

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF THE EAST CLARK)
COUNTY WATER DISTRICT, OF CLARK)
COUNTY, KENTUCKY, FOR APPROVAL OF) CASE NO. 9512
CONSTRUCTION, FINANCING, AND)
INCREASED WATER RATES)

O R D E R

IT IS ORDERED that East Clark County Water District ("East Clark") shall file an original and seven copies of the following information with the Commission with a copy to all parties of record within 3 weeks of the date of this Order. If the information requested or a motion for an extension of time is not filed by the stated date, the Commission may dismiss the case without prejudice. East Clark shall furnish with each response the name of the witness who will be available at the public hearing for responding to questions concerning each item of information requested.

1. In order to obtain realistic results when utilizing computer hydraulic analyses to predict a water distribution system's performance, engineering references stress the importance of calibrating the results predicted to actual hydraulic conditions. This calibration process should include matching field measurements to the results predicted by the computer over a

wide range of actual operating conditions. As a minimum this should include average and maximum water consumption periods, as well as "fire flow" or very high demand periods.

Base on the above, explain the procedures used to verify the computer hydraulic analyses filed in this case. This explanation should be documented by field measurements, hydraulic calculations, etc.

2. The computer hydraulic analyses filed in this case are based on "average," "peak" and "slack" demand periods. The "average" demand is supposedly a 24-hour average usage; the "peak" demand is supposedly 1.4286 times the "average" demand; and the "slack" demands range from .619 to .1429 times the "average" demand. In addition, the analyses utilize a diurnal customer demand pattern of "average" demand occurring at hour 1, "peak" demands at hours 12, 13 and 14, and "slack" demands occurring at other times.

Most engineering references state that instantaneous customer demands can peak at 3 to 15 times the 24-hour average demand. In addition, most engineering references also state that a water distribution system should be designed to meet the maximum hourly demand of its customers.

Based on the above information provide a detailed explanation of why East Clark's peak demands do not conform to generally recognized customer usage patterns. The explanation should be documented by actual field measurements. Also state exactly what measurements were made of East Clark's maximum hourly usage. If

the maximum hourly usage was not measured directly, state why it was not. Also provide a detailed explanation of how the diurnal demand pattern was determined and to what actual times the various hours correspond (i.e. 6 a.m., 6 p.m., etc.).

3. The computer hydraulic analyses filed in this case for the proposed water distribution system indicate that the potential exists for the system to experience low pressure (less than 30 psig) at Nodes 16, 17, 27, 29, and 30 after the proposed construction is complete. Pressures at this level are in violation of PSC regulation 807 KAR 5:066, Section 6(1). Provide details of any preventive measures or additional construction East Clark intends to perform to protect against this type of occurrence. Details should be documented by hydraulic analyses and field measurements.

4. The computer hydraulic analyses filed in this case for the proposed water distribution system also indicate that the potential exists for the system to experience high pressure (more than 150 psig) at Nodes 45 and 47. Pressures at this level are in violation of 807 KAR 5:066, Section 6(1). Provide details of any preventive measures or additional construction East Clark intends to perform to protect against this type of occurrence. Details should be documented by hydraulic analyses and field measurements.

5. Provide a pressure recording chart showing the actual 24-hour continuously measured pressure available on East Clark's existing water line near the connection point to the City of Winchester on Ecton Road. 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 East Clark's existing standpipe on KY 15. 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 on the City of Winchester's water line near the connection point of East Clark's proposed water line on Muddy Creek Road. 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 on East Clark's water line on KY 15 near the connection point of the proposed extension to serve the Trapp area. 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 on the suction side of East Clark's existing pump station. 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 on the discharge side of East Clark's existing pump station. Identify the 24-hour

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

11. Provide a copy of the pump manufacturer's characteristic (head/capacity) curve for East Clark's existing pump station.

12. Provide a copy of the pump manufacturer's characteristic (head/capacity) curve on which the design of the proposed pump was based. Also provide the design criteria and related calculations used in sizing the proposed pump station.

