all meters are off, then we must 9 go back and purge the distribution system and ensure 10 11 that we have 100 percent natural gas back in that distribution system. And then once that purge is 12 complete, then we begin our relights. That's where our 13 service people go to each home, knock on the door and . 14 restore service to our customers. 15

What we are seeing, Commissioner, is within that 16 two and a half day window, both in Sierra Vista and 17 18 Tucson, that we had made our first attempt to knock on every door and restore service to customers. It is our 19 policy that after that first attempt we begin 20 21 immediately thereafter and make a second pass and knock on every door that customers weren't home the first 22 time, and then we make a third pass. If a customer 23 hasn't been home for all three of those knocks on the 24 25 door, then we leave a door tag. We give a specific

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number for that customer to call and our call center is then alerted when that call comes in that they immediately dispatch a technician because they recognize that that customer is within the outage area. And that technician then is immediately dispatched to that customer's home to restore service.

7 Specifically to answer your question, there 8 could have been customers who waited longer than the two 9 and a half days because they weren't home and we had to 10 go through the first, second, third. And then they were 11 required to call in. And it could have been we had 12 customers that were gone for the weekend perhaps on 13 vacation during this event and, when they got home, they 14 saw a door tag, they called and service was restored.

But by and large two and a half days is when the first time we knocked on every door took place.

17 COM. NEWMAN: Did you do a content analysis in 18 the Sierra Vista and Tucson areas as to -- or did you 19 have time or manpower to do a sort of an analysis of how 20 long it took for you to get two-thirds of the houses up, 21 or do you have any graph or information regarding that, 22 or can you provide the Commission with that material at 23 another time?

24 MR. CLARK: That will have to be, Commissioner 25 Newman, that will have to be provided at an additional,

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at an additional time. I don't have that data right in
 front of me, but we can get it, yes.

3 COM. NEWMAN: That wasn't one of my original 4 questions that I put to you, but it just -- I want to, I 5 want to understand this discrepancy and to have a 6 content analysis of -- it is not that many folks. It 7 could be done, I know. So I am asking for that.

MR. CLARK: Okay.

8

On the second issue, with regard to 9 COM. BURNS: storage -- where is my storage gentlemen? Right 10 there -- there is a long history of debate about 11 storage. I haven't been here for all of it. I have 12 only been on the Commission for two years. But, 13 ironically, in one of my first meetings after I was 14 15 elected two years ago, I met with El Paso Gas officials. Where is the El Paso folks? 16 MR. CLEARY: Right here, Commissioner. 17 18 COM. NEWMAN: There you are. And I was told -their lobbyist at the time was Mr. Ober from Policy 19

20 Development Group, eminent lobbyist, former chief of 21 staff of Senator DeConcini. And a gentleman who I don't 22 see in the room today who was the western representative 23 for El Paso came to me and said after years of 24 exhaustive study El Paso was actually looking at a 25 potential of putting storage in the same general area of

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1 the Picacho Basin. And I was rather surprised by this visit. And it was one of my first, as I said, one of my 2 3 first meetings.

4 But it was categorically said to me by El Paso what looked like the same general area of this Picacho 5 Basin -- it is not really the Picacho Basin; it is, the 6 7 peak there happens to be Newman Peak, believe it or 8 not -- right below Newman Peak, and not named after me, 9 but I was told categorically that they spent, made good 10 efforts, spent I really don't know how much money but 11 when corporations tell me they made good efforts, I 12 imagine it is into the millions of dollars, and they 13 said they couldn't figure out a way to get gas storage 14 there because they were concerned about potential 15 pollution, if you will, of the groundwater in the basin. 16 Now, what does El Paso have to say to me about 17 that? Is there anyone here qualified to talk about 18 that? 19 CHMN. PIERCE: Speak into the mike, please. 20 MR. CLEARY: Sure. Mr. Chairman, Commissioner --21 22 CHMN. PIERCE: Just go ahead and slide it over. 23 It will move.

25 I, Commissioner Newman, was not in that meeting

MR. CLEARY: Let me take a stab at that,

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24

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at that time; although, I was president of El Paso
 Natural Gas and president of the Western Pipeline Group
 at that time.

4 I don't recall it that way. I think what I recall was our conclusion, after spending, and the 5 number which I mentioned in my presentation, \$40 million 6 7 for two storage fields and in doing some test wells in 8 the Picacho area, that we were concerned about the 9 ability to inject the solution brine back into deep 10 water reservoirs due to the geology. And I think that 11 was the tenor of the comment, that we couldn't figure 12 out a way to do a traditional storage field where you take the solution mining and inject it deep. That led 13 14 us to explore. And I believe NGS has this view that the correct thing to do is to, when you remove the brine 15 water from the solution mining, to put it in evaporation 16 ponds. And so I think that's the way we saw it. And I 17 will let NGS comment as to whether they see it the same 18 19 way.

20 CHMN. PIERCE: Okay. And after we do that we 21 are going, if you don't mind, Commissioner Newman, we 22 will jump to Commissioner Stump.

23 COM. NEWMAN: Gary, just one more question, not
24 on this issue. I just want to make --

25 CHMN. PIERCE: No, we are going to come back.

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But we are almost ten minutes and I wanted to keep it
 five.

COM. NEWMAN: It is hard for me. There are a 4 lot of questions.

5 MR. PASTOR: I just wanted to confirm that was 6 the finding of ANGS' detailed investigation of the 7 subsurface, that there is not a suitable brine injection 8 zone for underground disposal.

9 COM. NEWMAN: Okay.

10 MR. BOWE: I might add that although, as 11 Mr. Cleary mentioned, the traditional approach to 12 developing salt cavern storage is to dispose of produced 13 brine through deep injection, that is not the only way. 14 It is done, it has been done by use of surface 15 evaporation ponds both in this country and in Europe 16 successfully.

I expect that this month FERC will certificate another salt cavern gas storage project to be developed in Utah called the Magnum Gas Storage project. It relies upon surface evaporation ponds.

21 While in the best of all worlds you would 22 dispose of your brine underground, the use of surface 23 evaporation ponds for a variety of different purposes is 24 well understood. There are a lot of them around Arizona 25 and elsewhere in the west.

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1 COM. NEWMAN: Okay. I quess, Mr. Chairman, you 2 would like to move on now? CHMN. PIERCE: Yeah. Then we will come back. 3 4 Commissioner Stump. COM. STUMP: Thanks, Mr. Chairman. 5 I have argued for years that we need natural gas 6 7 storage in Arizona. And perhaps in the face of crisis, 8 the opportunity arises to move forward in this regard. And for the sake of the public that may not be 9 aware of the history of this, what has occurred so far, 10 11 could someone please outline for me the history of 12 attempts to establish storage, what have been the obstacles, why has this not occurred, and, secondly, 13 14 what we as Commissioners can do, as you see it, to help 15 make this happen. MR. MOODY: I can certainly give you the utility 16 17 point of view of that. Of course, the first and most 18 important thing that occurred was this Commission established our opportunity with the preapproval or the 19 infrastructure policy statement that we believe serves 20 21 any kind of infrastructure policy. And all of our developers of potential projects are very well aware 22 that we can put a project together and bring it to the 23 24 Commission. 25 So in our history we have looked at individually

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1 as customers. And I am going to be loosely speaking for 2 my fellow utilities. We don't know everything each 3 other does, but, honestly, serving the customers of 4 Arizona, we work fairly closely together. And a project 5 this big is going to take all us for to play in order to 6 pay to it.

7 We went through -- El Paso had two or three 8 separate offerings. The various storage providers' 9 representatives in this rooms, some who have spoken, 10 some who have not, made presentation. We looked at LNG. 11 We looked at aboveground compressed storage, kind of everything that was available out there. And naturally, 12 13 when there is no reliability issue, cost is a problem. And what we tried to do was, A, you want to pick a 14 15 storage project that you believe can be completed as 16 stated, and, B, is a good economic deal for your customers. And that would lead us to come to the 17 Commission with preapproval. So we believe that on the 18 19 Commission's side as cohorts in this that we already 20 have that structure in place in order to present a 21 reasonable project.

The Arizona Storage Coalition works diligently, that's all utilities in the state, works diligently with each project within the confines of we can't do prices and we can't do volumes because we have got national law

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1 against us on that one but we can certainly talk about 2 the projects and understand them as a group so that it 3 is simple to make sure that we get something we really 4 like.

5 And then, finally, the developers, I believe --6 now, a lot of this data is anecdotal so you don't want 7 to take any of it to the bank, but everybody who is in 8 the State of Arizona recalls what happened when Copper 9 Eagle first came up. We were actually hearing that a 10 temperature inversion would asphyxiate us all. I mean 11 that's how far out of control it got.

12 So there is a large constituency outside of 13 this, am I going to be able to see the salt, is salt 14 poisonous, is it making my groundwater bad. And that's 15 the things that people who produce permits and do 16 political lobbying have been attending to.

I have been on this job, this particular job, now for seven years. And we have been talking about storage for six years of it. So it is a difficult nut to crack, and everyone you have heard from in this room you have spoken to in both of those arenas.

22 Is that adequate?

23 COM. STUMP: Yes. I appreciate that. And it 24 sounds as though the takeaway from today, too, 25 Mr. Chairman, Mr. Moody, is that one does see a greater

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alignment of stakeholders and potential markets based on 1 2 the event that occurred earlier this -- in February. 3 MR. MOODY: Absolutely. COM. STUMP: And last question for now, 4 Mr. Chairman, with your indulgence: How key was 5 6 Washington Ranch in averting even a worse disaster? I know it stayed on maximum withdrawal mode to offset loss 7 8 of customer supplies. But could you outline briefly the 9 role that Washington Ranch made in averting an outcome 10 that could have been worse? 11 MR. MOODY: Chairman, Commissioner Stump, may I 12 send that question to the El Paso folks? 13 COM. STUMP: Yes, of course, of course. 14 MR. CLEARY: Mr. Chairman, Commissioner Stump, I 15 think it is a matter of degree. The shortfall we faced 16 on February 2nd and 3rd was about 600,000 and change of 17 decatherms. When I talked about our line pack being 18 depleted, it really took over a two-day period 700,000 19 decatherms of line pack diminution, that is without 20 being restored, to provide to hit low pressures, which 21 of course created problems on the Southwest Gas system. 22 During that period, we had 250 a day coming in from 23 Washington Ranch. 24 So I think the short math is that had Washington

24 So I think the short math is that had Washington
25 Ranch not been operating at that level, you would have

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	•
1	seen probably a day quicker or maybe a day and a half
2	quicker. And they would have been more severe. You
3	know, we could model it if you are really interested in
4	it but that's my quick accounting look at the answer.
5	COM. STUMP: Mr. Chairman, Mr. Cleary, had there
6	been natural gas storage in Arizona at the time I
7	recall you were one of the speakers it was unclear as
8	to how that might have mitigated in the specific
9	circumstance.
10	MR. CLEARY: I think
11	CHMN. PIERCE: I would keep going in order.
12	MR. CLEARY: the exact impact of storage
13	perhaps is not we haven't done the modeling. But,
14	again, to look at the rough numbers, the storage
15	projects that I had on my chart in the market area were
16	between 400,000 and 900,000 and change of
17	deliverability.
18	Again, think about the problem was, on our
19	system, was the line pack being pulled down by about
20	360,000 a day. So taking the Arizona Gas Storage
21	project, or at 400 million, I think that would have
22	shored up significantly. It would have put us in a line
23	pack neutral mode and, in my view, on a broad look,
24	probably would have averted the problems. We would have
0 F	

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25 to model it to give you a precise answer, but if you say

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1 the premise is ins and outs have to equal on the 2 pipeline, that would have gotten us there. 3 COM. STUMP: Okay. Appreciate it. 4 CHMN. PIERCE: Thank you. 5 And I am -- I want to talk about some of the 6 letters I have gotten from our constituents, your 7 customers. There is a lot of frustration amongst those 8 who -- and there is frustration amongst those who would 9 blame it on Commission rules concerning green energy, 10 that we are not doing other stuff in energy efficiency 11 requiring that you use less natural gas. So all of the 12 interpretation and the understandings of these policies 13 are in question. And I read things and I think, gosh, I 14need, I need to respond to a lot of these e-mails and 15 letters. But there is so much to explain on how we 16 work.

