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September 10, 2002

Mr. Paul Walker  
Executive Assistant to Commissioner Spitzer  
Arizona Corporation Commission  
1200 West Washington Street  
Phoenix, AZ 85007

Arizona Corporation Commission

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SEP 13 2002

E-01032C-00-0751

Dear Paul:

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The purpose of this letter is to follow-up on our phone conversation on Monday, September 09, 2002 concerning Citizens' Purchased Gas Adjustor ("PGA") surcharge. Our conversation addressed Commissioner Spitzer's August 29, 2002 letter suggesting, in part, that Citizens either: 1) adopt a "circuit breaker" mechanism that would limit the amount of gas consumption to which the surcharge would apply during the coming winter months; or 2) reduce the surcharge amount. I indicated that Citizens had in fact submitted to the Commission a proposal to reduce the surcharge beginning November 1, 2002.

During that call I described a possible adjunct to Commissioner Spitzer's suggested "circuit breaker" involving the implementation of a weather derivative on behalf of Citizens' gas customers. Under this alternative, Citizens would secure a call option (or cap) on heating degree-days ("HDD") for which, in exchange for a premium payment, the counterparty to the transaction would pay Citizens if HDD's were to exceed average levels during the heating season. Citizens has investigated a potential derivative transaction with the following features:

- o a strike value at the long-term average level of HDD's for the Flagstaff area during the November - March period (approximately 4800 HDD's);
- o a per-HDD payout or "tic" value based on the per-therm surcharge (~\$.12/Therm);
- o an estimated response rate of Citizens' system to a change in HDD's of 12,000 Therms per HDD; and
- o no cap on the amount of payout by the counterparty.

Based on our initial discussions with possible counterparties for such a derivative transaction, the premium cost is estimated to be approximately \$150,000 for the 2002-2003 heating season. Citizens proposes that the premium cost and any payout from the counterparty would flow through Citizens' PGA tracking account.

Over the last 20 years, the HDD's in Flagstaff for the November through March period have been colder than average in eleven instances. The standard deviation of HDD's over this period was approximately 200 HDD's. The coldest heating season in this period departed from average by approximately 400 HDD's. Under the proposed transaction, if HDD's were to be one standard deviation higher than average (i.e. 5000 vs. 4800), the counterparty payout would pay approximately \$290,000 to Citizens (200 HDD's X \$1440/HDD), an amount \$140,000 greater than the premium cost. Given a premium cost of \$150,000, the breakeven HDD level would be approximately 100 HDD's colder than average. In the last 20 years, there were 5 instances in which Flagstaff HDD's were 100 or more higher than average.

A further consideration concerning the 2002-2003 heating season is the expected occurrence of a moderate El Niño weather pattern. While an El Niño pattern normally brings warmer-than-average temperatures to the United States at large, past occurrences of the pattern have resulted in colder-than-normal winters for Citizens' service areas. This may be due to the fact that the El Niño pattern normally brings higher precipitation levels to Arizona, and this has resulted in longer periods of snow cover that tend to keep Northern Arizona cooler.

In view of these facts, Citizens believes that securing a weather derivative as insurance against a colder-than-normal 2002-2003 heating season is a reasonable alternative.

During our phone conversation we also discussed the reasons why the under-recovered amounts in Citizens' PGA tracking account were recovered at a faster rate than anticipated in Citizens' September 2001 PGA surcharge filing. As we discuss, and as shown in the attached variance analyses for both Northern Arizona Gas and Santa Cruz Gas, the principal reason for the faster-than-expected recovery was lower gas costs. For the period September 2001 through May 2002, actual gas costs were approximately 46%, or \$24 million, lower than forecast. Approximately three-quarters of this reduction was due to lower-than-forecast gas purchase prices, and one-quarter due to gas purchase quantities that were lower than anticipated.

Finally, I offered during our phone call the possibility of bringing Arthur Gelber of Gelber & Associates, Citizens gas procurement consultant, to the Commission for a presentation on weather derivatives. Based on the confirmation of your availability, we have scheduled a presentation by Mr. Gelber on September 23, 2002 at 10:00 AM at the Commission. We look forward to discussing this interesting topic with you and any other members of the Commission or Commission Staff who would like to attend.

Thank you for your time and consideration of this matter. Please do not hesitate to call me (928.226.2216) if you have any questions on these matters.

