COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF THE SOUTH CUMBERLAND WATER DISTRICT, OF CUMBERLAND COUNTY, KENTUCKY, FOR APPROVAL OF CONSTRUCTION, FINANCING, AND INCREASED WATER RATES	)))))	CASE NO. 9411

O R D E R

IT IS ORDERED that South Cumberland Water District ("South Cumberland") shall file an original and three copies of the following information with the Commission with a copy to all parties of record by January 15, 1986. South Cumberland shall also furnish with each response the name of the witness who will be available at the public hearing for responding to questions concerning each area of information requested. If neither the requested information nor a motion for an extension of time is filed by the stated date, the case may be dismissed.

1. Provide a tabulation of each proposed extension, its length, and the number of customers it is expected to serve.

2. Provide hydraulic analyses, supported by computations and actual field measurements, of typical operational sequences of the existing water distribution system. Computations are to be documented by a schematic map of the system

that shows pipeline sizes, lengths, connections, pumps, water storage tanks, and sea level elevations of key points, as well as allocations of actual customer demands. Flows used in the analyses shall be identified as to whether they are based on average instantaneous flows, peak instantaneous flows, or any combination or variation thereof. The flows used in the analyses shall be documented by actual field measurements and customer use records. Justify fully any assumptions used in the analyses.

3. Provide a summary of any operational deficiencies of the existing water system that are indicated by the hydraulic analyses or that are known from experience.

4. Provide hydraulic analyses, supported by computations and field measurements, demonstrating the appropriateness of the proposed location of the additional 100,000-gallon water storage tank near the Mt. Pisgah Church. Justify fully any assumptions used in the analyses.

5. Provide a pressure recording chart showing the actual 24-hour continuously measured pressure available at South Cumberland's existing 100,000-gallon tank in the vicinity of the Mt. Pisgah Church. Identify the 24-hour period recorded, the exact location of the pressure recorder and the sea level elevation of the recorder.

6. Provide a pressure recording chart showing the actual 24-hour continuously measured pressure available at South Cumberland's water main in the vicinity of the existing

connection to the City of Burkesville's water system. Identify the 24-hour period recorded, the exact location of the pressure recorder and the sea level elevation of the recorder.

7. Provide a pressure recording chart showing the actual 24-hour continuously measured pressure available at the discharge of South Cumberland's booster pumping station on Highway 61. Identify the 24-hour period recorded, the exact location of the pressure recorder and the sea level elevation of the recorder.

8. Provide a pressure recording chart showing the actual 24-hour continuously measured pressure available at the discharge of South Cumberland's booster pumping station on Highway 449. Identify the 24-hour period recorded, the exact location of the pressure recorder and the sea level elevation of the recorder.

9. Provide a pressure recording chart showing the actual 24-hour continuously measured pressure available at South Cumberland's water main in the vicinity of the community of Littrell. Identify the 24-hour period recorded, the exact location of the pressure recorder and the sea level elevation of the recorder.

10. Provide a pressure recording chart showing the actual 24-hour continuously measured pressure available at the end of the existing 6-inch water line on Highway 61 near the Tennessee state line. Identify the 24-hour period

recorded, the exact location of the pressure recorder and the sea level elevation of the recorder.

11. Provide a pressure recording chart showing the actual 24-hour continuously measured pressure available at the end of the City of Burkesville's existing water line on Highway 1880. Identify the 24-hour period recorded, the exact location of the pressure recorder and the sea level elevation of the recorder.

12. Provide a pressure recording chart showing the actual 24-hour continuously measured pressure available on the City of Burkesville's existing water line on Highway 90 at Dry Fork Road. Identify the 24-hour period recorded, the exact location of the pressure recorder and the sea level elevation of the recorder.

13. Provide the rated capacity of the City of Burkesville's water treatment plant. Provide the average daily water production of the plant for the most recent 6-month period.

14. Provide a list of each of the City of Burkesville's water storage tanks. Give the location, capacity, and overflow elevation of each tank. Explain how water is supplied to each tank.