17 And so I have sympathy for what you have been 18 trying to go through, because I realize that the public 19 just wants service, uninterrupted service. That's what 20 they want. And some of them, well, they want damages, 21 you know, and -- but here is why. Here is a statement: 22 It would seem that the ACC should require at a 23 minimum that each utility have a well thought-out 24 customer notification system in place in advance that 25 would include media and all appropriate public safety

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and other relevant entities in the event of service
 disruption of any size.

I am wondering if we couldn't put in place a way 3 to, and this is for Southwest Gas, just as, and I have 4 used this example before, just as when there is maybe a 5 four-alarm fire and every neighboring fire department 6 7 comes, it is all hands on deck, couldn't there be an agreement between Southwest Gas, UNS Gas, and other gas 8 9 providers that have personnel that, in an event like 10 this where we are going to have several days of people without natural gas, is there a way to speed that 11 process up, and when we take -- to put all those assets 12 together from all parts of the region that we can get 13 14 them to and get them together, and then, knowing what 15 the assets are, using all the technology that I have heard that you want to put in place so the people will 16 know, you know, when am I going to get turned back on? 17 The primary question, they want to know when am I going 18 to get turned back on. 19

20 And the second one is is the company doing 21 everything in their power. Now, the company feels like 22 they did everything in their power. But I think in the 23 future, if there is an incident like this, we ought to 24 have some system in place to borrow assets, people, to 25 get this job done.

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1 Is that something that is feasible? 2 MR. CLARK: Well, Chairman Pierce, Southwest Gas 3 echoes your concern of keeping gas flowing into the 4 meters. We want, above all else, to see those meters 5 continue to spin all winter long. And so when we have 6 an outage occur, it is of greatest and utmost concern 7 for us as a company.

8 We talked a little bit about some of the 9 technology that we are looking into to notify our 10 customers. May I regress just for very briefly and talk 11 about an incident that occurred in Phoenix just a year 12 ago in which there was not a totally similar situation, 13 but there was an outage where customers' regulators had 14 to be replaced and therefore they were taken out of 15 service and then service restored.

16 As short ago as a year, the social media did not 17 play the type of role that we found in this particular 18 incident. This caught us, I guess to be honest, by 19 And we are looking into every aspect we can surprise. 20 of our communications to customers to ensure that we can 21 answer that all important question, when will we be 22 knocking on your door to restore your service.

In this outage, we did something that we haven't in the past done. And that is typically in an outage in the past, we would turn every meter off. Then we would
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1 purge the entire system. And then we would begin the 2 relight process. And in so doing, we could predict a 3 little closer than in this particular case.

What we did here in an expediency of time was to 4 have meters turned off in one area, the purging process 5 begin as we were still turning off meters in another 6 area. And then relights began in that first area while 7 8 we were purging in a third, or the second and turning 9 off meters in the third. We thought this was more efficient. And indeed it got meters back on, in our 10 11 opinion, quicker than if we would have gone to the old 12 method.

We had over 100 people from our company in the 13 other states and in central Arizona join our work force 14 15 to handle this outage. We felt that that was an efficient number of trained personnel to handle the 16 situation that we encountered efficiently and 17 18 effectively. However, we do have agreements in place with sister utilities that we can call upon to assist us 19 as a mutual aid situation when this situation occurs. 20

Let us take a good, hard look at that and look at what we did in house with our own personnel, how we could have perhaps brought in other people, if that would have been more efficient for us. We feel we were, we exceeded our expectations in getting our customers

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back on in this situation. So we will take a good, hard 1 2 look at that, Mr. Chairman, and see what is that fine 3 line balance that we need between safety, efficiency and restoring that service to our customers. 4 5 CHMN. PIERCE: Thank you. 6 Commissioner Burns. 7 COM. BURNS: Thank you, Mr. Chairman. I guess 8 three main points. 9 The first is that I know we don't have the 10 people who are affected. The customers are not here 11 today. It was a long drive. They won't be able to come. I don't know if there will be a future hearing of 12 13 this kind or not. 14 But just for the other Commissioners, I would 15 sure like to work with you and see if we could find some 16 way of funding some sort of interactive system where 17 they could have gone at least to a place in Sierra Vista 18 and Tucson and we could be actually talking to them and 19 hearing from them and would like to work with you on 20 perhaps on doing something like that. And if they were 21 here, you know, then we would actually be hearing from 22 the people who experienced it. 23 And when I heard that, I called a couple people

24 I knew in the Sierra Vista area because I wanted to know 25 what they were experiencing. And when I listened, I

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1 don't remember if it was Mr. Clark or Mr. Moody said, you know, you already have got an unhappy customer 2 because they don't have their service that they want --3 that was Mr. Moody that said that -- well, that's true. 4 However, I really got the sense from a lot of them that 5 they just wanted to know more, they wanted more 6 information. A lot of them who were -- you know, they 7 8 are reasonable people. They understand things happen. But they said, you know, I am without power, I have got 9 Southwest Gas, they aren't telling me anything, they are 10 not telling me anything, I can't get any information. 11

12 And, you know, then one of them sent me an e-mail from Supervisor Call, Pat Call. He was very 13 helpful in Sierra Vista. And he was somehow trying to 14 get information at least sent out to all the e-mails he 15 had. And I noticed in particular he was telling them 16 about the PURPA act and saying this is good, that means 17 18 our elderly and hospitals will be taken care of more 19 quickly.

But, in fact, we do know, as I have talked to you, and you said it really didn't work that well because your system needs to be updated, there were elderly people that you don't have on your list as being elderly so they weren't there. And there just were a number of e-mails and calls from people that show it

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1 simply didn't work like it was supposed to.

I know we have talked about it and you said you want to update it. And I understand there are some difficulties in doing that. But I would like to know how you would go about updating your list and then utilizing that list.

7 MR. CLARK: Okay. Thank you, Mr. Chairman and 8 Commissioner Burns. We have learned a lot about the 9 PURPA process as we have gone through this outage. May 10 I let you know what takes place currently as far as 11 PURPA customers.

When a customer signs up for service at 12 13 Southwest Gas, either that primary applicant or a 14 co-applicant, we ask them for their birth date. That's 15 a voluntarily asked question. If they provide us that 16 birth date, then it is entered into the system. The 17 system then queries both of the primary applicant and 18 the co-applicant on a monthly basis. And if either one 19 of those reach the age of 62, which is the elderly 20 classification for the PURPA act, then it is coded 21 automatically in our system as a PURPA customer.

One of the things that we ran into in the outage is many customers of record had elderly parents living with them. For example, they aren't the customer of record in our billing system and they -- we have no way

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1 of tracking and knowing that that situation was in the 2 home.

When a customer calls in to request service, our customer reps are trained to ask is there any elderly, handicapped, disabled individual in your home; if so, we have an application that we will forward to you that you can fill out and return which will then properly code this information into our system.

9 We recognize that there are other things that 10 can be done. We had over 6,000 customers in this outage 11 area identified as PURPA customers. And we gave them 12 priority in restoring their service and getting their 13 gas on as quickly as possible.

COM. BURNS: I appreciate that. And I 14 understand there are hurdles even in getting a list. If 15 someone were to ask, my power company were to ask me my 16 age, I would probably say I don't need to fill that in. 17 But if the people know the reason you are asking, you 18 know, it is, again, it is just about communication, this 19 20 is because, in an outage, we want to be able to take care of you, then it makes sense and then they might 21 provide the information. 22

But there were other things going on, too. You know, when you read the e-mails, space heaters sold out very quickly. There were contacts with SSVEC, their

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electric provider, to make sure were they going to be able to -- obviously there was going to be a bigger draw on electricity. And they felt comfortable there. But all those things going on there teach us all about the things that need to be addressed, just like space heaters being sold out.

I just wanted to jump and ask -- oh, one other question before I move to that one. I probably am out of my five minutes. One of the things I heard, the e-mail was that Southwest Gas employees should have been working around the clock, not just daylight hours. Can you respond to that?

MR. CLARK: Yes. Mr. Chairman and Commissioner Burns, we have found historically that we work as many hours as our customers are comfortable for us to knock on their door. In the field historically we work from 7:00 a.m. to 11:00 p.m. at night. We have found that after 11:00 that customers are leery of hearing that knock on their door and responding.

So in order to facilitate that plus give our people a little bit of rest, we would work from 7:00 a.m. to 11:00 p.m. at night and we continued that process clear through the weekend. Our call center was opened extended hours on Friday. We had a minor glitch with our e-mail system and we kept our call center folks

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1 in the office answering the phones until, again, 11:00
2 p.m. when those calls diminished and we felt we could
3 allow them to go home.

Working around the clock is certainly something that can be pursued. But we have found, from our perspective, that when you knock on somebody's door after 11:00 p.m., they just are unwilling to respond. And then our efficiency drops off dramatically after that time period.

10 COM. BURNS: I think my time is up.

11 CHMN. PIERCE: Thank you.

12 Commissioner Kennedy.

13 COM. KENNEDY: Thank you, Mr. Chairman.

14 First let me say I think I have learned more 15 about line packs and decatherms, more than I wanted to. 16 And let me thank all the stakeholders and all parties 17 for coming today, and especially El Paso Natural Gas and 18 their response to my letter. I thought it was very 19 informative. It was well -- it was thorough. So I 20 believe my questions were answered.

21 When outages like this occur, human health and 22 safety is really put at risk and significant financial 23 losses to businesses. And I am concerned about that. 24 While emotions run high, jumping to conclusions 25 before the facts are known is not, was not helpful. I

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believe being here today we are gathering the facts. We can't solve the problem until we identify the problem. I am concerned that someone in Texas ordered a rolling power outage that affected Arizona. I am deeply concerned about that. Without communicating that power outage to all affected stakeholders, Arizona truly suffered.

8 I don't want the past to occur in the future. 9 What we do here in Arizona might be able to assist other 10 providers around the United States so they don't fall 11 into the same shoes as we did here today.

12 Again, I don't have any questions. But I just 13 really thank you, Mr. Chairman. I think Commissioner 14 Burns kind of hit it on the head. We are here today sitting in Phoenix hearing from everyone today, but 15 16 those affected by this outage are in southern Arizona. 17 And most of them are working people who couldn't travel 18 here today. And I am hoping that you and maybe Staff 19 can put together some time, I think we owe it to the 20 people in southern Arizona, to go down and hear them 21 out.

