

Office of Pipeline and Producer Regulation  
Washington, D.C. 20426

EXHIBIT NO. \_\_\_\_\_ (PRC-6)

PREPARED REBUTTAL TESTIMONY OF  
PATRICK R. CROWLEY

WILLIAMS NATURAL GAS COMPANY  
DOCKET NO. RP91-152-000



**Federal  
Energy  
Regulatory  
Commission**

WASHINGTON, D.C.  
APRIL 6, 1991

FEDERAL ENERGY REGULATORY COMMISSION  
OFFICE OF PIPELINE AND PRODUCER REGULATION  
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1 Q. Are you the same Patrick R. Crowley who has previously  
2 submitted prepared Direct Testimony and Cross Answering  
3 Testimony in this proceeding?

4 A. Yes, I am.

5 Q. What is the purpose of this Prepared Rebuttal Testimony?

6 A. The purpose of this Prepared Rebuttal Testimony is to  
7 respond to the testimony of Kansas Power and Light, et al  
8 witness Richard A. Dixon.

9 Response to MR. DIXON

10 Q. On page 5, lines 4-16, Mr. Dixon states that you concluded  
11 from your study of gas flows on the peak day that 61% of the  
12 deliveries to sales customers on the peak day were met with  
13 gas from storage while 39% of delivered transportation gas  
14 was served from storage. He then states that you, without

1 explanation, modified those percentages to 63 and 34%  
2 respectively. Will you comment?

3 A. Yes. Mr. Dixon has missed the important distinction between  
4 sales deliveries from storage as a percent of total storage  
5 operations (61%) and sales deliveries from storage as a  
6 percent of total sales deliveries (63%). The former, sales  
7 deliveries from storage as a percent of storage operations  
8 (discussed in my direct testimony, Exhibit No.\_\_(PRC-1)  
9 page 24, lines 1-5), measured how the storage operations are  
10 used in support of the sales services and transportation  
11 services based on December 1990 peak day data. The latter,  
12 sales deliveries from storage as a percent of total sales  
13 deliveries (discussed in my additional direct testimony,  
14 Exhibit No.\_\_(PRC-4) page 2, lines 9-14), was a measure of  
15 the sourcing of peak day volumes for sales services. Mr.  
16 Dixon has misstated the explanation of the 61/39% split. As  
17 correctly stated in my testimony, 61% of the peak day  
18 storage operations were undertaken in support of sales  
19 services while 39% of storage operations were undertaken in  
20 support of transportation services. My Schedule No. 20 of  
21 Exhibit No.\_\_(PRC-2) reveals that the 670,612 dth of sales  
22 gas drawn from storage represents 63% of the total sales  
23 deliveries on the three day peak (i.e.,  $670,612 / 1,060,561$   
24 = 63%) and 61% of total storage operations (i.e.,  $670,612 /$   
25  $1,101,153 = 61%$ ) while the 428,731 dth of transportation  
26 deliveries drawn from storage represent 34% of the total

1 transportation deliveries (i.e., 428,731 / 1,244,689 = 34%)  
2 and 39% of total storage operations (i.e., 428,731 /  
3 1,101,153 = 39%). The 63/34% sourcing split was then  
4 applied to Williams' Dth Mile study (which was based on an  
5 adjusted 1989 three day peak volume). The only modification  
6 I made was to move from Williams' broad statement that  
7 approximately half of peak day deliveries are drawn from  
8 storage to the more refined figures shown on my Revised  
9 Schedule No.7 which show that of total peak day deliveries,  
10 54% are drawn from storage and 46% are drawn from field  
11 sources (Exhibit No.\_\_\_\_(PRC-4), Revised Schedule No. 7, page  
12 4).

13 Q. On page 5, lines 19 - 21, Mr. Dixon states that you have  
14 "now abandoned" your earlier position that all storage gas  
15 withdrawn during the peak day is used for Zone 2 customers.  
16 Will you comment?

17 A. Yes. The allocation of storage withdrawn gas to Zone 2  
18 customers was based on an assumption that the use of storage  
19 for deliveries on the peak day reduces the actual miles of  
20 haul for gas deliveries and thereby reduces the Dth•miles  
21 generated by deliveries to Zone 2 customers on the peak day.  
22 That is a position with which Mr. Dixon agrees. My original  
23 assumption overlooked the fact that two storage fields are  
24 located in Zone 1 and 25% of peak day volumes drawn from  
25 storage are drawn from these Zone 1 fields. Therefore some

1 of Zone 1's peak day deliveries probably come from storage.  
2 One could argue that some, maybe even most, of the Webb  
3 Storage Field gas ends up in Zone 2 for delivery. However,  
4 I do not know for certain how much.

5 Q. On page 6, lines 11 - 19, of his testimony, Mr. Dixon  
6 objects to your allocation of storage withdrawn gas to all  
7 services, claiming instead that peak day storage withdrawals  
8 are designed to support (only) sales service. Will you  
9 comment?

