

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO**

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**IN THE MATTER OF THE APPLICATION OF)
PUBLIC SERVICE COMPANY OF COLORADO) DOCKET NO. 11A-869E
FOR APPROVAL OF ITS 2011 ELECTRIC)
RESOURCE PLAN)**

REBUTTAL TESTIMONY AND EXHIBIT OF CURTIS DALLINGER

ON

BEHALF OF

PUBLIC SERVICE COMPANY OF COLORADO

July 16, 2012

LIST OF EXHIBITS

Exhibit No. CD-1	gas pipelines in core gas delivery area
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1 suggestions presented by Mr. Brown, in regards to the Company's Winter
2 Generation Adequacy Study, before we make specific arrangements for
3 additional firm gas transportation capacity. Mr. Welch provides a more in
4 depth explanation on how the Company will take into account Mr. Brown's
5 critique as the Company continues our efforts to develop and review our plan.

6 **Q. WHY DID THE COMPANY ORIGINALLY BELIEVE IT WAS IMPORTANT**
7 **TO COMPLETE THE WINTER GENERATION ADEQUACY STUDY**
8 **BEFORE PHASE 1 OF THE 2011 ERP IS COMPLETED?**

9 A. In developing the 2011 ERP, the Company became concerned that a need to
10 "firm up" access to natural gas supplies for more winter generation capacity
11 could impact the bid evaluation process in Phase 2 of the ERP. Since it
12 appeared that additional firm generation capacity may be needed as early as
13 2018, the Company could have been in the position that we would have
14 needed to evaluate the most cost effective method of obtaining that firm
15 generation capacity in this resource solicitation process. But, based on Mr.
16 Brown's critique of the Company's plan, and our realization that in fact we do
17 not need to solidify any resulting winter generation adequacy plan until 2015
18 or 2016, the Company will be able to firm up the most appropriate generation
19 source once the study is revised. As a result, this study will not impact the
20 upcoming solicitation process in this 2011 ERP.

21 **Q. WHAT RESOURCES DOES THE COMPANY CONSIDER WHEN ITS**
22 **DEVELOPING ITS FUEL SUPPLY PLANS FOR ITS GAS FIRED**
23 **GENERATION RESOURCES?**

1 A. The Company uses a mixture of firm gas transportation capacity, interruptible
2 gas transportation capacity, gas storage, and fuel oil when developing the
3 Company's fuel supply plans. The foundation of the Company's natural gas
4 supply plan is acquiring an adequate level of natural gas supply that can be
5 moved easily through the network of gas pipelines and gas storage fields in
6 the area north and east of Denver. Over time the Company has developed a
7 portfolio of gas transportation, gas storage and gas supply agreements in an
8 area bounded by lines running from Cheyenne to Denver, and from Denver to
9 the Fort Morgan area. This "natural gas" delivery core area includes
10 numerous gas pipelines, gas storage fields, gas supply points, which allow for
11 a very flexible supply delivery mechanism to the numerous electric generation
12 plants that are located in this area and have a direct connection to the gas
13 facilities in this "natural gas" delivery core area. The ability to shift gas supply
14 back and forth between electric generation plants, gas pipelines and gas
15 storage facilities in this gas delivery core area is critical to the reliable
16 operation of our electric system, which has a high level of intermittent
17 resources. It is also important to understand that gas supplies and
18 transportation capacity in the gas delivery core area are treated as a portfolio,
19 and therefore they are not assigned directly to any single generation plant.

20 **Q. PLEASE DESCRIBE THE GAS PIPELINES AND GAS STORAGE FIELDS**
21 **IN THIS CORE GAS DELIVERY AREA?**

22 A. The gas pipelines in this core gas delivery area consist primarily of the CIG
23 and CIG High Plains pipelines. The core gas delivery area follows the CIG 5C
24 and the High Plains pipelines from Cheyenne HUB just inside the Colorado

1 Wyoming state line to Denver (CIG's Watkins Compressor Station) and from
2 Denver out to near Ft Morgan CO. I have highlighted these pipelines in pink
3 color on Exhibit No. CD-1.

4 **Q. HOW DOES THE COMPANY USE THIS GAS DELIVERY CORE AREA TO**
5 **SUPPLY THE NECESSARY GAS SUPPLIES TO ALL OF ITS THERMAL**
6 **PLANTS?**

7 A. If a power plant is located in this gas supply core area and tied directly to the
8 CIG pipelines, the plant will have direct access to the pool of firm gas supply,
9 gas storage and transportation capacity that is already under contract to the
10 Company. To the extent the plant is not tied directly to the core gas delivery
11 area, Public Service has or will need to make arrangements for either firm or
12 interruptible gas transportation capacity to link the plant to the gas delivery
13 core area to allow for the reliable-flexible operation of the plant. One can
14 think of these links as the fuel lines from the gas tank to the remotely located
15 engines. The Company currently has a mixture of firm and interruptible
16 transportation contracts that provide these linkages from the gas delivery core
17 area to the individual plants.