CHMN. PIERCE: Okay. Thank you.
And we are going to come back in the same order
after lunch. But let me just say we have a rate case
that Southwest Gas has filed. And I think in the coming

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weeks we can actually, in conjunction with that, where 1 2 we would normally go out and take public comment on 3 that, we can actually, so to speak, kill two birds with one stone and be able to go out and take public comment 4 on any issue the public wants to talk about. And I 5 suspect Tucson, Sierra Vista and Green Valley, different 6 areas that maybe get impacted by the company, as well as 7 other areas of Arizona, especially if there is going to 8 9 be discussion down the road and they see it from this, that there is discussion about storage and to get public 10 input about those types of things. 11

12 But I thought for us, and, you know, frankly those meetings, we need to have, with the exception of 13 perhaps Green Valley, but even in that area it is 14 handiest for the public for us to do evening meetings. 15 That is not handy for a lot of the folks that are here 16 or Staff or others, that we would need this type of 17 meeting from Commissioners. And I think this meeting 18 19 will give the public a lot more information, detailed 20 information that is finally facts, not rumors and other things that they are hearing, but facts so they can 21 22 digest those and come to those public meetings, 23 certainly let us know how that impacted them but, at the same time, let them be able to be part of what they 24 think the -- what in their mind solutions would be, too, 25

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and what they want to see the companies, the various
 companies do in the future.

We are going to break for just a minute.

4 COM. KENNEDY: If you don't mind, Mr. Chairman, 5 could I go over?

6 CHMN. PIERCE: Yes, sure. I'm sorry. 7 COM. KENNEDY: That's okay.

3

8 I just want to say I don't think there is any 9 secret here that I am a huge supporter of natural gas 10 storage. We have been talking about it, I think now, for three, four years. But I think it would increase 11 the reliability of supply to Arizona natural gas 12 13 customers. And I think Mr. Crockett took the words 14 right out of my mouth: If not today, then when. And I 15 think Commission Staff and stakeholders have been 16 talking about it since, I believe, 2003. It is time we 17 do something about it.

18 CHMN. PIERCE: Something to chew about it at 19 lunch.

20 Commissioner Newman, we need to wrap up here. 21 COM. NEWMAN: Yes. To the point that 22 Commissioner Burns and Commissioner Kennedy made, and I 23 was going to make on my next point if I had another 24 minute to do it, it is now -- I will make it a majority 25 of the Commission right now. I am truly asking the

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Commissioner, all the Commissioners and the Chairman to
 schedule meetings in Sierra, Cochise County and Pima
 County. I think we need to hear from the customers. We
 have letters; that's not enough. I think that the
 executives need to meet with the customers.

I mentioned it to some of the Southwest Gas 6 7 employees that I was going to make this request. And it will give us something to think about over lunch. 8 But as I know that folks would like to talk to us about 9 this, there is also that issue of compensation hanging 10 out. I know there is force majeure clauses in El Paso 11 pipeline contracts. But I think they also want that 12 question answered. And they would like us to look them 13 in the eye, and executives, look them in the eye on that 14 15 question.

So with that, I make it official. I ask for 16 hearings down in Cochise County, either in Buena Vista 17 High School in Sierra Vista or Cochise County Board of 18 19 Supervisors, which has a bigger room than this. And I 20 am sure the Pima County board will help us find a suitable place to have a meeting in Pima County. 21 And thank you so much for your time. 22 CHMN, PIERCE: Sure. And we have had meetings 23 in those areas that will house a lot of people. And I 24 know in Tucson we would want to do it up in the 25

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northwest, not at our Commission room. I don't think that room will be big enough either. So we will do that where we can accommodate the public and do it in an hour -- at an hour that is convenient for the public. So that will be our plan. And we will, we will schedule that.

7 And that, that will be like your traditional 8 town hall type of meeting is how we will handle it. It 9 really will be the public speaking, us listening, maybe 10 asking some questions. The information that the company 11 would provide should already, in my view, be printed, published so that the public has a chance to read that 12 13 and have it available at the meeting so that they have 14 that, because, otherwise, we just go back, we start repeating things that, if they had it in their hand, 15 16 they -- frankly, if I am speaking and if there is 17 something I could have read and known so I could have 18 honed in my question, as a member of the public, I would 19 want to be able to hone in my comments and questions to 20 the things that are still unknown to me.

21 So we will be back at, let's be back at 12:35 --22 or 1:35. Yeah, you got three minutes. 1:35.

23 (A recess ensued from 12:32 p.m. to 1:39 p.m.)
24 CHMN. PIERCE: Okay. We are back in order. We
25 have got a quorum.

Dominion Energy Utah Docket No. 18-057-03 G-00000C-11-0081 OPEN MEETING DEU Exhibit 2.055 Page 85 of 144 Our order of speaking is we are going to go back 1 around with Commissioner Newman. He is not in the room 2 3 yet. Commissioner Stump, do you have anything? 4 5 COM. STUMP: Sure. CHMN. PIERCE: Okay. Let you begin, and you are 6 on the clock for five, approximately. 7 COM. STUMP: Well, I will not --8 9 CHMN. PIERCE: I just wanted to let you know how Congress does it. 10 COM. STUMP: 11 Wow. Thank you, Senator. Anyway, I mean -- oh, I meant Senator Kennedy, but she is not 12 13 here. It was mentioned there could be integration with 14 15 the electric sector and that may have been a factor. And I would be curious to know what sort of integration, 16 as you see it, might need to occur since I have heard 17 repeatedly that has been an issue. 18 I guess, Mr. Clark, I would throw that out to 19 you, or Mr. Moody --20 MR. CLARK: Mr. Moody. 21 COM. STUMP: -- or most anyone. 22 MR. MOODY: He is going to defer to me, which 23 might not be a good move. 24 25 Communication, I think Commissioner Kennedy put (602) 274-9944 ARIZONA REPORTING SERVICE, INC.

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1 it best, El Paso made a good presentation on this, 2 Transwestern will say it, as the electric and power 3 industries get more integrated, especially here in the 4 west where a lot of our generation is natural gas fired, 5 the traditional "one doesn't worry about the other" is 6 going by the wayside. And there is a national movement 7 through AGA, NAESB to change those rules, look at the 8 scheduling rules. That's one thing, scheduling gas.

9 And the second and bigger role is for everybody 10 to understand how integrated these systems are. This 11 really does demonstrate that a power plant in Texas 12 might matter in Arizona or California. California had 13 curtailments during this, too. So it is a big thing. 14 And we always find out about it when it breaks.

I don't feel qualified to sit here and tell you how to make our way through that except to say there is an industry effort with the constituent trade associations as well as being members of the NAESB crew.
We have representation there and we do our best to proscribe what we think is a good idea. But there are a lot of big heads thinking about this now.

And I also defer to El Paso because they have a different role in this.

24 COM. STUMP: Sure.

25 MR. MOODY: And it gets back into the power in

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the gathering areas and the gas plants, which they don't 1 have control over. That's another constituent that I 2 assume is going to work and they have to deal with on a 3 daily basis. 4 COM. STUMP: Thanks. 5 Were you interested in addressing that, 6 7 Mr. Cleary? MR. CLEARY: Yes, Commissioner. 8 9 COM. STUMP: Thanks. MR. CLEARY: I think one item we would like to pursue is making sure that essential gas facilities, whether it is pipeline compressor stations or processing 12 plants are on, to the extent we can, the critical infrastructure list that the electric utilities or the system operators have. And I don't think that, in fact I know, that is not the case today. But we are going to explore that and see if that can be done. Thanks. COM. STUMP: Great. CHMN. PIERCE: We will bounce back to 19 Commissioner Newman. 21 COM. NEWMAN: Thank you, Mr. Chairman. 22 One issue I would like to raise that I would like to get everyone's take on this, is compensation for 23 Just, I want to hear what all the potential damages. 24 parties have to say about it. 25

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1 There is going to be a rate case coming up on 2 Southwest Gas. This might be included in that 3 discussion. But for purposes of today I just wanted to 4 hear the parties' initial, initial positions on some of 5 the consumer requests that we have had for compensation, 6 missed days of work, things like that. I know it might 7 add up to a lot of money, but I want to initially hear 8 from the folks.

9 I have no predisposition on this. I am sitting
10 as a judge when I ask this question. Who wants to -11 MR. BROWN: Chairman Pierce, Commissioner
12 Newman, Justin Brown on behalf of Southwest Gas. I will
13 address it for Southwest Gas, your question.

14 What the company has been doing as we receive 15 claims, we have been reviewing those claims from 16 consistency with our tariff as well as the Commission 17 regulations, you know, given the weather event and the 18 force majeure associated with that. As we review those 19 claims, if they are weather event force majeure related, 20 we would not be paying those claims. If there are 21 incidents where, as we review these, where we believe 22 maybe it is something that Southwest Gas did outside of that weather related 'event, the company would then, you 23 24 know, review that in terms of whether compensation would 25 be justified or not.

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1 COM. NEWMAN: And for purposes of the record, we 2 are making a record now, would you -- not everyone on 3 the Commission is an attorney; I am the only one. What 4 does force majeure mean?

5 MR. BROWN: Well, a force majeure a lot of times is defined by contract. So, you know, as it appears in 6 7 the regulations and, you know, it shows the example of 8 force majeure, it is essentially when events occur 9 similar to this weather related event that's outside the control of the parties will trigger a force majeure to 10 allow the parties to be excused from their obligations 11 12 to perform.

13 COM. NEWMAN: It, not to take God's name in 14 vain, but, as a Jewish person, but I also heard it 15 colloquially called act of God.

MR. BROWN: It is commonly referred to that,absolutely.

18 COM. NEWMAN: Okay. So how many folks are you 19 in contact with approximately in the service area that 20 have such claims? And if you don't have that number, I 21 understand. That might be something that the Commission 22 wants, I want. That is something that the Commission, 23 this Commissioner would like to see.

24 MR. BROWN: Sure. The claims, the last check 25 that I, the update that I have received earlier in the

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1 week was I think we had received around low 40s. 44 is 2 a number that I remember in terms of claims that we have 3 been submitted. Obviously they come in from different 4 sources. So as those are gathered and collected, you 5 know, there may be some that the company has received, 6 they just hadn't made it to the person that is keeping 7 track of those claims. But according to that person, I 8 think we were at 44.

9 COM. NEWMAN: And of that number, just 10 approximately how many are businesses versus residences? 11 MR. BROWN: I don't have a tally in terms of, 12 you know, residential customers versus commercial class 13 customers.

14 COM. NEWMAN: For example, down in the Sierra 15 Vista area I am almost sure there were some businesses 16 that were affected. Pizza folks and people who might 17 just write this off as a bad business expense, they 18 could technically do that, I think, if you are a 19 commercial entity. But do you have any idea about the 20 magnitude of that?

21 MR. BROWN: I really don't. I don't have any 22 insight into those circumstances.

23 COM. NEWMAN: Okay. And I think in the Tucson 24 service area there are probably businesses as well along 25 Skyline and those areas that might have been affected.