10 A. Yes. Peak day storage operations may have been "designed"  
11 to support only sales service but storage is, in fact, used  
12 to support both the sales and transportation services. I  
13 have demonstrated this in my Direct Testimony (Exhibit  
14 No.\_\_(PRC-1 & 2) as well as my Cross Answering Testimony  
15 Exhibit No.\_\_(PRC-4). Therefore, contrary to Mr. Dixon's  
16 desires, both sales and transportation services must share  
17 the costs and benefits (dth-mile savings resulting from the  
18 shorter distance gas travels from storage to market on the  
19 peak day) of peak day operations.

20 Q. In defense of his position that peak day storage operations  
21 are "normally" used for sales, Mr. Dixon refers, on page 8,  
22 lines 4 - 15, to the test period peak day projections for  
23 the year 1989. Will you comment?

1 A. Yes. The test period peak day projections from Docket RP89-  
2 183-000 are drawn from the three day peak from the winter  
3 season of 1988. Williams' transportation/sales mix and  
4 storage operations have changed considerably since then.  
5 Storage is not now used as it once "normally" was. This is  
6 plainly evident in the monthly storage operations figures.  
7 Referring to my Schedule No. 19 of Exhibit No.\_\_(PRC-2),  
8 from the twelve month period March 1988 to February 1989,  
9 sales gas deliveries as a percentage of total storage  
10 operations was 84%. The following twelve month period saw  
11 it drop to 79%. And the next twelve month period saw it  
12 drop again to 57%. This reflects the overall change in the  
13 relationship of sales and transportation services. For that  
14 March 1988 -February 1989 period, sales deliveries made up  
15 44% of the sales and transportation total while in the  
16 period March 1990 - February 1991, sales deliveries made up  
17 only 26% of the sales and transportation total (Schedule No.  
18 9 of Exhibit No.\_\_(PRC-2)).

19 Q. Please continue.

20 A. This change is also plainly evident in the actual average  
21 three day peak operations over those three years. In 1988,  
22 storage operations in support of sales service constituted  
23 92% of total peak day storage operation, while in 1990  
24 storage operations in support of sales service constituted  
25 only 59% of total peak day storage operations (excluding

1 fuel use). See the attached Schedule No. 1. At one time  
2 transportation customers may have balanced injections and  
3 withdrawals on the three day peak but clearly that was not  
4 the case in 1990. In 1988, transportation injections fell  
5 short of withdrawals by 57,691 Dth. In 1990, transportation  
6 injections fell short of withdrawals by 412,656 dth (Exhibit  
7 No.\_\_(PRC-5) Schedule No. 1). This represents an imbalance  
8 on the peak day in 1988 of just 11% while in 1990 it grew to  
9 33%.

10 Q. On page 7, lines 23 and following, Mr. Dixon asserts that  
11 transportation customers have no "right" to use storage to  
12 cover daily imbalances. Will you comment?

13 A. Yes. The only customers who have a "right" to storage are  
14 those who contract for Contract Storage service. Sales  
15 customers do not have a right to use storage; Williams uses  
16 storage in support of sales service. Nor do transportation  
17 customers have a right to use storage; Williams uses storage  
18 to manage the transportation seasonal imbalances. Both  
19 sales and transportation customers receive the benefits of  
20 the storage operations as Williams makes its best efforts at  
21 delivering gas where and when its customers demand it.

22 Q. On page 7, lines 25 and following, Mr. Dixon asserts that  
23 during periods of curtailment Williams requires transporters

1 to balance receipts and deliveries on a daily basis. Will  
2 you comment?

3 A. Yes. This is the way transportation service is supposed to  
4 work, transporters are supposed to take out of the system  
5 the same amount that they put in on a daily basis. However,  
6 as has been well demonstrated, they don't. The behavior of  
7 transportation customers during curtailment periods is not  
8 an indication that transportation customers do not share in  
9 the benefits of storage service during normal service  
10 periods.

11 Q. On page 8, lines 19 -26, Mr. Dixon summarizes the impact of  
12 his position that all dth-mile savings which result from the  
13 inclusion of storage on the peak day should accrue to the  
14 sales customers only, "The adjustment significantly reduces  
15 the allocation of mileage related demand costs to sales  
16 service and increases the allocation of these costs to  
17 transportation customers." Will you comment?

18 A. Yes. Mr. Dixon's analysis is appealing but the effect of  
19 claiming that the gas coming out of storage on the peak day  
20 is intended only for sales customers leads to a hard to  
21 swallow result. Namely, that the gas moving from storage to  
22 market travels only 14 miles. I have taken Mr. Dixon's  
23 analysis of 1988 data, as shown on his Exhibit \_\_\_ (RAD-2),  
24 Schedules 1, 3, and 5, and updated it for 1989 figures. As  
25 seen on my Schedules 2 and 3 accompanying this exhibit, the

1           Transportation customers must share in the dth-mile savings  
2           resulting from storage use on the peak day.