Sincerely,



Sean R. Breen  
Director, Energy Supply

cc: Bob Gray

Northern Arizona Gas Division  
 PGA - Forecast vs. Actual  
 September 2001 - May 2002

Month	Forecasted in Surcharge Filing				Actual			
	Gas Costs	Therms Sales	Gas Cost Recoveries	Net Recoveries	Gas Costs	Therms Sales	Gas Cost Recoveries	Net Recoveries
Sep-01	2,606,549	3,681,120	2,184,745	(421,804)	1,794,438	3,139,911	1,259,104	(535,334)
Oct-01	4,007,940	4,576,650	2,716,242	(1,291,698)	2,846,959	3,958,466	2,349,350	(497,609)
Nov-01	6,083,790	8,664,710	5,142,505	(941,285)	4,551,555	5,597,574	3,322,160	(1,229,395)
Dec-01	8,463,576	15,816,760	9,387,247	923,671	4,715,252	12,979,435	7,703,295	2,988,043
Jan-02	8,530,040	21,652,930	12,851,014	4,320,974	4,581,564	18,116,559	10,752,178	6,170,614
Feb-02	6,972,417	16,353,450	9,705,773	2,733,356	2,475,614	16,456,909	9,767,175	7,291,561
Mar-02	6,318,521	15,355,800	9,113,667	2,795,146	2,801,721	12,555,510	7,451,695	4,649,974
Apr-02	3,885,012	12,207,420	7,245,104	3,360,092	1,531,761	9,276,274	5,505,469	3,973,708
May-02	2,819,838	8,599,840	5,104,005	2,284,167	1,250,939	5,849,129	3,471,458	2,220,519
	<u>49,687,683</u>	<u>106,908,680</u>	<u>63,450,302</u>	<u>13,762,619</u>	<u>26,549,803</u>	<u>87,929,767</u>	<u>51,581,884</u>	<u>25,032,081</u>

Variance - Forecast Vs. Actual:

Actual Net Recoveries	25,032,081
Forecasted Net Recoveries	13,762,619
Variance	<u>11,269,462</u>

Reconciliation of Variance:

Effect of one-month delay (Sept. to Oct.)  
 3,681,120 X (.4010 - .5935) = (708,616)

Effect of Sales Variance on Recoveries  
 Sept. (3,139,911-3,681,120) X .4010 = (217,025)

October 2001 - May 2002 -  
 (84,789,856 - 103,227,560) X .5935 = (10,942,777) (11,159,802)

Effect of Lower Actual Purchase Prices  
 106,908,680 X (.46476753 - .30194329) = 17,407,325

Effect of lower gas purchase quantities  
 (106,908,680 - 87,929,767) X .30194329 = 5,730,555 23,137,880

Total Variance 11,269,462

**Santa Cruz Gas Division**  
**PGA - Forecast vs. Actual**  
**September 2001 - May 2002**

Forecasted in Surcharge Filing

Month	Gas Costs	Therms Sales	Gas Cost Recoveries	Net Recoveries
Sep-01	126,203	172,390	113,002	(13,201)
Oct-01	175,136	182,040	119,327	(55,809)
Nov-01	322,314	371,450	243,485	(78,829)
Dec-01	472,748	775,360	508,248	35,500
Jan-02	448,316	1,039,490	681,386	233,070
Feb-02	351,550	857,780	562,275	210,725
Mar-02	300,680	738,230	483,910	183,230
Apr-02	168,664	554,720	363,619	194,955
May-02	114,939	348,370	228,357	113,418
	<u>2,480,550</u>	<u>5,039,830</u>	<u>3,303,609</u>	<u>823,059</u>

Actual

Month	Gas Costs	Therms Sales	Gas Cost Recoveries	Net Recoveries
Sep-01	92,018	170,808	68,591	(23,427)
Oct-01	92,879	185,577	121,646	28,767
Nov-01	196,845	250,574	164,251	(32,594)
Dec-01	249,781	606,048	397,264	147,483
Jan-02	263,280	979,888	642,317	379,037
Feb-02	267,020	931,399	610,532	343,512
Mar-02	142,838	616,191	403,913	261,075
Apr-02	70,719	411,789	269,928	199,209
May-02	64,767	235,852	154,601	89,834
	<u>1,440,147</u>	<u>4,388,126</u>	<u>2,833,043</u>	<u>1,392,896</u>

Variance - Forecast Vs. Actual:

Actual Net Recoveries 1,392,896  
 Forecasted Net Recoveries 823,059  
 Variance 569,837

Reconciliation of Variance:

Effect of one-month delay (Sept. to Oct.) 172,390 X (40157 - .6550) = (43,775)  
 Effect of Sales Variance on Recoveries Sept. (170,808 - 172,390) X .40157 = (635)  
 October 2001 - May 2002 - (4,217,318 - 4,867,440) X .6555 = (426,155)  
 Effect of Lower Actual Purchase Prices 5,039,830 X (.49218922 - .32819181) = 826,519  
 Effect of lower gas purchase quantities (5,039,830 - 4,388,126) X .32819181 = 213,883

Total Variance 569,837