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1	I am not sure. I am not sure of the extent of the
2	boundaries in the Foothills where the outage occurred.
3	And I understand, by the way, that it could have
4	been a lot worse. It could have been 150,000 folks in
5	the Houghton line area. But that, that would be of $^{}$
6	that's a concern to me. And regardless of act of God
7	conditions, that is something that we are here to sort
8	of moderate and mediate, if you would.
9	MR. BROWN: Sure.
10	COM. NEWMAN: So the position today is, if it is
11	included under act of God or force majeure, you have a
12	legal position that you wouldn't pay for it. However,
13	you might make further, you might make compensation in
14	the future, and complete my sentence, if what.
15	MR. BROWN: Well, as I indicated, as we are
16	reviewing, we didn't want to cast a broad net and just
17	say no. That's why, as we receive them, we review them.
18	As you correctly stated, if it falls under that weather
19	related force majeure event, you know, the company does
20	not plan to pay those claims. However, if as we review
21	them, the facts and circumstances associated with that
22	particular customer, we learn something that we,
23	Southwest Gas, did that would have contributed or
24	caused, you know, certain damages, we are going to look
25	at those, because we want to make that situation right.

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1 COM. NEWMAN: Okay. Thank you.

2 And opening it up to anyone, I am requesting a 3 response from El Paso.

4 MR. CLEARY: Sure. Commissioner, I think we are 5 sympathetic to the impacts upon Arizona residential 6 customers of this cold weather event. But from our 7 perspective, compensation is not our responsibility 8 under the facts as we know them.

9 And particularly critical to this analysis is 10 this was not a pipeline outage. This event was a 11 failure of gas supply coming into the pipeline. Indeed 12 we delivered throughout February 1st, 2nd, 3rd and 4th 13 every single decatherm that our customers delivered into 14 our system. We delivered it to them. We delivered on 15 February 2nd and 3rd 17 to 20 more than they put in, 16 utilizing our storage, which was running flawlessly, and 17 our line pack. And I think we have done what we were 18 obligated to do.

19 COM. NEWMAN: Are there any, this is for El 20 Paso, are there any FERC implications of this in terms 21 of decisions? I mean the 50 power points going down in 22 Texas is more than just a blip. That is a huge loss of 23 power for a very important section of the country that 24 affected ours. I accept the analysis of what -- and my 25 responses I have gotten from both companies. But is

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1 there any FERC jurisdiction over this?

2 MR. CLEARY: Commissioner, I understand that 3 there is a FERC investigation that is going on looking 4 into what happened in Texas and the interrelationship 5 between power losses and impacts on other activities in 6 the gas sector. And that's ongoing.

7 CHMN. PIERCE: Okay.

COM. NEWMAN: And is there, is it -- I just --8 is there any -- I was asked by a television reporter 9 after, after this morning's meetings, you know, whether 10 or not the Commission feels, and I am only one member of 11 the Commission, feels that there should be any fines 12 associated with this. And I said, you know, it is too 13 early to say. And I know about the force majeure, and 14 so we will look at that very closely with our legal 15 16 Staff and pipeline Staff.

But is there a chance that FERC would go on -would they leave it to the states to deal with that or would they sort of, could they pinpoint some -- if they did pinpoint a problem closing so many of the stations, is there a possibility of deferral back to the states given whatever it is that they will come up with in the final report for a potential of fines?

I realize from a shareholder standpoint you don't want fines and you are holding fast to your force

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1 majeure defense. But just given your experience and 2 your wealth of education, is there?

3 MR. CLEARY: I guess I am not sure what the FERC 4 or NERC, the electricity reliability council, may do in 5 this instance. And I wouldn't want to guess.

6 CHMN. PIERCE: Okay. Commissioner Stump, we 7 started with you, and so we are going to go to me for a 8 few questions.

9 To those who, and this is I quess to all 10 parties, do you believe that a summer incident, where there would be an interruption of natural gas with the 11 12 heat we have in Arizona, do you think a summer incident 13 would be a greater impact to human health than a winter 14 incident? If we lose natural gas powered peaking plants 15 in the heat of the summer, would that be a bigger, do 16 you believe that would be a more detrimental thing to human health in Arizona, to Arizonans? 17

MR. MOODY: I think a general answer I would make is it is never good to have a customer out. We are all shooting for reliability. And if it is, you know, as Phoenix can be in August -- I am trying to imagine being out of my air conditioning ⁻⁻ it strikes me that the big difference is that the service re-establishment requirement is totally different.

25 Electric doesn't have to visit your home. So

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speaking, speaking way out of my pay grade here, when your lights blink out and they come back on, the voodoo of electricity gets my power back and I don't have to deal with anybody from the company. A gas company, we have a different burden.

6 CHMN. PIERCE: I think there would be a much 7 more, there would be an emergency plan that was 8 different than with natural gas most certainly. But I 9 think it would be a problem, if any of us can imagine, 10 because it would -- invariably those things happen when 11 it is extremely hot, it seems like.

And I listen to this, but, and I want to talk to 12 just the storage folks, because I had the discussion 13 earlier. It was said that everyone believes it would 14 have been, if we had storage, it would have been 15 limited. But in this situation, I think we know there 16 is enough storage, there is enough capacity if we build 17 it to, I think, more than compensate for what occurred 18 in this incident, and probably for one that is twice as 19 long an incident or more, with the proper amount of 20 storage. And what is being proposed down in Eloy right 21 now, I believe, could have handled this much more. And 22 I want you to comment on that. 23

24 MR. BOWE: For Arizona Natural Gas, Chairman, we 25 would agree that had the Eloy facility been fully

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1 operational with the capability we have designed into 2 the facility, we could have provided an awful lot of 3 precious support in the heart of the market. Whether it 4 would have eliminated all potential problems I am not 5 qualified to say. I speak out of turn all the time, but I am not a hydraulic, pipeline hydraulic engineer, 6 7 but it would have provided a substantial quantity of 8 gas, well in excess of the shortfall that Mr. Cleary 9 mentioned he experienced on the basically input side of 10 his system right here in the market area.

11 Effectively you would have been able to make up 12 for the shortfall. And the facility would have been 13 able to carry on in that fashion, assuming that it was 14 built to its design capacity and was essentially full at 15 the time, for several days. So you could have had a 16 half a billion cubic feet a day of gas being introduced 17 into the market for several days to make up for 18 shortfalls in the availability of gas coming into the El 19 Paso and Transwestern systems.

I guess perhaps El Paso had a little bit more trouble in Permian than Transwestern did. But in both cases there was less gas coming in than was being pulled out. That's what market area storage allows you to compensate for. So had we been here, I think we would have had a different outcome.

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CHMN. PIERCE: Well, and I think it would have 1 been a dramatic difference. And I think it would have 2 3 beyond -- and I think natural gas storage will take us well beyond. And we can expand natural gas storage in 4 5 that area, can we not, to how much more than the initial 6 phase that you are talking about? It is a matter of money, of course. 7 MR. BOWE: 8 But fortunately for gas storage, the economics become more favorable. As you increase the amount of capacity, 9

10 the cost of providing the service drops. The upfront 11 costs are for the pipeline infrastructure, for the 12 leaching of the facilities, that sort of thing. And 13 what is --

14 CHMN. PIERCE: The economy of scale.15 MR. BOWE: That's right.

MR. PASTOR: And there is also the fact that once you have that infrastructure for evaporation ponds, they are set for a certain design life, an eight-year leaching period followed by a ten-year evaporation period. You can continue to build subsequent caverns on top of that and use that same infrastructure there at the facility.

23 CHMN. PIERCE: Okay.

24 MR. BOWE: In the initial design I think, if I 25 am not mistaken -- I will look to the back of the

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1 room -- three bcf of capacity, four, and we could go
2 beyond that, although it takes time. The reality is
3 that the leaching process isn't instantaneous. But you
4 could bring storage into the market and then allow the
5 storage to grow as the market's need for the additional
6 insurance grows over time.

7 And it will because the electric system, as was 8 indicated earlier, is extraordinarily dependent upon the 9 natural gas system. And that will become increasingly 10 true as we continue to try and integrate renewables such 11 as wind and solar.

12 The way that is done at the bulk power level is 13 through gas fired generation being dispatched on and 14 off, off line. The reality is that in this part of the United States, natural gas fired generation is going to 15 16 become more and more critical over time as renewable 17 portfolio standards, in the case of California, kick in 18 and as other initiatives are pursued to reduce the use 19 of coal fired generation.

Every time we look at it, we conclude that the amount of gas fired generation that we are going to be relying upon is going to increase. That is one of the major drivers behind the development of gas storage in the United States over the last decade, is to be able to load follow the variations in demand that we see with

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1 gas fired power generation. And we only see that 2 increasing over time.

As to your question as to whether there would 3 have been a greater public health impact from the loss 4 of gas during the summer, I can't speak in terms of 5 public health but I can speak in terms of the amount of 6 time it could take to restore the electric grid if there 7 8 were to be a loss of enough gas so that the grid were to 9 collapse. That has happened elsewhere in the United States, I think it was in August of 2004 in the New York 10 area, not because of natural gas per se but because of 11 12 some other transmission related problems. And it took several days to get power back on in New York City. 13 14 That would be a difficult thing to cope with with 120 15 degree heat here in Arizona.

16 CHMN. PIERCE: Thank you.

17 And my time is up and we will go to Commissioner 18 Burns, if you have questions. By the way, you don't 19 have to have questions. But I am going to go in order. 20 And so you have an opportunity.

21 COM. BURNS: Lucky for everybody I left my notes 22 upstairs. I will be very brief. I will just stay on 23 natural gas storage for now.

I think it is really great. It sounds like -- I
did not know where my fellow, all my fellow

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1 Commissioners were on this issue, but it looks like you 2 certainly have got a Commission here who is all very 3 favorable towards natural gas storage and well aware of 4 the El Paso project that didn't make it over by Luke Air 5 Force Base.

6 I was previously involved in that myself. And 7 in the letter that I sent out, you know, I was 8 reflecting on Senator Spitzer, or Commissioner Spitzer's 9 comments back in 2003, 2004. And there were 10 Commissioners then who were very supportive and wanted 11 to see us go that direction. And, you know, my, my view 12 of it has always been with regard to gas price 13 volatility. And those were the comments that 14 Mr. Spitzer had made. But now we see obviously another, 15 at least I have been enlightened, another big reason to 16 have it as well. So hopefully we can make some progress 17 But I know the devil is always in the details. on it. 18 Just two other things.

One is I just wanted to make a comment. As Southwest Gas looks at how you can better communicate, I know you said one of the first things you did was you reached out to your customers. And, yet, there were some specific customers, because there are a lot of customers, who didn't feel reached out to at all. And I know you talked about the reverse 911 that you have in

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1 the Tucson area that you didn't have the availability 2 for in Sierra Vista. You may have other clients or 3 customers that live in areas without the reverse 911. 4 So we will be looking forward to hearing how you would 5 remedy that.

6 And then, secondly, I don't know if the Chairman 7 lastly intends to go to Staff at any conclusion, but I 8 would be very interested in knowing if they have any 9 comments that they would like to share as a result of 10 anything they have been hearing here.

11 CHMN. PIERCE: And, well, at any time Staff can 12 pipe in, but I think, Commissioner Burns, it might be a 13 good time, then, let them respond, because that will 14 wipe out your time.

