



Public Service Commission

-M-E-M-O-R-A-N-D-U-M-

DATE: February 12, 1997
TO: Kathryn Cowdery
 Stephen Reilly
FROM: Margaret O'Sullivan, Staff Counsel *MO*
RE: Docket No. ~~960234-WS~~ - Application for increase in rates and service availability charges in Lee County by Gulf Utility Company
 Docket No. 960234-WS - Investigation of rates of Gulf Utility Company in Lee County for Possible Overearnings

Earlier today, Commission staff filed a motion to file the testimony of Bernard Kleinschmidt. While the motion indicated that a copy of the proposed testimony was attached, the copy was inadvertently omitted. Attached to this memorandum is a copy of Mr. Kleinschmidt's testimony.

Please contact me at (904) 413-6226 if you have any questions.

cc: Division of Water and Wastewater (Willis, Fuchs)
 Division of Auditing and Financial Analysis (Vandiver, Romig)
 Division of Records and Reporting

- ACK _____
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DOCUMENT NUMBER DATE

81644 FEB 14 5

FPSC-RECORDS/REPORTING

DOCKETS NOS.: 960234-WS & 960329-WS - [Gulf Utilities, Inc.]

WITNESS: Direct Testimony of Bernard O. Kleinschmidt, The Estero Fire Control and Rescue Service District, Appearing on Behalf of the Florida Public Service Commission

DATE FILED:

DIRECT TESTIMONY OF BERNARD O. KLEINSCHMIDT

- 1
- 2 Q. Please state your name and business address.
- 3 A. Bernard O. Kleinschmidt. My business address is 20241 S. Tamiami Trail,
4 Estero, Florida 33928.
- 5 Q. Please state a brief description of your educational background and
6 experience.
- 7 A. I have two A.S. Degrees, one in Criminal Justice and the other in Fire
8 Science Technology. I have a B.S. Degree in Public Administration. I have
9 approximately 11 years as a Certified Firefighter with the last 7 being a
10 Certified Fire Inspector.
- 11 Q. By whom are you presently employed?
- 12 A. The Estero Fire Control and Rescue Service District.
- 13 Q. How long have you been employed by the district, and in what capacity?
- 14 A. Since June of 1996, in the capacity of Captain, and currently as Deputy
15 Chief. My duties are to act as the district's "Authority Having Jurisdiction"
16 concerning Fire Code and Building Code compliance within the district
- 17 Q. What are your general responsibilities?
- 18 A. I am responsible to ensure compliance with currently adopted Fire and
19 Building Codes within the district. This includes new construction,
20 remodeling, occupancy and site access.
- 21 Q. Does Gulf Utilities, Inc. provide fire flow to the Estero District?
- 22 A. Yes.
- 23 Q. Are you familiar with Gulf Utilities, Inc.'s fire hydrant system?
- 24 A. Only portions that I have had direct involvement with.
- 25 Q. Who is responsible for fire flows?

1 | A. The water utility company.

2 | Q. Who is responsible for maintaining fire hydrants in your district?

3 | A. I was advised that Gulf Utilities that there was an agreement with the
4 | fire district. I am told that this agreement places that responsibility on
5 | the fire district. I have not personally seen this agreement.

6 | Q. Who is responsible for testing the fire hydrants?

7 | A. Fire Districts are graded by an organization called the Insurance
8 | Service Organization (ISO). This organization classifies fire departments
9 | throughout the U.S. This grading system is used by insurance companies to set
10 | rates within the area covered by the respective department. Part of this
11 | grading system covers available fire flows. It takes into consideration the
12 | placement and capacity of fire hydrants along with any maintenance program
13 | that is used to ensure their operation. In order to maintain our ISO rating,
14 | we have to provide a maintenance program or contract an outside agency to
15 | provide this service. In the past maintenance programs provided by the water
16 | utility companies have been cost prohibitive. It is because of this, most
17 | fire districts have chosen to provide the service in-house.

18 | Q. Is there a minimum fire flow requirement?

19 | A. Yes. Single family homes are required to have a minimum fire flow of
20 | 750 gpm. Fire flow in commercial areas is dictated by the type of buildings,
21 | size, spacing and use. These variables are plugged into a mathematical
22 | calculation to determine the required minimum fire flow for each building
23 | Also hydrant spacing in these areas is different. Residential spacing is 500'
24 | where as commercial is 400' to the furthest accessible point of the building's
25 | exterior.

1 Q. Are these requirements specified by county ordinance or other
2 governmental body?

3 A. Yes. Lee County has adopted a Developmental Order to control all growth
4 within the county. Section 12 of this order covers this information.