15. Provide a list of each of South Cumberland's pump stations. Give the location, number of pumps and their rated capacities, and the purpose of each pump station. Explain how the operation of each pump station is controlled.

Provide a copy of the pump manufacturer's characteristic (head/capacity) curve for each of South Cumberland's pumps. Identify each curve as to the particular pump and pump station to which it applies.

16. Provide a county highway map marked to show the water district's boundaries as set out in the appropriate county court orders.

17. Provide a tabulation of the amount of water sold to Dale Hollow Lake State Park for each month of the test year.

18. Provide a list of every customer that used over 20,000 gallons of water during any month of the test year. Identify the customer and the customer location on the water system. Provide a tabulation of the amount of water sold to each of these customers for each month of the test year.

19. Provide a tabulation of the amount of water purchased from the City of Burkesville by South Cumberland for each month of the test year.

20. Provide a tabulation of the total amount of water sold by South Cumberland for each month of the test year.

21. Provide FmHA calculations of the level of revenues required to cover increased operating expenses due to the proposed expansion project.

22. Provide the composition of Operating Revenues per Exhibit Q (i.e., water sales, reconnection fees, late charges, etc.). If no other charges are included in Operating Revenues, is the district levying any other charges? If so, how is South Cumberland accounting for these other

revenues? Also, provide workpapers supporting the calculation of the $22,867 pro forma adjustment to Operating Revenues.

23. Provide calculations supporting the pro forma adjustment to insurance expense. Does South Cumberland have estimates supporting this proposed increase? If so, please provide these estimates.

24. Please explain the line item "Bonds and Miscellaneous" shown on Exhibit Q. How were these figures derived? Show the calculations.

25. Provide a detailed income statement reflecting all items of operating revenues and expenses, all other income and all other income deductions. This statement should be for the test period and should be similar to the one on page 10 of the Annual Report filed with the Commission.

26. Provide a billing analysis for each rate classification in the format indicated in the enclosed forms.

Done at Frankfort, Kentucky, this 19th day of December, 1985.

PUBLIC SERVICE COMMISSION

Richard D. Heman Jr.
For the Commission

ATTEST:

Secretary

APPENDIX B

APPENDIX TO AN ORDER OF THE PUBLIC SERVICE COMMISSION IN CASE NO. 8775 DATED

BILLING ANALYSIS

The billing analysis is the chart reflecting the usage by the customers as well as the revenue generated by a specific level of rates. A billing analysis of both the current and proposed rates is mandatory for analysis of a rate filing. The following is a step-by-step description which may be used to complete the billing analysis. A completed sample of a biling analysis is also included.

a. Usage Table (Usage by Rate Increment)

Information needed to complete the usage table should be obtained from the meter books or other available usage records. The usage table is used to spread total usage into the proper incremental rate step. Initial recording of usage should be in 100 gallon increments. Where there are only a few very large users or contract customers, actual usage should be used. Usage between 0-100 gallons should be shown as 100, between 101-200 as 200, etc. The usages and customers are then combined for purposes of the usage table as follows:

Column No. 1 is the incremental steps in the present or proposed rate schedule for which the analysis is being made. Column No. 2 is the number of bills in each incremental rate step. Column No. 3 is the total gallons used in each incremental rate step. Columns Nos. 4, 5, 6, 7, 8 and 9 are labeled to correspond to the incremental rate steps shown in Column No. 1 and contains the actual number of gallons used in each incremental rate step.

Example for completing Usage Table is as follows:

Column No. 1 is incremental rate steps.

Columns No. 2 and 3 are completed by using information obtained from usage records.

Columns No. 4, 5, 6, 7, 8, and 9 are completed by the following steps:

Step 1: 1st 2,000 gallons minimum bill rate level
432 Bills
518,400 gallons used
All bills use 2,000 gallons or less, therefore, all usage is recorded in Column 4.