15 COM. BURNS: You would rather hear from them 16 than me.

17 CHMN. PIERCE: Mr. Olea.

18 MR. OLEA: And yes, Mr. Chairman, and Commissioners, this is Steve Olea for Staff. And I 19 don't have anything specific to add to the discussion. 20 21 I know that I sat in on all the meetings with But one of the things that did catch my attention 22 you. in the meeting with El Paso was their storage that they 23 24 have and the fact that they had used all they could as 25 far as the capacity on the output of that storage. And

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1 it was about 250. And I am not good with the, with 2 the -- okay, I think it was 250 million decatherms, 3 something like that.

MR. CLEARY: That's correct.

4

5 MR. OLEA: As far as the units. And that's all 6 they could get out of it. But I did ask the guestion at 7 one of the meetings, was, well, so did you use all the storage you had. And they said no, we had gas left in 8 9 And so my question to the parties is would then there. 10 part of the storage problem be satisfied if you could 11 get 500 million decatherms a day out of there instead of 12 250. So, in other words, if you had two pipes instead 13 of one pipe -- I don't know if it is one pipe or 20 14 pipes -- but if you double the size of the output from 15 that, would that have helped, or if you tripled the size 16 of the output, would that have helped.

17 So, you know, that's, you know, a thought that I 18 Because we keep talking about having the storage had. directly in Arizona, which I know would be better. And 19 20 I know from the Staff point of view that we have talked 21 about, you know, the Luke site as being one of the best because it is right in the center of, you know, what is 22 23 called power plant alley and all that. But even if you didn't get storage in Arizona for whatever reasons that 24 25 was, would increasing the output of the storage that

Dominion Energy Utah G-00000C-11-0081 OPEN MEETING Docket No. 18-057-03 DEU Exhibit 2.05³ Page 103 of 144 already exists in New Mexico, would that have helped the 1 2 situation in Arizona? 3 CHMN. PIERCE: At the Washington facility? MR. OLEA: Yes, 4 CHMN. PIERCE: Anyone, someone want to tackle 5 6 that? 7 MR. CLEARY: Briefly, Mr. Chairman, if I may respond to Mr. Olea. 8 9 CHMN. PIERCE: Go ahead and pull that mike over. It moves. 10 MR. CLEARY: Thank you. The issue at Washington 11 12 Ranch is not pipeline takeaway capacity. It is facilities that we need at the storage field itself to 13 enable us to pull gas out quicker. And really that was 14 15 what we essentially proposed in our 2008 expansion. 16 We were not going to increase the inventory 17 capacity. That would stay at 44 bcf working storage capacity. But we were going to increase by 100,000 18 19 decatherms a day our ability to pull it out, withdraw 20 capacity from 250 to 350. So we could do that. Cost some money, but it is probably less costly than market 21 22 area storage. But you just have to weigh the tradeoffs between do you want the storage in the market area or in 23 24 the supply area. 25 MR. BOWE: Mr. Chairman, may I respond for

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1 Arizona Natural Gas Storage?

2 No question that adding additional 3 deliverability from the Washington Ranch field would 4 have helped because the problem was not as much gas 5 coming into the system as the market was taking from the There would be a limit to how much you could 6 system. 7 get out of the Washington Ranch facility that would 8 provide the kind of pressure push you would like to have 9 in a situation which you have seen pressures decline. 10That's why market area storage would provide a real benefit. 11

12 One other reality is that salt cavern storage 13 has the virtue of very, very high deliverability relative to the amount of capacity that is developed, so 14 15 that effectively you are pulling gas out of what amounts 16 to a very large hole in the ground. You have to manage 17 a reservoir, a reservoir like the Washington Ranch 18 facility, carefully for various reasons. And you have 19 to limit the deliverability you achieve in order to 20 avoid doing long-term damage to the facility.

A market area salt cavern storage facility can essentially be opened up full throttle and provide a whole lot of deliverability almost instantly. So that is a difference. No question that having additional deliverability as Washington Ranch would have been

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helpful. Having the amount of deliverability you could 1 get out of a gas storage facility right at the heart of 2 the market would have been more helpful still. 3 CHMN. PIERCE: We just have to weigh wheeling. 4 Commissioner Burns has a follow-up. 5 COM. BURNS: Yes, one remark, yes. FERC is 6 investigating this, and I am very much looking forward 7 8 to seeing what they find because I am sure they will be 9 looking into Texas like we can't do from here. And just, and a very easy question for you, who 10 11 all is a part of the Arizona natural gas storage 12 coalition? CHMN. PIERCE: You can raise your hands if you 13 are. Then we would know. 14 MR. SHELLEY: We are. 15 CHMN, PIERCE: Southwest Gas. 16 COM. BURNS: Southwest Gas. 17 MS. BRANDT: Salt River Project. 18 CHMN. PIERCE: SRP, APS. 19 MR. MOODY: UNS. 20 CHMN. PIERCE: UNS, Southwest Gas. Anybody 21 22 else? 23 COM. BURNS: That's four groups, Southwest Gas, SRP, UNS, and AEPCO? 24 25 MR. GRAY: And AEPCO.

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CHMN. PIERCE: I would think so, TEP and AEPCO, 1 2 because you would think your power, it is a natural gas, 3 has a natural gas generation, it is going to be a part 4 of it, I would hope. 5 Commissioner Kennedy. COM. KENNEDY: 6 Thank you, Mr. Chairman. 7 Mr. Olea actually asked my question. 8 CHMN. PIERCE: Well, thank you, Mr. Olea. 9 All right. We will go back to Commissioner 10 Newman. 11 COM. NEWMAN: Thank you, Mr. Chairman. A couple 12 questions. I am going to get off storage right now, 13 although this is a long discussion. 14 I actually believe after having this discussion 15 and talking to some of the stakeholders that we have 16 enough information to know that storage is an important 17 point. And I would love to co-sponsor with any of the 18 Commissioners a workshop with the stakeholders on 19 workshops, on storage. 20 In fact, I don't even believe all the players 21 are necessarily sitting at this table. In fact I know 22 they are not. There are some other potential suppliers 23 in competition to produce storage in Arizona who are not represented here. They are in the audience but they are 24 25 not ready to present today.

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1 So I would just like to say that I think, 2 Mr. Chairman and my colleagues, I think that this does 3 merit a workshop with stakeholders, that we work over a 4 period of time on this issue.

My one -- and I have a question of storage, a 5 question about communications. You had noted that Pima 6 County had a pretty robust 911 system. Of course, you 7 know, the taxpayers have to pay for that. They were 8 working on it for a long time. A lot of grants that 9 10 came out of Homeland Security after 9/11 helped the But in a place like Cochise County, I happen 11 situation. to know that we have one Homeland Security director that 12 13 we appointed. And there was one gentleman who worked 14 for many years. We just had one gentleman, sort of a retired gentleman, who just completed 911 mapping for 15 Cochise County. And so Pima County, you were able to 16 use the reverse 911. Cochise County, you were not able 17 to use 911. And I think this would be of interest to 18 the folks in Sierra Vista. 19

20 Can you amplify on this and what we can do to 21 help Cochise County perhaps and yourself improve 22 emergency communications?

23 MR. CLARK: I would be glad to. Chairman Pierce 24 and Commissioner Newman, the reverse 911 system that we 25 utilized within Pima County was a one time opportunity

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1	for us in that area to put out a message to customers
2	somewhat related to the outage area. We had lost 14,600
3	customers, and the calls went out based on the
4	boundaries that had to be defined to about 18,000
5	customers. So some of them received a message that
6	actually were not out of natural gas service.
7	We looked at
8	COM. NEWMAN: That might have been confusing to
9	some folks.
10	MR. CLARK: It very well could have been.
11	We also looked at in Cochise County utilizing a
12	similar system that they had. However, their system
13	would only allow for a 15 second message. And we tried
14	to craft as concise of a message as we could. It was
15	about 30 plus seconds that went out over the Pima County
16	system. And we felt with the shorter time frame it
17	would have been more frustrating to customers to get
18	either a partial message or we would have had to have
19	abbreviated so much that it wouldn't have been
20	meaningful to them, so we opted not to use it.
21	Now, the predictive dialing system that we are
22	looking into as a company, if that's a viable resource
23	and the company decides to utilize that system in our
24	call centers, would not be an emergency type system. We
25	could utilize it for many purposes hopefully throughout
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1 our entire service territory as it was required. And 2 the message length would not be restricted. And, 3 therefore, we could give updates over that system to 4 customers. We could obviously give primary information 5 to them. All of those things would more than likely be 6 available through this new technology we are looking 7 into.

8 COM. NEWMAN: Maso menos again, projection of 9 the cost of the predictive dialing system, and do other 10 entities, other distribution entities have such 11 predictive dialing?

MR. CLARK: Commissioner Newman, at this point in time I don't have an answer to your question. So I don't know the costs of such a system or whatever of the LDCs, either in Arizona or outside of the state, have this capability.

17 COM. NEWMAN: Will you be able to provide that18 to the Commissioners post haste?

19

MR. CLARK: We can look into that, yes.

20 COM. NEWMAN: One other question, Chairman, and 21 this involves cost of storage. We have one of the 22 companies at the table. And I know that your plan looks 23 to store, have -- store aboveground, which might 24 mitigate some potential water table problems in your 25 design, and that there is other designs out there, which

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1	is one of the reasons why I want to have a, you know,
2	workshop, so we understand the different designs as we
3	go forward, but mas o menos again, projection of the
4	cost, if you will, of your plan, which I believe
5	mitigates some of the potential environmental water
6	issues that were raised in the last couple of years.
7	CHMN. PIERCE: Could you give a cost quickly, an
8	approximation what that would be?
9	MR. BOWE: Yes. I don't mean to be flippant.
10	They always seem to cost \$350 million.
1 1	CHMN. PIERCE: That's a number we hear
12	continually, between 3- and 350.
13	COM. NEWMAN: Yes, but I wanted it on the
14	record.
15	MR. BOWE: That is a mas o menos number.
16	COM. NEWMAN: I understand. This is, it might
17	be violation
18	MR. BOWE: On a per unit basis it could be
19	menos; if we could get a little bit mas, maybe
20	COM. NEWMAN: Who would pay?
21	MR. BOWE: We would expect the customers who
22	make long-term commitments to take service from the
23	project to pay. There would be a reservation charge
24	that would reserve the right to a particular quantity of
25	capacity. There would be a variable charge that would

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1 be assessed on injections and withdrawals. And the 2 customers would pay the costs of the project.

The precise nature of the rate arrangement we 3 have been in discussion with customers about are the 4 subject of a confidentiality agreement, which I know my 5 client would be more than happy to waive if that 6 requires everyone's agreement. My client proposes just 7 to go by the book with the project so that everyone is 8 aware what the actual costs of developing and 9 commissioning the project are. 10

But the customers would pay. There needs to be 11 a commitment of enough of the customers for enough 12 13 capacity to make the economics of the project make sense for everyone. There may be some amount of additional 14 15 capacity or deliverability that could be available to 16 the market on what would amount to a spot basis. And we would take that possibility in account and allow some of 17 the benefit of that to flow back to the subscribers who 18 have made the project possible. 19

20 COM. NEWMAN: And then, of course, the 21 shareholders wouldn't necessarily be, wouldn't foot that 22 cost. You are talking about ratepayers down the line, 23 aren't you?