3       Q.    On page 11, lines 4 - 18, Mr. Dixon claims that  
4           transportation receipts and deliveries are in fact balanced  
5           on the peak day based on data from the RP91-152 test period  
6           volumes. Will you comment?

7       A.   Yes. Mr. Dixon speaks of these peak day numbers as if they  
8           were drawn from actual experience. They were not. The  
9           figures he uses are adjusted projections for the test  
10          period, not actual peak day experience. The actual  
11          experience on Williams' system, as shown in my Schedule No.  
12          20, Exhibit No.\_\_(PRC-2), presents a completely different  
13          picture. In fact, Williams was required to draw heavily  
14          upon its storage system to meet its peak day transportation  
15          services deliveries.

16      Q.    On page 13, lines 10 - 21, Mr. Dixon asserts that because  
17           the December 1990 three day peak occurred over a relatively  
18           warm weekend and there were no curtailments, it is not  
19           representative of the "average" three day peak. Will you  
20           comment?

21      A.   Yes. The 1988 winter season three day peak occurred on  
22           February 2, 3, and 4 of 1989; it covered Thursday, Friday,  
23           and Saturday; the average temperature was 2 degrees; and the  
24           system deliveries were 2,389,654 MCF. The 1989 winter

1 season three day peak occurred on December 21, 22, and 23 of  
2 1989; it covered again a Thursday, Friday, and Saturday; the  
3 average temperature was -13 degrees; and the system  
4 deliveries were 2,464,360 MCF with no curtailments. The  
5 1990 winter season three day peak, which occurred on Friday,  
6 Saturday, and Sunday, saw volumes of 2,386,627 MCF, although  
7 1990 was 10 degrees warmer. The 1989 peak saw much colder  
8 temperature and higher volumes but no curtailments, just as  
9 in 1990. All three peak periods covered parts of weekends.  
10 However, the December 1990 three day peak included both days  
11 of the weekend. Consequently, although the volumes  
12 delivered on the December 1990 three day peak were  
13 comparable to the February 1989 three day peak, because the  
14 December 1990 three day peak included both days of the  
15 weekend, it may not accurately represent the manner in which  
16 the system will be used under normal operating conditions.

17 Q. On page 14 and 15, Mr. Dixon points out that you have  
18 applied unadjusted 1990 ratios of peak day volumes to  
19 adjusted 1989 dth-mile study volumes to arrive at revised  
20 estimated average miles of haul. Will you comment?

21 A. Yes. My adjustments to Williams dth-mile study summary  
22 sheets (Exhibit No. \_\_\_(PRC-2) Schedule No. 7 and Revised  
23 Schedule No. 7) were attempts to estimate the impacts of my  
24 proposals on Williams' study. The study submitted used  
25 adjusted 1989 three day peak volumes. Due to the growing

1 role of transportation services in the total deliveries mix,  
2 I decided to rely on the more recent ratios of 1990 sales  
3 and transportation mixes and 1990 reliance on storage to  
4 provide those services on the peak day. Unfortunately there  
5 is not a 1990 dth-mile study to apply those ratios to.  
6 Applying unadjusted 1990 ratios to adjusted 1989 volumes and  
7 average miles of haul may cause the resulting average miles  
8 of haul for the various zones and services to be less  
9 accurate, therefore, a new Dth-mile study based on more  
10 current data may be more representative.

11 Q. Finally, on page 16, Mr. Dixon proposes that the actual  
12 average miles of haul from the storage fields to the market  
13 is approximately 54 miles rather than the 100 miles you  
14 estimate. Will you comment?

15 A. Yes. Mr. Dixon's analysis appears reasonable when applied  
16 to the 1988 storage withdrawals and sales gas dth and dth-  
17 miles. However, when I applied it to the updated 1989  
18 Dth-mile study, the rationale leads to unreasonable  
19 conclusions as shown in my Schedules 2 and 3. The storage  
20 fields are clearly more than 14 miles from the market areas.

21 Q. Does this conclude your testimony?

22 A. Yes.

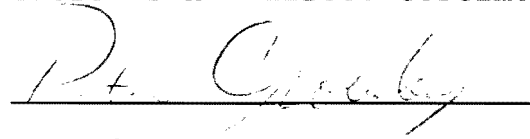


UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION

Re: Williams Natural Gas Company  
Docket No. RP91-152-000

Affidavit


Patrick R. Crowley, being first duly sworn, on oath states that he is the Patrick R. Crowley whose prepared direct testimony entitled PREPARED REBUTTAL TESTIMONY was served on all parties to the above referenced proceeding. Patrick R. Crowley further states that if asked the questions contained in the text of such testimony he would give the answers that are therein set forth and that he adopts the aforesaid answers as his direct testimony in this proceeding.

  
Patrick R. Crowley

District of Columbia

Sworn To and Subscribed Before Me

this 2<sup>nd</sup> day of April, 1992

  
Notary Public

My Commission Expires November 14, 1994