18 **Q. HOW DOES THE WINTER GENERATION ADEQUACY STUDY AND THE**
19 **BID EVALUATION PROCESS RELATE TO THE COMPANY'S GAS**
20 **SUPPLY PORTFOLIO AND TRANSPORTATION SYSTEM DESCRIBED**
21 **ABOVE?**

22 A. In developing the Company's Winter Generation Adequacy Study, the
23 Company had to 1) evaluate whether we have an adequate supply of gas
24 available in the "gas delivery core area" and 2) evaluate whether there is an

1 adequate level of thermal generation resources tied directly to the gas
2 delivery core area or indirectly tied into the gas delivery core area through a
3 firm transportation agreement. Since contracting for gas supply and capacity
4 in the gas delivery core area is done at the portfolio level, this supply and
5 capacity is not directly assigned to a specific plant. The question that needed
6 to be answered in the Winter Generation Adequacy Study to facilitate the bid
7 evaluation process was whether the Company already had an adequate level
8 of firm fuel lines extending from the gas delivery core area (gas tank) to the
9 various indirectly connected generators (remotely located engines) or whether
10 more firm fuel linkages were necessary. It was this latter issue that was
11 important to determine before the bid evaluation began. To the extent an
12 adequate level of firm gas linkages already exists, the bid evaluation becomes
13 much simpler because we would not need to establish the least cost method
14 of acquiring additional firm linkages during the All-Source evaluation.

15 **Q. BASED ON THE COMPANY'S DECISION THAT IT CAN WAIT TO**
16 **FINALIZE THE WINTER GENERATION ADEQUACY STUDY, HOW DOES**
17 **THE COMPANY INTEND TO ASSESS THE GAS TRANSPORTATION**
18 **COSTS TO EACH OF THE BIDS IN THE ALL-SOURCE EVALUATION?**

19 A. The Company will evaluate each bid in accord with the chart I present later
20 and assign appropriate gas transportation costs. The first step is to
21 determine whether the generation plant is in geographic CIG Core Gas
22 Delivery Area depicted on my Exhibit No. CD-1. If it is, Public Service already
23 has gas transportation capacity in this area on the CIG system that can be
24 used to supply gas to the generation plant. If the generation plant is in the

1 CIG Core Gas Delivery Area but is not directly connected to the CIG
2 pipelines, we need to determine whether the connecting pipeline to the plant
3 is sufficiently available for Public Service to deliver gas to the plant.

4 If the generation plant is not in the CIG Core Gas Delivery Area, we
5 need to determine whether there is sufficiently available capacity on both the
6 CIG transmission pipeline and on the connecting distribution pipeline. The
7 Company defines sufficiently available transportation capacity as a
8 transportation path that will be available for 100 percent of the summer and
9 available on the majority of winter days, with the exception of those extremely
10 cold winter days when the gas LDCs are experiencing near peak loads.

11 **Q. HOW ARE THE GAS TRANSPORTATION COSTS STRUCTURED AND**
12 **HOW WILL THEY BE PRESENTED FOR BID EVALUATION MODELING?**

13 A. Gas transportation charges are structured in two parts: 1) a gas transportation
14 commodity charge which is charged on each MMBtu of gas delivered to the
15 power plant, and 2) a FL&U factor which is a percentage of the gas
16 throughput that must be provided to the pipelines for operation of their
17 systems. The FL&U charge effectively increases the amount of natural gas
18 commodity which must be purchased above the amount of natural gas used
19 by the generation resource.

20 The following is a summary of the gas transportation costs that will be
21 assessed in the ERP evaluation:

Generation Location	Pipeline Connection	Transport Cost for RFP Evaluation
CIG core gas delivery area	Connected to the CIG High Plains pipeline or other CIG pipeline in the core gas delivery core area	CIG Firm commodity charges and FL&U and PSCo balancing charges. The balancing charges will not be used if the generation is connected to the CIG High Plains pipeline system
Denver Metro area or in Northern Colorado	Connected to PSCo Gas LDC or other Gas LDC	CIG Firm commodity charges and FL&U, <i>plus</i> the full rate gas distribution IT commodity rate and FL&U, as well as the PSCO balancing charges.
Other Areas	Connected to CIG pipeline not in the core gas core delivery area.	If the CIG can provide IT transportation April through October and on Cold but not extremely cold days in the winter, then the charges will be full rate CIG IT commodity and FL&U
Denver Metro area or in Northern Colorado and Other Areas	Connected to the CIG pipeline not in the core gas delivery area where the IT services are limited in	If the CIG pipeline or the gas LDC cannot provide IT transportation April through October and on Cold but not extremely cold days in the winter, then we will work with CIG and / or the

	availability. Or to the PSCo or other gas LDC in an area with limited IT service.	Gas LDC to determine what needs to be done to firm up the gas transport. This may require a firm rate with a demand charge be added to the cost of the gas transport.
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1 **Q. IS THIS EVALUATION METHOD A CHANGE FROM HOW PUBLIC**
2 **SERVICE HAD PROPOSED TO EVALUATE GAS TRANSPORT CAPACITY**
3 **IN THE COMPANY’S ORIGINAL FILING?**

4 A. Yes. The Commission and the bidders should review the method that I outline
5 in this Rebuttal Testimony instead of the method set forth in the Company’s
6 filed ERP. We are making this change while we refine our Winter Generation
7 Adequacy Study to see if there is a less expensive way to assure winter
8 adequacy than set forth in the current study.

9 **Q. DOES THE CIG IT RATE HAVE ANY UNIQUE FEATURES?**

10 A. Yes, CIG does have the ability to notify its customers that they will charge a
11 peak IT rate which is 150 % of the max IT rate for 4 months out of the year.
12 In March each year, CIG may designate up to 4 peak months to charge the
13 higher IT rates for during the following April through March time period.

14 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

15 A. Yes, it does.