24 MR. BOWE: For the commitments for capacity, 25 yes, we would expect the customers to make the

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	5
1	commitments and make the pledge economically viable.
2	Now, of course, the project's developers, the
3	shareholders take the risk of completing the project and
4	of bringing it in at a cost that's commensurate with
5	whatever the arrangements are with the customers. And,
6	of course, there is risks all along the way.
7	There is operating risk, which, of course, you
8	have to mitigate by being a prudent operator. But there
9	would this is not the sort of project you would
10	characterize as a simple matter that generates an
11	annuity. There is a certain amount of art to bringing
12	one of these projects on. My clients have done it
13	before in a number of cases and has significant
14	experience in getting it done. But it is not a risk
15	free proposition.
16	CHMN. PIERCE: We are going to move.
17	Commissioner Stump.
18	COM. STUMP: Thanks, Mr. Chairman, a couple of
19	brief questions.
20	Sir, I don't recall if you mentioned this
21	already, but did you speculate as to how many jobs might
22	be brought into the Eloy area should storage be
23	implemented there or fully implemented?
24	MR. PASTOR: We have looked at that as far as
25	work force development. I don't have the numbers off
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1 the top, or at my fingertips here. But at peak force we 2 are probably talking about 400 construction staff or 3 more.

4 COM. STUMP: And my understanding is that Eloy 5 is rather ideal topographically and otherwise. And, of 6 course, Luke had been in the mix at one point. Has Luke 7 weighed in on that recently or has that not really 8 been --

9 MR. BOWE: Luke is not part of our plans. I 10 think there are legal impediments that would make 11 developing Luke essentially impossible.

12 COM. STUMP: Yeah. Thanks.

13 CHMN. PIERCE: Could we, and I think there could 14 be large -- do we want to correct the number of jobs? 15 Because I have heard numbers higher than that as well. 16 We will need it on the record, if someone wants to do 17 that.

18 MR. BOWE: We would be happy to provide that19 one.

20 CHMN. PIERCE: Well, Mr. Crockett was in a 21 meeting and I know we could have that before I am done 22 with this next question, and then we can make sure we 23 are correct.

I want to go to price stability, what happens to price stability, and Southwest Gas can answer this,

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others could, by having natural gas storage, what that 1 2 does when all of a sudden we see we are short, or maybe, 3 because it is a guessing game each day, and we buy here 4 and at the end of the day we have got -- we need to sell 5 some. And when we need to sell some, bad things happen 6 to price. It is amazing, but I just bought it, I just 7 drove it off the lot and for some reason that natural 8 gas is not worth as much. So what does storage do to 9 price stability?

10 MR. MOODY: Well, certainly for Southwest Gas, 11 if we had storage, the top of the list is daily 12 balancing. But one of the side notes of daily balancing 13 on the system is that, for example, if you can take away the customer outage portion of this and just assume 14 15 everybody got their service, we paid as much as 10 or \$11 a decatherm for gas that we purchased late cycle, 16 17 that if we had storage we would have --

18 CHMN. PIERCE: When you say late cycle, in a 19 day.

20 MR. MOODY: Yes, I better explain myself. Thank 21 you. I am going to be more clear.

Late cycle means the cheapest gas I am going to buy the day before the day I burn it. And then as time moves on, I have different kinds of gas deals that I have to purchase for my customers. And we find out

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demand changes and then we want to satisfy that. And 1 the price goes up because it is under high demand and it 2 is late and it is typically coming into the system later 3 So certainly that variation of price stability, I 4 on. would then have a choice of using storage gas or 5 purchasing that day. That's the simple version. Also 6 7 you are going to have an inventory value. You have a value of gas in the ground. And so that gets to be a 8 9 fairly complex mix.

10 The second place is that, with storage, we can 11 line up gas deals that are more ratable. They don't 12 have peaking capabilities added to them. And so on a 13 day when we don't need to burn the gas, we night run it 14 in storage. And that means we can levelize our gas 15 purchases.

And I don't want to lead you to believe that in 16 the modern gas markets that can rationalize storage, 17 because the gas prices the day before the event were \$4, 18 the day of the event may have been as high as 10, the 19 day after they were 4. So we don't have these prolonged 20 periods of time of volatility maybe we were having in 21 2007 or 2006 where gas might move 2 or \$3 over a period 22 23 of a couple months.

24 CHMN. PIERCE: But it is certainly a side25 benefit.

Dominion Energy Utah G-00000C-11-0081 OPEN MEETING (Docket No. 18-057-03 DEU Exhibit 2.0516 Page 116 of 144 1 MR. MOODY: Oh, absolutely. It would be 2 considered in each study we would bring to the 3 Commission. 4 CHMN. PIERCE: I am finished. Do we have an 5 employment -- I am finished, so ... 6 MR. PASTOR: Yeah. I have updated numbers. For 7 the currently scoped project, the work force would 8 average 350 over a year and a half period with peak 9 levels rising up to about 500. 10 CHMN. PIERCE: Okay. 11 MR. PASTOR: And there would be 20 permanent 12 positions at the facility. 13 CHMN. PIERCE: All right. Now, that would be 14 over a period of a couple years that happening? 15 MR. PASTOR: That's right. The construction 16 period would be about a year and a half to two years for the primary infrastructure construction. 17 18 CHMN. PIERCE: Very good. Thank you, 19 Commissioner Burns. 20 COM. BURNS: Well, I think he answered the only 21 other question I had on that. And that was the 22 long-term employees, did you say 20? 23 MR. PASTOR: That's correct. 24 COM. BURNS: And what kind of jobs are those? 25 MR. PASTOR: Those are facility operators and

Dominion Energy Utah Docket No. 18-057-03 G-00000C-11-0081 OPEN MEETING DEU Exhibit 2.0517 Page 117 of 144 maintenance staff at the site as well as some 1 environmental specialists that would do some monitoring 2 activities as well. 3 MR. BOWE: Generally skilled jobs. 4 CHMN. PIERCE: Thank you. 5 Commissioner Kennedy. 6 COM. KENNEDY: Mr. Chairman. 7 The project in Eloy, do you have the support of 8 the Pinal County supervisors? Are they on board? 9 10 Anybody? CHMN. PIERCE: I quess the question would be 11 have they passed a special use permit, if anybody knows. 12 COM. KENNEDY: I just wanted to know where they 13 are. Have you talked to them? 14 MR. PASTOR: Yes, we have been in to talk to the 15 City of Eloy specifically about the project. And they 16 are in support. 17 COM. KENNEDY: How about the Pinal County Board 18 19 of Supervisors? MR. BOWE: I don't know that we have. We have 20 21 met with them. CHMN. PIERCE: Can we get -- you know, it would 22 be great to have someone, if you want to, that has that 23 information to come up and answer Commissioner Kennedy's 24 question one on one because she is probably going to 25 ARIZONA REPORTING SERVICE, INC. (602) 274-9944 Phoenix, AZ www.az-reporting.com

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1 have some more.

2 MR. BOWE: My apologies. I am the federal 3 permitting guy.

4 CHMN. PIERCE: But, you know, we have met with 5 the company as well and we know everybody involved. So 6 we would love to have -- go ahead and identify yourself 7 and then --

8 MS. McCAFFREY: Deirdre McCaffrey from NGS9 Energy.

10 We have met with all the county, three county 11 supervisors. They have recognized that it is a benefit 12 to Pinal County. The location especially would help 13 potentially grow that as one of the generation points 14 for the State of Arizona. We have begun the permitting proCess for the air permit which would be given by the 15 16 County. So they are interested in how our continuing 17 conversations go with the city and the whole area. But 18 in general they have been supportive of it.

CHMN. PIERCE: Stay there for a moment.
 COM. KENNEDY: I am done. I just wanted that
 one question.

22 CHMN. PIERCE: Okay. Well, race back over to23 Commissioner Newman.

24 COM. NEWMAN: Yeah. It is my understanding that 25 Pinal County supports the double tracking and station --

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you know, there is a railroad project in the same general vicinity. As some of you may know, they support the switching station in the same general vicinity, in the Newman or Picacho Basin, however you want to call it. And I have talked to Mr. Rios, who is supportive of creating more jobs in Pinal County and is generally supportive.

But there is some confusion. There was some --8 9 they did have concern over potential water problems, of the environmental problems. There were letters going 10 back and forth about that. And there is still some 11 concern, but they more or less support the project. 12 That was my understanding from informal conversations I 13 have had with the supervisors. Is that your 14 15 understanding?

MS. McCAFFREY: Yes. I mean they have asked questions and will continue to follow up for the filing process which will give opportunities throughout the way for -- but we have had no formal filings of opposition to the project or the water use or water disposal.

21 COM. NEWMAN: Right. But I do think that there 22 is a like, I use the word again, sort of a heightened 23 scrutiny over the water issues, of water table issues. 24 That's my read on the situation.

25 I want to go back to communication on Cochise

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1 County again for the benefit of Mr. Call who is not here 2 today who would have liked to have attended and probably 3 would have given a presentation on this. Is there a 4 chance -- when we look at these numbers, when I ask you 5 to cost estimate those numbers, I would like you to be 6 involved with Cochise County as well, because if there 7 is a chance that they can make their 911 system more 8 robust, perhaps have the utility of Secretary 9 Napolitano's assistance in making the message capable of 10 being longer, that might be a way of not putting the 11 cost on the ratepayers ultimately or your shareholders, 12 and we might be able to develop some sort of project with the assistance of the Homeland Security Secretary 13 and her staff. And there is some able lobbyists in the 14 15 room that would be able to achieve that. What do you think of that proposal? 1.617 MR. CLARK: Well, Commissioner Newman, that 18 certainly is something that we can look into. Ι 19 understand there are two options in this arena. One, 20 there are vendors who have this type of system, that you 21 subscribe to their system and then they keep the phone 22 lists, they maintain the system, they do everything 23 else, and then you just pay a fee to use it. Then you

24 can purchase outright the system, have that technology 25 in house. So we will look at all of those aspects and

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make the proper decision which is best for the 1 2 ratepayers or shareholders, the company, all involved. Thank you so much. COM. NEWMAN: Okay. 3 Long-term contracts for the sale of gas, I just 4 got back from a meeting of the energy bar and was 5 interacting and talking to several of the California PUC 6 officials, trying to trade notes with them about gas 7 issues in the west. And I guess I had heard that there 8 9 is a very, very, a long-term contract that PG&E, I believe, the northern California electric utility got a 10 very good deal on long-term gas prices. 11 12 Now, there is this economic nexus that -- I am not, I am not the economist or the mathematician to 13 understand these price differentials, but because -- so 14 15 California just got a very good long-term contract. I would like to see Arizona distributors, I am sure you 16 yourself would like to see those kinds of contracts 17 And that kind of shifts away from this 18 received. storage issue, if you know what I mean. If you get 19 those long-term contracts, there is maybe less need for 20 storage. The consumer gets the best deal. 21

22 Can you speak to that?

23 MR. MOODY: Sure. I will keep it, try to keep 24 it appropriate to this forum. Always remember that I 25 like, as a gas guy, I always want to say out loud that

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1 five years ago \$8 would have been a really good deal.
2 And today if you were paying \$8, there is some supplier
3 who is doing a dance and a jig because you are \$4 over
4 market and he is making money.

5 So to specifically answer your question, we 6 always look at longer term contracting. And it could 7 have the outcome you just described, or it could have an 8 unthought of outcome, which is back in the days when we 9 were all going to need LNG. A local distribution 10 company has extremely variable load, and we were going 11 to need to buy the gas the same amount every day. And as I alluded to earlier, in order to secure a deal like 12 13 that, you would go a little longer term.

