

DOCKET 950495-WS

EXHIBIT 67

CASE NO. 96-04227



ORIGINAL
FILE COPY

BEFORE THE
FLORIDA PUBLIC SERVICE COMMISSION

DOCKET NO. 950495 - WS

APPLICATION FOR A GENERAL RATE INCREASE

VOLUME I
BOOK 15 OF 22

MINIMUM FILING REQUIREMENTS
PREFILED DIRECT TESTIMONY

Containing

CHARLES M. BLISS

FLORIDA PUBLIC SERVICE COMMISSION
DOCKET
NO. _____ EXHIBIT NO _____
COMPANY/ _____
WITNESS: _____
DATE: _____

DOCUMENT NUMBER DATE

06026 JUN 28 82

FPSC-RECORDS/REPORTING

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23

DIRECT TESTIMONY OF CHARLES M. BLISS
BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION
ON BEHALF OF
SOUTHERN STATES UTILITIES, INC.
DOCKET NO. 950495-WS

1 Q. WHAT IS YOUR NAME AND BUSINESS ADDRESS?

2 A. My name is Charles M. Bliss. My business address is 1000 Color Place,
3 Apopka, Florida, 32703.

4 Q. BY WHOM ARE YOU EMPLOYED AND WHAT IS YOUR
5 POSITION?

6 A. I am employed by Southern States Utilities, Inc. My position is Manager
7 of Southern States' Facilities Analysis Department.

8 Q. WHAT IS YOUR EDUCATIONAL BACKGROUND AND WORK
9 EXPERIENCE?

10 A. I graduated from the University of Iowa with a Bachelor of Science degree
11 in chemical engineering in 1985, and I have twelve years of combined
12 engineering experience in the water and wastewater utility industry as an
13 employee of public and private water and wastewater utilities, an employee
14 of a consulting engineering firm providing services to such utilities, and
15 as an employee of a utility regulatory agency. Some of my experience
16 relevant to my testimony in this case is as follows.

17 From 1986 until early 1989, I was employed as a staff engineer in
18 the Water and Wastewater Division of the Florida Public Service
19 Commission. As a staff engineer, I was responsible for reviewing,
20 analyzing, and making recommendations to the Commission on all
21 engineering aspects of water and wastewater utility rate applications (both
22 file-and-suspend and staff assisted cases), requests for original certificates

1 where initial rates and service availability charges were established, and
2 various other matters such as territory amendments, transfers, etc.

3 From 1989 until November 1993, I was employed by two
4 engineering consulting firms, Dyer, Riddle, Precourt & Mills and then
5 Hartman & Associates, Inc., and served as project engineer and project
6 manager on various projects for public and private water and wastewater
7 utilities. At these firms, I have participated in the planning, design, and
8 construction administration aspects of projects ranging in cost from a few
9 hundred dollars to several million dollars. For several projects, I
10 performed hydraulic modeling of existing and/or prospective piping in a
11 water distribution network. I worked on several utility master plans for
12 which I performed complete capacity and demand analyses. I participated
13 in the development of utility design standards and policy and procedure
14 manuals. I was also involved with several projects for determining
15 original installed cost, replacement cost, reproduction cost, and income and
16 comparable sales valuations.

17 I started as Facilities Analysis Manager for Southern States in
18 November 1993. As Facilities Analysis Manager, I am responsible for
19 determining which portion of existing or prospective Southern States'
20 facilities are used and useful and automating Southern States' voluminous
21 maps. I have also been involved in various other aspects of Southern
22 States' operations, such as financial forecasts, budgeting and planning.

1 Q. WHAT ARE YOUR PROFESSIONAL AFFILIATIONS?

2 A. I am a member of the American Water Works Association, the Water
3 Environment Federation, and the Florida Engineering Society.

4 Q. HAVE YOU PREVIOUSLY TESTIFIED IN A UTILITY RATE
5 PROCEEDING?

6 A. Yes, I testified in Southern States' 1993 Venice Gardens rate case. The
7 hearing in that case was conducted by a hearing officer designated by
8 Sarasota County. I testified on the subjects of used and useful, the amount
9 of investment required to convert the Venice Gardens wastewater treatment
10 plant to reuse, and amount of investment required to comply with a set of
11 regulatory mandates.