Step 2: Next 3,000 gallons rate level
1,735 Bills
4,858,000 gallons used
1st 2,000 minimum x 1,735 bills = 3,470,000 gallons - record in Column 4
Next 3,000 gallons - remainder of water over 2,000 = 1,388,000 - record in Column 5

Step 3: Next 10,000 gallons rate level
1,830 Bills
16,268,700 gallons used
1st 2,000 minimum x 1,830 bills = 3,660,000 gallons - record in Column 4
Next 3,000 gallons x 1,830 bills = 5,490,000 gallons - record in Column 5
Next 10,000 gallons - remainder of water over 3,000 = 7,118,700 gallons - record in Column 6

Step 4: Next 25,000 gallons rate level
650 bills
15,275,000 gallons used
1st 2,000 minimum x 650 bills = 1,300,000 gallons record in Column 4
Next 3,000 gallons x 650 bills = 1,950,000 gallons record in Column 5
Next 10,000 gallons x 650 bills = 6,500,000 gallons - record in Column 6
Next 25,000 gallons - remainder of water over 10,000 gallons = 5,525,000 gallons - record in Column 7

Step 5: Over 40,000 gallons rate level
153 bills
9,975,600 gallons used
1st 2,000 minimum x 153 bills = 306,000 gallons - record in Column 4
Next 3,000 gallons x 153 bills = 459,000 gallons - record in Column 5
Next 10,000 gallons x 153 bills = 1,530,000 gallons - record in Column 6
Next 25,000 gallons x 153 bills = 3,825,000 gallons - record in Column 7
Over 40,000 gallons - remainder of water over 25,000 = 3,855,600 gallons - record in Column 8

Step 6: Total each column for transfer to Revenue Table.

b. Revenue Table (Revenue by Rate Increment)

Revenue Table is used to determine the revenue produced from the Usage Table. Column No. 1 is the incremental rate steps in the rate schedule for which the analysis is being made. Column No. 2 indicates the total number of bills. Column No. 3 is the number of gallons accumulated in each rate increment (Totals from Columns 4, 5, 6, 7 and 8 of the above usage table). Column No. 4 is the rates to be used in determining revenue. Column No. 5 contains revenue produced.

Example for completing Revenue Table is as follows:

Complete Columns no. 1, 2 and 3 using information from Usage Table.

Complete Column No. 4 using rate either present or proposed.

Column No. 5 is completed by first multiplying the bills times the minimum charge.

Then, starting with the second rate increment, multiply Column No. 3 by Column No. 4 and total.

Revenue From Present/Proposed Rates

Test Period from 1-1-81 to 12-31-81

USAGE TABLE
Usage by Rate Increment

Residential

(1)	(2) Bills	(3) Gallons/MCF	(4) 1st 2,000	(5) Next 3,000	(6) Next 10,000	(7) Next 25,000	(8) Over 40,000	(9) Tota
,000: Minimum Bill	432	518,400	518,400					51E
,000 Gallons	1,735	4,858,000	3,470,000	1,388,000				4,85E
,000 Gallons	1,830	16,268,700	3,660,000	5,490,000	7,118,700			16,26E
,000 Gallons	650	15,275,000	1,300,000	1,950,000	6,500,000	5,525,000		15,275
,000 Gallons	153	9,975,600	306,000	459,000	1,530,000	3,825,000	3,855,600	9,975
tal	4,800	46,895,700	9,254,400	9,287,000	15,148,700	9,350,000	3,855,600	46,895

REVENUE TABLE
Revenue By Rate Increment

(1)	(2) Bills	(3) Gallons/MCF	(4) Rate	(5) Revenue
2,000: Minimum Bill	4,800	9,254,400	$5.00 Min.	$24,000.00
3,000 Gallons		9,287,000	2.50	23,217.50
0,000 Gallons		15,148,700	2.00	30,297.40
5,000 Gallons		9,350,000	1.25	11,687.50
0,000 Gallons		3,855,600	.75	2,891.70
				$92,094.10 Total Revenue