14 This was what it was like five or six years ago. 15 You would buy it, say, from Costa Azul and transport it 16 back through El Paso to some Arizona storage area. And 17 that would be the only way you could accomplish it, because on the days you didn't need it, you would still 18 19 have to take the gas or put it into storage somewhere. 20 So without being -- don't take that as an 21 indirect answer. Just maybe hopefully you will 22 interpret that it is a complex answer. And we will 23 certainly, as we put together our economics for each 24 company, we are all, we have all looked at each other's 25 nonproprietary stuff, and these things all will det

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1 considered and we will have a chance to look at them in
2 the open.

3 COM. NEWMAN: Okay. Actually that calls for 4 follow-up on that issue. I think it is an important 5 issue. Staff wants to speak to that as well,

6 Mr. Chairman.

7 CHMN. PIERCE: Go ahead. Yes, please.

8 MR. GRAY: Mr. Chairman, Commissioner, I am Bob 9 Gray with Commission Staff.

I think my perspective would be that even with 10 long-term contracts it doesn't reduce the need for 11 storage, because your typical gas supply contract has 12 this force majeure provision that allows the producer to 13 14 get out of providing the gas if there is weather circumstances like we have seen. That's why you saw in 15 the Southwest Gas graphs there is a big difference 16 between what was contracted for and what they actually 17 had come through the pipeline. And I think even with 18 the long-term contract with a producer, say, in the San 19 Juan Basin, you would probably still have the issue 20 21 where that supply becomes a little bit interruptible when the weather gets colder. 22

23 So I think you would still, you would still want 24 gas storage even if you did get some long-term 25 contracts.

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1 COM. NEWMAN: You want both strategies in place to get the best deal for the consumer. 2 MR. GRAY: Certainly, yes. 3 4 COM. NEWMAN: Okay. CHMN. PIERCE: All right. 5 6 COM. NEWMAN: That's it for now. 7 CHMN. PIERCE: Commissioner Kennedy. 8 COM. KENNEDY: Thank you, Mr. Chairman. This 9 will be my final stint at this. 10 I don't want Southwest Gas to run out of the 11 room right now, but I have a couple of tough comments to 12 make. I am glad that the two executives flew in from 13 Nevada today. I do realize that Southwest Gas is a Nevada based company. You are not local. You are not 14 15 Arizona bred. But you are a provider of service, and I 16 really expected more from you. 17 There are some great people here locally that 18 represent Southwest Gas I have known a long time. But 19 when we have to wait for direction from an executive from Nevada, it makes me uncomfortable. 20 With that scenario, which one of you today wants 21 22 to take the blame for the breakdown in communication? 23 MR. CLARK: Well, Commissioner Kennedy, let me start off by saying that I am a Tucson resident. I have 24 25 lived in Tucson now over five years. That is where I

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1 live. That is where I serve. And that is my home and 2 where I will continue to be. So I am an Arizonan. 3 COM. KENNEDY: Okav. So my fault. So you are going to take the blame for the lack 4 5 of communication in southern Arizona? And the reason I say that, I just happened to be in Tucson the week that 6 this all occurred for another event and got bombarded 7 8 with nothing but Southwest Gas issues, problems. They were angry. And I felt like I walked into an ant bed. 9 But I mean, I mean I was elected to do this. So I am 10 11 not unhappy, but I do think that Southwest Gas and their 12 customers here in Arizona deserve a little bit more. Which one of you has already decided when your 13 first mock emergency exercise will take place using the 14 15 event as a learning tool? MR. CLARK: Well, Commissioner Kennedy, 16 Southwest Gas has already had one initial meeting with 17 18 El Paso in which we have talked and discussed the issue at hand. We are looking at sharing information. We are 19 looking at modeling our systems on both sides, on the 20 21 transmission side from their part, on the distribution system on Southwest Gas' part, so that we can really get 22 our arms around what opportunities in the future we 23 might have to work together and ensure that, if there is 24 infrastructure that needs to be installed, that we take 25

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a good hard look at that, or whatever we can do on a
 cooperative basis to work together in that arena.

I believe that we will set up, as El Paso has talked earlier today, a mock exercise. Southwest Gas will participate in that exercise. We would love to get our side on the distribution side to jointly interact with the transmission side to look at this, this weather related event that we have just gone through.

9 As far as the communication goes, I would like 10 to address, and I have got Libby Howe who is our PIO, 11 sitting right behind me --

12 COM. KENNEDY: You are not passing the buck, are 13 you?

MR. CLARK: No, ma'am, no. I wanted to say that, I want to be on record saying what a great job Libby did in communicating with our customers, with the media, and with all the resources that we had at our disposal.

Now, we recognize that there are challenges, that our world has changed even in the past year, and that some of the social media that is prevalent today, we are a little behind the times. But we are willing to admit that and now try to catch up. And that's the commitment that we have, is that we need to take a good, hard look at the communications, the way it happened

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during this event and what we can do in the future to
 better talk to the customer.

We understand that the primary answer they wanted was when will you get to my house. We could not answer that question adequately to our customers. We would like to be able to do that in the future. That will be our objective, to try to find the methodology or the technology which will allow us to do that.

9 COM. KENNEDY: Mr. Chairman, Mr. Clark, I take 10 it you have not seen the letters that have been included 11 in the docket from responses of customers to the letter 12 that was sent out. I am assuming that.

MR. CLARK: I have not seen any of the lettersyou are speaking of, no.

15 COM. KENNEDY: I invite you to look at those 16 letters in the docket. In fact, the Chairman read from 17 a couple of those letters earlier today. And attached 18 to those letters that they sent us is the letter that 19 you and Mr. Moody, I believe, sent out.

20 MR. CLARK: Mr. Shaw.

21 COM. KENNEDY: Shaw, thank you. So --

22 MR. CLARK: Yes.

23 COM. KENNEDY: -- I am not pointing fingers at 24 your PIO. I just want to make sure you are not passing 25 the buck. But I want to make sure that you hear me

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1 loudly and clearly.

2 MR. CLARK: We hear you, Commissioner Kennedy.
3 And we will shoulder that responsibility.

4 And I would, I would just like to say as well 5 that we have received many complimentary letters from 6 customers within the outage areas thanking us for our 7 promptness, thanking us for the courtesy of our field 8 people, of coming into their homes and restoring their 9 service. So we understand that, in any event, we can 10 learn from it, we can critique it, and we can strive to 11 do oetter in the future. And that is our goal.

12 CHMN. PIERCE: Okay. Finished? Thank you. 13 And I just want to say that where systems need 14 to change for the company isn't necessarily in Tucson 15 and southern Arizona. And that's why you are here. You 16 have a statewide system and you involve other states. 17 And so really whether someone is at fault directly for what happened in Tucson, that's one thing, but the 18 19 overall fault in this lies with the system isn't what we 20 wanted. And somewhere along the line someoody is going 21 to be responsible for making sure that it changes.

And, you know, Mr. Shaw is here, and he is at the top of that. I am sure he is going to make sure that somebody is going to be the person responsible. And for us, I think whoever that is and who is going to

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be leading those changes, we ought to know who is going to be assigned that so maybe we can get updated as that process is going along. We know who our, we know our local folks really well, but they are not the ones that are going to be check tasked with this. And we would kind of like to know who that is.

7 MR. CLARK: Well, Chairman Pierce, I suspect I 8 will be charged with that responsibility, being the vice 9 president in southern Arizona. So I will, I will take 10 that responsibility on. We will communicate with the 11 Commission as we move forward. And the folks behind me 12 will certainly be of great assistance in doing that. 13 But I will take that responsibility on.

CHMN. PIERCE: All right. Then, then you are 14 15 going to take it on for the whole company to make -because whatever system you develop ought to be one in 16 which the company is going to use, or somewhere. I mean 17 that's -- this is an issue in southern Arizona today. 18 It could be an issue in Southwest's service territory 19 somewhere else tomorrow. So we just want to make sure 20 that we have that consistency and we know who is 21 resolving that for the company. And if it is going to 22 23 be you, that's fine, because if it gets resolved in southern Arizona satisfactorily, that ought to be maybe 24 25 a company standard.

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1 MR. CLARK: Okay. From the respect of infrastructure, that will be my responsibility. 2 For 3 technology, I will have to look to some of my staff 4 co-workers to assist in those decision processes and in 5 that arena. So I will be responsible for the 6 infrastructure, ensuring that pipelines and facilities 7 are in place. And then we will look at the technology 8 side more than likely out of our staff groups in Las 9 Vegas.

10 CHMN. PIERCE: Well, your customers are going to 11 want to know, you know, when you say these things are happening, well, who are the people assigned, what is 12 the schedule to make sure that we are going to have a 13 14 system, when is it going to be tested if there is 15 reverse 911, is there going to be media letting people know you are going to get a call and it is a test, those 16 17 types of things.

18 So I am just saying for those who are without 19 service, they want to know that everything is 20 legitimately on a time schedule to be improved. And I 21 think that's what we would like to be able to report to 22 them as well. We are almost --

23 MR. OLEA: Mr. Chairman.

24 CHMN. PIERCE: Yes.

25 MR. OLEA: Steve Olea.

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CHMN. PIERCE: Okay, Mr. Olea.

1

MR. OLEA: Yes. And if I could just add to 2 something that both you and Ms. Kennedy were talking 3 about, since I already stole one of her questions, is 4 that we had asked and Mr. Johnson had called the 5 Department of Emergency Services for the state and asked 6 them to be here at this meeting. They could not be here 7 8 because they are in the middle of doing their mock exercise for Palo Verde. 9

But I think that, you know, some of this ties in to everything that has been talked about here. I think maybe the Commissioners at a Staff meeting should get the Department of Emergency Services there and talk to them about them coming up with a mock exercise that would cover something like this for the gas companies, but something similar for the electric companies.

And the reason I say that is because of what 17 18 happened in Texas. And in our talks with the, you know, with the companies we found out that in Texas, when the 19 electric companies did their curtailment plans that were 20 21 approved by ERCOT, that the gas facilities were not part of the critical structure that was to be left on. And 22 at the time that made total sense, because I am sure 23 that in Texas, the way we do here, they do mock 24 25 exercises, but when they tested in Texas they probably

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1 tested the electric companies in the summer. And when 2 you do that in the summer, the gas companies are not 3 critical in the summer. But I don't think anybody 4 thought of the electric companies losing power in the 5 middle of winter that would at the same time turn off 6 the gas companies.

7 So I think maybe somehow that, as the state 8 emergency services does, do their development of mock exercises for different things that could happen. 9 10 Perhaps in some kind of cooperation with the Commission and with the different utilities, you know, all of us 11 12 could come up with a mock exercise that would do 13 something like this that would incorporate the reverse 14 911 or, you know, some kind of radio emergency messages 15 or something.