12 Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

13 A. The purpose of my testimony is to sponsor the following information
14 contained in Southern States' MFRs, Exhibit ____ (SWV-1): (1) the
15 Introduction, Discussion, and Summary sections in Book 1 of Volume VI
16 and the Introduction section in Book 2 of Volume VI, the used and useful
17 data and calculations appearing in the F-2 through F-10 Schedules and
18 corresponding detail schedules in Book 1 of Volume VI, and the
19 supporting data and calculations for the hydraulic analyses contained in
20 Book 2 of Volume VI; (2) the allowance for funds prudently invested
21 ("AFPI") calculations contained in Book 1 of Volume VII; (3) the service
22 availability calculations contained in Books 1 through 4 of Volume VIII;

1 and (4) the maps contained in Books 1 through 5 of Volume XI, which are
2 required as additional engineering information pursuant to Rule 25-
3 30.440(1), F.A.C. I note that other Southern States witnesses, particularly
4 Messrs. Hartman and Edmunds, will provide testimony justifying Southern
5 States' used and useful methodologies and that Mr. Ludsen will provide
6 testimony justifying Southern States' proposed service availability and
7 AFPI charges. The F-1 Schedules and corresponding summaries in Book
8 1 of Volume VI contain unaccounted-for water information and are being
9 sponsored by Southern States' witness Gagnon. The purpose of my
10 testimony is to explain the calculations and information contained in the
11 information I am sponsoring.

12 **Q. WERE THE MATERIALS YOU ARE SPONSORING PREPARED**
13 **BY YOU OR BY PERSONS UNDER YOUR DIRECT SUPERVISION**
14 **AND CONTROL?**

15 A. Yes, they were.

16 **Q. COULD YOU BRIEFLY EXPLAIN HOW THE USED AND USEFUL**
17 **INFORMATION WHICH YOU REFERENCED IS ORGANIZED IN**
18 **THE MFRS?**

19 A. Yes. Book 1 of Volume VI contains the only used and useful data and
20 calculations. Book 2 of Volume VI contains only the introduction, data,
21 and calculations for the hydraulic analysis performed to evaluate water
22 distribution used and useful for Southern States' Citrus Springs, Marion

1 Oaks, Pine Ridge, and Sunny Hills service areas.

2 The Introduction section in the front of Book 1 explains in detail
3 the organization for all of the information in Book 1, so I will not repeat
4 that explanation here. However, I think it is important to stress a few
5 points regarding the organization of Book 1. The used and useful
6 information as it appears in Book 1 is divided first by water and then by
7 wastewater. The Water Discussion section and the Wastewater Discussion
8 section describe the methodologies employed to arrive at the used and
9 useful percentages. The Water Summary and the Wastewater Summary
10 contain the compiled used and useful percentages. Specifically, the Water
11 Summary shows (1) unaccounted-for water information by plant and for
12 the total company, (2) used and useful percentages by year, by plant, by
13 major plant component, and composite totals and (3) the application of the
14 non-used and useful percentages to the relevant NARUC accounts by plant,
15 by year, and composite totals. Except for the unaccounted-for water
16 information, the Wastewater Summary presents the same information as
17 the Water Summary. The F Schedules and their corresponding detail
18 schedules are organized first by year, starting with the 1996 projected test
19 year, and then by rate grouping. Thus, for the 1996 test year, the plant
20 information in the schedules are organized by the two rate groupings
21 Southern States proposes for water (conventional treatment and reverse
22 osmosis) and by the one uniform rate Southern States proposes for

1 wastewater. For the 1995 interim year and the 1994 base year, the
2 schedules are organized by the uniform and non-uniform rate groupings.
3 The F Schedules clearly indicate which figures are composites, i.e.
4 compilations of totals listed in the detail schedules. Also, where
5 projections were not used or required, Southern States did not repeat in the
6 1996 and 1995 schedules information which can otherwise be found in the
7 1994 schedules.