5 Q. Does Gulf Utilities meet all of these requirements in its service area?

6 A. No. Not at the time of the fire flows that I have presented and
7 attached in Exhibit BOK-1.

8 Q. What are the causes of low fire flow?

9 A. Many variables can affect fire flow: size of pipe, pump pressure,
10 obstructions, etc.

11 Q. How does reduced pressure effect existing buildings with fire sprinklers
12 that were designed for higher fire flows?

13 A. Systems are designed with a minimum fire flow in mind. Because of
14 contractor and material costs, systems are designed to perform to standard
15 using the least amount of materials. Once the fire flow is determined, the
16 system is designed to minimums keeping a small safety factor in mind. If the
17 minimum fire flow is not maintained, the system will not function as designed
18 and can be overwhelmed in the case of a fire. Fire sprinklers are designed
19 to either extinguish or contain fires in the beginning stages of growth. If
20 the system does not have the designed fire flow available, the fire can grow
21 faster than the system can react.

22 Q. Does a lower fire flow cause difficulty for the construction industry?

23 A. As a result of lower available fire flows, buildings would be required
24 to have other safety factors installed. This could result in the building
25 being sprinklered, fire walls being constructed to break-up excessive floor

1 | space, and even the spacing between building being increased to protect them
2 | from fire spread. This would pose a problem for the building industry, but
3 | as with all other building costs the burden would eventually be passed on to
4 | the end user, the consumer.

5 | Q. How does lower fire flows affect the fire department?

6 | A. Rule of thumb for firefighters is that it takes approximately 1 gallon
7 | of water per minute to extinguish 100 cubic feet of burning material
8 | Example: A building is full of combustible material and is consumed with fire
9 | upon arrival of the fire department. The dimensions of the building are 20'
10 | x 20' x 10'. The volume of the building is 4000 cubic feet. This building
11 | would require a fire flow of 40 gallons per minute to extinguish the fire.
12 | Obviously this is a quick rule used to determine whether enough water is
13 | available to fight the fire or simply write off the building and not just
14 | protect the surrounding structures. This rule does not take into
15 | consideration that the building contains empty air space and that it is not
16 | full to the ceiling with material. But, consider a 63,000 square foot
17 | furniture warehouse loaded with material. Normally with a 20' ceiling. Using
18 | the formula this building would require the fire department to pump 12,600
19 | gallons per minute. Fire flow does make a difference.

20 | Q. Have you had any other problems with the utility's fire flow?

21 | A. Yes. We are asked by contractors to perform fire flow tests in areas
22 | of future construction. This allows the contractors to plan fire systems and
23 | buildings. My experience has been that the water system contains so much
24 | debris that in some cases a fire flow was not successful due to the debris
25 | obstructions coming through the hydrants. One case in particular stands out

1 | I was conducting a fire flow test in the Wildcat Run subdivision. The test
2 | is conducted by placing a pressure device on the hydrant and flowing water
3 | through it. Every time we flowed water through the device it would get
4 | clogged up with roots, wood and construction debris that was in the water
5 | pipe. These are not water lines under construction. They are the water lines
6 | that are currently in use to provide drinking water to the residents of
7 | Wildcat Run. I was asked to flush a hydrant in the Breckenridge sub-division
8 | This request was from the residents association president. I began to flow
9 | the hydrant and the water was a dark rusty color. I explained that the water
10 | always looks like this but clears up within a few seconds. The hydrant flowed
11 | for 20 minutes and the water never did clear up.

12 | Q. Do you have anything further to add?

13 | A. No, I do not.

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FIRE FLOW REPORT

DATE: 12-18-95 **TIME:** 1:30 pm **HYDRANT#:** AT PENSACOLA CIRCLE

REPORT BY: LT. OTT

LOCATION: BRECKENRIDGE BATH + TENNIS

SUBDIVISION: PHASE IV-B

BLOCK:

UTILITY COMPANY: GULF UTILITIES

PRESENT AT SITE: GARY HALL PF REYNOLDS PF MANNING LT. OTT

RESIDUAL HYDRANT # USED FOR TEST: IAN COURT

COEFFICIENT OF DISCHARGE: 0.9 INCHES **OUTLET DIAMETER:** 3.8 INCHES

STATIC PRESSURE: 60 **RESIDUAL PRESSURE:** 42 **PITOT PRESSURE:** 30

FLOW PER MINUTE: 780.40 G.P.M.

FLOW =:1154.93 G.P.M. AT 20 P.S.I. RESIDUAL

UTILITY REP.: GARY HALL

FIRE DEPT. REP.: LT. OTT

PROPERTY REP.:

FAX #:

FEE CHARGED: \$25.00

FEE RECEIVED ON (DATE):

COMMENTS:

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