16 Because I know a lot of the calls that we were getting from customers was I can't find out what is 17 18 happening or like where do I go because I don't have 19 heat, and so like is there a school, you know. So it is 20 that type of thing that I think the emergency services, 21 state emergency services could coordinate with the 22 different county emergency services on what happens when 23 this happens. As you said, if this were to be a power 24 outage in the middle of August that lasted for four 25 days, you know, what is going to happen? You have to

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have a place to put people. And somebody at the state 1 level has to be in charge of that. But I don't think 2 that, or at least we haven't thought of and I know that 3 emergency services hasn't thought of, okay, what happens 4 5 if you have a major gas outage together with a power outage in the winter, well, what happens if you have the 6 same thing in the summer. That's something that I 7 think, you know, that could -- that that would bring 8 into effect what you had been talking about and also 9 what Commissioner Kennedy had mentioned. 1.0

CHMN. PIERCE: Okay. Commissioner Newman.
 COM. NEWMAN: This is my last question.
 CHMN. PIERCE: And then we are going to wrap

14 this up because otherwise we are going to need to go to 15 a break, and I think we can do it without going to a 16 break.

17 COM. NEWMAN: Yes, I just have a few remaining 18 questions. And actually the Staff anticipated also one 19 of the things I was going to say. So I will start out 20 with what Steve said for the purposes of transition.

21 Mock exercises are a good idea. Blacktop 22 exercises is another way of describing them in the 23 emergency services field. So I certainly agree with 24 Staff that, and with the Commissioner, with the Chairman 25 by his question of summer/winter analysis, that we

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should have blacktop exercises, summer problems, winter
 problems, the nexus between the electric grid and gas
 providers. And I think I will be asking for that.

To the folks that represent the storage folks, 4 5 and that extends to your competitors I think who also 6 are in competition with you to try and get storage in 7 Arizona, and whoever is listening to this who wants to 8 enter into the foray of trying to get the least cost 9 storage that we can in Arizona, and the safest storage, 10 that we, that the Commission has been available before to review just for our eyes only some of these cost 11 12 numbers. And that would be very helpful to all of us. 13 And we have done those sorts of agreements with our 14 other companies in the past.

15 And you could trust us to live up to our sort of 16 judicial integrity not to pass on information. We take 17 this job very seriously. But we want to see these 18 numbers and we will look at them so we have an idea of 19 what they are. It is very important for us to know that 20 because it could end up hitting the ratepayer one day, 21 and we will all end up paying the ratepayer one day. 22 That's part of our job.

23 With regard to consumer complaints, Steve and 24 Staff, I was going to ask you a number of questions. 25 But I have -- have we gotten back to all the folks that

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have reached Mr. Martinez in our Tucson office who took 1 the bulk of the calls for southern Arizona? Has there 2 been a written response to them? And if we do a meeting 3 in southern Arizona, I would hope that the people who 4 5 contacted Mr. Martinez and others in our consumer complaints division would be noticed of the potential 6 meetings in southern Arizona it looks like we will try 7 8 to coordinate with the Southwest Gas rate hearing.

MR. OLEA: And, yes, Mr. Chairman, Commissioner 9 And I got this information from the Consumer 10 Newman. Services Staff. We had a total of 259 calls in to our 11 Consumer Services group that dealt, well, with the 12 outages in Tucson and Sierra Vista. And there was, 180 13 of those were inquiries and 79 were complaints. And I 14 asked my Staff to actually define what is the difference 15 between a complaint and an inquiry. 16

An inquiry is one that we can answer on our own 17 that we answered. So there is 180 that we answered on 18 our own. And those have been closed. Those that are 19 complaints are those that we cannot answer on our own so 20 we forward those on to the company. And they will 21 provide a response and then we will provide that 22 response to the customer. And if that closes it, then 23 it is closed there. 24

COM. NEWMAN: Okay. But given the fact that we

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1 will have more hearings, I am sort of making a, you
2 know, soft request that these folks be particularly
3 noticed because they got through to us. And we haven't
4 ignored them, I know. Staff does a good job. But I
5 just want them to understand that we will have southern
6 Arizona hearings, if they have other information for us,
7 you know, that they are invited to come to provide.

8 MR. OLEA: And if we still have their contact 9 information, when you set up that meeting we can notify 10 them.

11 COM. NEWMAN: That's fine. And, Mr. Chairman, I
12 will be done in a very quick --

13 Oh, with regard to the blacktop exercise, I 14 would just add not a question as much as direction from, 15 at least from me. City, county, ACC Staff, as was 16 mentioned, State Emergency Services staff, you might even invite, you know, emergency service people from 17 18 other counties, work through the county organization and 19 the municipal organizations in the state because 20 everyone, they are -- all local government has concerns about this. 21

And then the one other point that I will conclude with is this. We, Arizona spends \$2.5 billion in importing natural gas from out of state. As you know, we don't have natural gas. That's \$1.7 billion in

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one pot and another approximately .8 billion in another 1 2 That's a mas o menos number that I came to around pot. a year ago. I am not sure exactly what it is today, and 3 it is mercurial in some ways, but approximately \$2.5 4 billion. That is an awful lot of money that our 5 ratepayers are paying for a resource that we don't have. 6 7 And I am a bit on the soapbox on this, but natural gas is much cleaner than coal. We have a 8 preference for natural gas. However, it is very costly. 9 Right now it is down. Volatility could get even higher. 10 I just read a New York Times article that 11 appeared on Sunday. And I ask that everybody in this 12 room -- in fact, I am going to pass it to the 13 14 Commissioners after this meeting with regard to the shale gas future that is allegedly so promising causing 15 potentially huge problems for water resources on the 16 It is an incredible study that they have done. I 17 east. also understand that the EPA is going to be coming out 18 19 with reports based on their working together with the New York Times in a very special investigation. It was 20 21 a three-page article in this past Sunday New York Times. So I ask that everyone look at that. 22

But, so we are sort of -- we need your gas to help us have a good energy system and a clean energy system and reliable energy system. So we are just

1	hoping that when I mention that number and how big a
2	number that is, you know, perhaps it could get less if
3	we did more renewables and, but, and that's something
4	that I want to look forward to working with the gas
5	companies in the future.
6	But this is no small matter. We pay
7	\$2.5 billion, which is a big chunk. And we would like
8	to see the system work better. I am not going to go
9	chastise anyone here; although, there are lots of
10	customers who probably, if they were here, you know,
11	would chastise you. But that's just part of our job.
12	So we will have to put on our flack jackets when we meet
13	with them. But I think that the customers deserve the
14	benefit of all that money that they are paying for the
15	natural gas and indirectly supporting or directly
16	supporting, you know, your management, your employees,
17	and your shareholders.
18	Just last response given that number from both

18 Just last response given that number from both 19 pipeline and Southwest Gas as well.

20 CHMN. PIERCE: If you could in as short amount 21 of time, whoever wants to respond.

22 COM. NEWMAN: That's the only question I had. 23 MR. MOODY: There is no doubt that over the past 24 ten years, if you average the cost of gas, the commodity 25 is much more expensive than the infrastructure. But we

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are not typically meeting to discuss the last failure. 1 2 We are talking about rates. And every decision that we 3 make balances the services we provide against what our ratepayers pay. We would like to think of that in terms 4 5 of stockholders because they are deemed greedy, but the reality is every rate paid a ratepayer somewhere pays 6 And we do that prudently. And that is the 7 it. 8 interaction between our commissions.

9 And you are right, two and a half billion 10 dollars is a lot of money. And we all, as utility, as 11 the Commission, shepherd that money hopefully in the 12 most efficient way for our customers.

13 CHMN. PIERCE: Okay. I was going to ask a 14 question of El Paso, and then we are going to wrap up. 15 The map you have given, and I noticed it many, 16 many times, but the San Juan Basin sort of meanders 17 around Four Corners and picks up a little bit of 18 Arizona. Is that an artist using, you know, just, you 19 know --

20 MR. CLEARY: PowerPoint art?

21 CHMN. PIERCE: Or is that really true? Do we 22 have natural gas in Arizona?

23 MR. CLEARY: Let me ask.

24 MR. BOWE: I believe the answer is there are a 25 couple of wells in the far northeastern corner of the

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1 state.

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CHMN. PIERCE: Well, there you have it.

3 MR. BOWE: They won't be able to make up for the problems. 4

5 CHMN, PIERCE: But I mean the San Juan Basin 6 does provide some of that, so, but that's it, not very 7 much.

8 Well, I want to thank everyone. We have had, I 9 think, a pretty thorough discussion of the issues.

10 One thing, I know in the detailed discussion around Southwest Gas' ability to communicate with their 11 12 customers on what happened and based on the letters and 13 e-mails that we have, there is a lot of rumor and things 14 that they need -- they would like to understand better. 15 And I don't think all of those things were fully vetted 16 today. And I think having the company have access to 17 the correspondence we receive so that the company is 18 prepared for that as we go out and talk --

19 And I have had a little discussion with my 20 Staff. It is probably not likely we would do this in 21 conjunction with the rate case since that's really going to be ready to go for us next fall. 22 And I don't 23 think -- this coming fall. And that's not going to 24 work. So we are going to try and organize something in 25 a very short amount of time. We are going to check with

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people's calendars between now and the end of the month, if not that, the first part of April, to try to make sure that we get out to discuss this issue. But I would like to make sure in that amount of time the company is prepared and has the information we have from our rate -- your customers, our constituents and so that you are prepared for that.

8 And I believe, to the extent that folks that can 9 participate from other than Southwest and El Paso, that 10 there might be questions so that we can talk about some 11 of these other issues.

One thing I know is that, if we would have gone to Tucson and Sierra Vista with this, we would have had this discussion, it would have taken us, you know, four hours. And most of our constituents, your customers, would have liked this information but they don't have that kind of time in the evening to hang with us and be able to comment. Many of them would want to comment.

19 So what we need you to do is really put it in an 20 easy form of writing. I mean that's what I would advise 21 you to do, at your expense, to make sure that, you know, 22 look at their questions and answer those questions. 23 Maybe put them on your own website, have your 24 presentation today available to us for our website, and 25 so that information is out there. And we can, and we

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1 can go back and e-mail the folks who have contacted us 2 and attach as much information as possible to them. And 3 my Staff and I talked about doing that. And we can 4 coordinate that with the Commissioners to make sure that 5 those that are really agitated have the information so 6 that, when we have a public hearing, you know, it is 7 productive.

8 And that's what I would like to see, and have 9 the questions answered and come prepared to answer those 10 questions, come prepared to accept anger towards us, 11 towards you. People are upset. And we want to do this 12 in a soon enough time to where it, to where we will get 13 a good turnout so they will feel we weren't neglected.

14 Some people thought we were neglecting this. 15 The fact we didn't come out and jump in the middle of it 16 while you were busy lighting people back up really had 17 people concerned. But there were others who probably 18 would have thought don't do anything, Commission, that's 19 going to slow this process down in getting my gas. And that's kind of how I looked at it. We were going to 20 21 look into this, but we are probably not going to help 22 the cause in getting people's service back on. It was 23 important for us to encourage you all to do it, but most 24 certainly what people elect us to do is to make sure 25 these things don't happen again as best as humanly

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possible. And so that's what we would like to do. 1 So, again, thank you all for your participation. 2 I know many of you have come a long way at great expense 3 to make sure that you were a part of this. And it was 4 very informative. And I hope you agree, too. 5 If someone has a parting comment, I would give 6 you maybe ten seconds, but I think we have exhausted it. 7 Anyone else? 8 9 (No response.) CHMN. PIERCE: Then good. Then we are going to 10 be adjourned. Thank you. 11 (The proceeding concluded at 3:00 p.m.) 12 13 14 15 16 17 18 19 20 21 22 23 24 25

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WITNESS my hand this 11th day of March, 2011.

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