8 **Q. COULD YOU BRIEFLY DESCRIBE THE INFORMATION**
9 **CONTAINED IN THE F SCHEDULES WHICH YOU ARE**
10 **SPONSORING AND THE SOURCES OF THAT INFORMATION?**

11 **A.** Yes. Since Southern States' schedules provide all of the information
12 required by the Commission's MFR form, I will not recite every line and
13 type of information on the schedules. For brevity, I will refer to the
14 numbered schedules, F-2(S), F-3(W), etc., and the detail summaries which
15 follow each numbered schedule collectively.

16 Starting with the water schedules, the F-3(W) Schedules list the
17 applicable hydraulic rated capacity of each water treatment plant and the
18 historic maximum day demand and various demand averages. This
19 demand data was derived from the daily meter readings taken at Southern
20 States' plants by the plant operators. The F-5(W) Schedules show the
21 calculated used and useful percentages for the applicable major water plant
22 components as explained in the Water Discussion section of Book 1. The

1 F-7(W) Schedules show the number of lots connected to water distribution
2 lines (including a margin reserve), the number of lots with water lines
3 abutting them, and the used and useful percentage for said lines. The
4 information for the F-7(W) Schedules was derived from the maps which
5 I am sponsoring and from Southern States' customer billing and accounts
6 records. The F-8(W) Schedules show the average increase in equivalent
7 residential connections (ERCs) and total ERCs projected to be served
8 through the margin reserve period. The margin reserve calculations, which
9 were made using a simple linear regression analysis, and the applicable
10 margin reserve period are explained in the Water Discussion section. The
11 F-9(W) Schedules (1994 only schedules) show the 1994 and four prior
12 years' beginning, ending, and average number of ERCs, gallons sold,
13 gallons per ERC, and annual increase in ERCs. The data for these
14 schedules was derived from customer billing and accounts records. Where
15 applicable, Southern States has noted on the above schedules its purchases
16 of treated water from other utilities. As required by Schedule F-3(W), the
17 applicable fire flow ordinances are included in the filing and can be found
18 at the end of the water section.

19 The F-2(S) Schedules (for 1994 only) show a monthly tabulation
20 of wastewater flows and/or purchased wastewater treatment. In the case
21 of plant flows, the information is taken directly from the DEP wastewater
22 monthly operating reports (MORs) which are contained in Books 12 and

1 13 of Volume XI as required by Rule 25-30.440(4), F.A.C. In the case of
2 purchased treatment, the amounts were taken from the bills of the
3 treatment provider. The F-4(S) Schedules reflect the permitted capacity of
4 Southern States' treatment plants as shown on the DEP operating permits
5 for the plants and the average daily flow for the month in 1994 in which
6 the highest plant flows were experienced. Copies of the applicable permits
7 are contained in Book 15 of Volume XI, as required by Rule 25-30.440(6),
8 F.A.C. The flow data was derived from DEP wastewater MORs. The F-
9 6(S) Schedules show the calculated used and useful percentages for the
10 wastewater treatment facilities and effluent disposal facilities. There is
11 also an F-6.1(S) Schedule (for 1996 only) which shows a used and useful
12 breakdown for reuse assets. The methodologies for these calculations are
13 explained in the Wastewater Discussion section of Book 1. The F-7(S)
14 and F-8(S) Schedules for wastewater contain the same information derived
15 from the same sources as the F-7(W) and F-8(W) Schedules for water.
16 The F-10(S) Schedules (1994 only) show the same corresponding
17 information as the F-9(W) Schedules for water show, with data derived
18 from the same sources.

19 It is my testimony that the data used to calculate used and useful
20 is reliable and the best available, that the calculations within the schedules
21 are mathematically correct, and that the calculations were made consistent
22 with the methodologies described in the Discussion sections referenced.

1 Q. I NOTE FROM THE WATER SCHEDULES THAT SOUTHERN
2 STATES USED THE DEMAND OF A SINGULAR MAXIMUM DAY
3 TO CALCULATE USED AND USEFUL FOR SEVERAL MAJOR
4 WATER PLANT COMPONENTS. COULD YOU BRIEFLY
5 EXPLAIN WHAT FLOW DATA YOU EXAMINED TO SELECT
6 THE MAXIMUM DAY?

7 A. Yes. My staff and I reviewed demand data for the 1994 historic year and
8 the four years prior for each Southern States' water plant for which that
9 information was available to select a maximum day which did not reflect
10 any unusual demand occurrences or notable anomalies in flow recordation.
11 In most, but not all, cases a 1994 maximum day was selected based on the
12 examination of this data. As I have testified to earlier, I believe the
13 maximum day demand data used for the used and useful calculations is
14 reliable and the best available. Southern States then calculated a per ERC
15 usage figure using the historic maximum day data and multiplied that
16 amount by the number of projected ERCs for 1996 to calculate the
17 projected maximum day use for 1996.

18 Q. YOU STATED THAT SOUTHERN STATES USED SIMPLE
19 LINEAR REGRESSION TO CALCULATE MARGIN RESERVE.
20 COULD YOU BRIEFLY EXPLAIN THE LINEAR REGRESSION
21 APPLIED IN THIS CASE?

22 A. Southern States used the same linear regression analysis method which the

1 Commission used to calculate margin reserve in Southern States' rate case
2 in Docket No. 920199-WS. A linear regression is a mathematical
3 determination/description of the linear relationship of data points along two
4 axes. In other words, the analysis describes the best fit of data to a linear
5 equation. In the case of the margin reserve, the data points reflect total
6 average ERCs (one axis) at a given point in time (the other axis). For
7 each water and wastewater plant, Southern States evaluated total average
8 ERCs for the years 1990 through 1994. Once the relationship of the data
9 points was determined, the linear equation was used to project additional
10 points through the end of the applicable margin reserve period. For very
11 few plants, the correlation coefficient, a factor which measures the
12 variability of the data, was below 0.7. In those cases, Southern States
13 concluded that the linear regression results were unacceptable and, instead,
14 utilized a five-year simple average to calculate margin reserve.

15 **Q. REFERRING TO THE HYDRAULIC MODELING ANALYSES**
16 **WHICH YOU PERFORMED, WHERE IN THE FILING ARE THE**
17 **METHODOLOGY AND THE RESULTS FOR THESE ANALYSES**
18 **DESCRIBED?**

19 **A.** Book 2 of Volume VI contains an Introduction. The Introduction explains
20 the general methodology used for the hydraulic analyses and also explains
21 the resulting summary tabulations in Schedules 1 through 3, which are
22 included in the Summary section. Schedules 4, 5, 6, and 7 contain a

1 summary of all of the data and evaluations performed for all lots with
2 abutting water lines within the Citrus Springs, Marion Oaks, Pine Ridge,
3 and Sunny Hills service areas, respectively.

4 **Q. COULD YOU BRIEFLY DESCRIBE THE INFORMATION IN**
5 **THESE SCHEDULES?**

6 A. Schedule 1, on Page 1 of 2, is a comparison of the lot count and hydraulic
7 analysis methods' respective used and useful percentages. Page 2 of 2
8 shows the total investment considered for modeling purposes (referred to
9 as "modeled investment") and the used and useful percentages for modeled
10 investment for the 1996 projected test year. As explained in the
11 Introduction to Book 2, the modeled investment for each water pipe
12 included in the analyses is the original installed cost for that particular
13 pipe. Schedule 2, on Page 1 of 2, lists the amount of used and useful
14 modeled investment by year for 1994 through the margin reserve period
15 and, on Page 2 of 2, lists the total modeled investment and additions by
16 year through 1996. Schedule 3 displays the various tabulations for
17 projected additions to used and useful and total modeled investment
18 needed to reach the additions and totals which are utilized in Schedules 2
19 and 1.

20 As explained in the Introduction to Book 2, Schedules 4 through
21 7 contain the following data and evaluations on a lot-by-lot basis for every
22 lot in the service areas which has an abutting water line: lot location,

1 work release (for pipe installation), customer connect date (if any), pipe
2 assignment (for modeling purposes), flow figures, and the modeled
3 investment and used and useful information. This lot-by-lot data appears
4 in the order of each lots' unit, block, and lot number designations, as are
5 listed in columns 1 through 3, respectively. The lot location data came
6 from various maps and customer information Southern States retains. The
7 used and useful percentages in Schedules 4 through 7 reflect the results
8 accumulated in the output data files generated from the Cybernet®
9 computer software which Southern States utilized to create its hydraulic
10 models. The original cost information used to arrive at the levels of
11 modeled investment came from the work releases identified in the
12 schedules. These work releases were generated by Deltona Utilities, Inc.,
13 primarily, and by Topeka Group, Inc.

14 **Q. DID YOU OR PERSONS UNDER YOUR DIRECT SUPERVISION**
15 **AND CONTROL PERFORM THE HYDRAULIC MODELING**
16 **WHICH YOU HAVE REFERENCED?**

17 **A. Yes.**

18 **Q. COULD YOU BRIEFLY EXPLAIN HOW HYDRAULIC MODELING**
19 **IS DONE AND WHAT SOURCES OF INFORMATION WERE**
20 **RELIED ON TO PERFORM THIS MODELING?**

21 **A. Using the software I referred to, Southern States created a computer model**
22 **of its distribution lines for each of the referenced service areas. These**

1 models are comprehensive representations of all pipe locations, sizes,
2 joints, and crossings and all points of withdrawal (connections or hydrants)
3 and points of supply for each of the four distribution networks. The
4 information necessary to create the models came from the as-builts, system
5 maps, and construction data which Southern States retains. Once the
6 mapping and facilities portion of the model was performed, the required
7 flow data was entered. The level of fire flow entered into the models was
8 500 gallons per minute per hydrant (without coincidental fire flow events).
9 After the data input files were completed, the models were compiled, and
10 the results tabulated in the output data files.

11 I believe the mapping and facilities information used to create the
12 models was reliable and the best available. I also believe the models were
13 properly constructed and the results generated from the models are reliable.

14 **Q. COULD YOU BRIEFLY EXPLAIN HOW THE AFPI CHARGES IN**
15 **BOOK 1 OF VOLUME VII AND THE SERVICE AVAILABILITY**
16 **CHARGES IN BOOKS 1 THROUGH 4 OF VOLUME VIII WERE**
17 **CALCULATED?**

18 **A.** As shown in the G Schedules which make up Book 1 of Volume VII, the
19 AFPI charges were calculated using the formula which the Commission
20 has consistently used in the past. The cost of qualifying assets shown in
21 the calculations is the amount of non-used and useful investment less
22 accumulated depreciation taken from the A Schedules. This figure is

1 divided by the number of ERCs remaining until build-out and then per
2 ERC allowances for rate of return, income taxes, property taxes, and
3 depreciation expense are calculated to arrive at a per ERC carrying cost for
4 the non-used and useful investment. Southern States calculated AFPI for
5 lines and treatment plant for every water and wastewater facility, but those
6 are not the proposed charges in all cases. As I stated earlier, I performed
7 these calculations, but the AFPI charges proposed are explained by
8 Southern States witness Ludsen.

9 The plant capacity portions of the service availability charges were
10 calculated by determining an average cost per ERC based on projected
11 1996 account balances (from the A Schedules) and projected 1996 plant
12 capacities as indicated. Capacity charges were calculated separately for
13 water and wastewater and separately for treatment plant and lines. Again,
14 the plant capacity charges proposed are explained by witness Ludsen.

15 The meter installation and water and wastewater service line
16 charges were determined based on company-wide averages of actual
17 material and labor costs to install these components.

18 **Q. YOU TESTIFIED THAT YOU WERE SPONSORING THE MAPS**
19 **PROVIDED TO THE COMMISSION AS ADDITIONAL**
20 **ENGINEERING INFORMATION. WHAT INFORMATION IS**
21 **CONTAINED ON THESE MAPS?**

22 **A.** The maps contain the information required by Rule 25-30.440(1), F.A.C.

1 Since the last rate cases, the maps have been automated, updated for
2 facilities and territory additions, and checked for accuracy.

3 **Q. DO YOU HAVE ANYTHING FURTHER TO ADD?**

4 **A. No.**