13. Provide a narrative description of the proposed daily operational sequences of the proposed water system. Documentation should include the methods and mechanisms proposed to provide positive control of the proposed tank's water level. The narrative description should also include how all tanks will "work" (expected inflow and outflow of water and approximate times of day) and how all pumps will function. Any assumptions are to be fully supported by appropriate measurements and hydraulic calculations.

14. The computer hydraulic analysis for the proposed system depicts the existing pump "operating out of range". Provide details of any preventive measures or additional construction East Clark intends to perform to protect against this type of occurrence. Details should be documented by hydraulic analyses and field measurements.

15. A copy of the Clark County court order establishing East Clark was filed with the application. However, a description of East Clark's territory and boundaries was not filed. In addition it is the Commission's understanding that a portion of East Clark

was de-annexed and annexed to the Reid Village Water District. Based on this provide a copy of each of the county court orders establishing the East Clark County Water District and defining or changing its boundaries.

16. Provide a highway map at a scale of at least one inch equals two miles marked to show East Clark's water distribution system. The map of the system shall show pipeline sizes, locations, and connections as well as pumps, water storage tanks and sea level elevations of key points. The map shall also be marked to show the location of the water district boundaries and labeled to indicate the appropriate court order from which each boundary was determined.

Financing

17. Provide an explanation as to why the financing components outlined in Exhibit C, Amendment 1, FMHA Letter of Conditions ("FMHA Letter"), dated September 12, 1983, paragraph 16, do not correspond to the financing components outlined in East Clark's application of February 19, 1986, or Exhibit W, East Clark Bond Resolution, section 105, page 6. Identify the correct financing package and submit documentation as to FMHA approval of the package.

18. Specify as to whether any of the funding from the ARC, the CDBG, the FMHA, and the ADF are grants or loans to be repaid.

Cost of Facility

19. Provide a detailed cost breakdown for the construction if there have been changes to the figures presented in Exhibit C,

FmHA Letter, paragraph 16. Provide an explanation for any changes and document FmHA approval of the current cost breakdown.

New Customers

20. Provide an explanation as to how East Clark determined there would be 136 new customers under Phase II. Include the method used to determine the new customers' water consumption.

21. Are all of the new customers general residential customers? Provide a breakdown of the 136 customers if a class other than residential is included.

22. Provide an explanation of why the new customer contributions dropped from \$40,800 in the FmHA Letter to \$12,300 in East Clark's application, and the number of new customers was reduced from 136 to 41.

Water Purchase Agreement

23. In regard to the Water Purchase Agreement of March 25, 1982, ("1982 Agreement") provide explanations for the following:

a. Were the three bulk water stations approved by Winchester Municipal Utilities ("Winchester")? If not, supply reason(s) for rejection.

b. Were the three bulk water stations in East Clark's service territory, as defined in paragraph 4 of the 1982 Agreement?

24. In regard to the Water Purchase Agreement of February 1, 1986, ("1986 Agreement") provide explanations for the following:

a. What were the circumstances which lead to the invoking of paragraph 10 of the 1982 Agreement and the creation of the 1986 Agreement?

b. Explain the difference between the total payments of \$6,338.20 in 10 years, as outlined in paragraph 2, 1986 Agreement, and the purchase price stated in paragraph 1 of \$4,253?

25. Provide the book cost and the related accumulated depreciation as of December 31, 1985, for the bulk water sales equipment to be sold to Winchester. Provide the journal entries made by East Clark to record the sale.

26. As outlined in the 1986 Agreement, East Clark will purchase and then resell to Winchester the water sold at the bulk stations. Indicate if this is correct, and provide the reasons for such an arrangement. Include East Clark's purchase and resell prices, quoted in similar units.

27. Does Winchester's actions in the 1986 Agreement in effect violate the terms of paragraph 4 in the 1982 Agreement concerning territorial encroachment? Provide an explanation as to why or why not.

Exhibit J - Balance Sheet and Statement of Income

28. Provide copies of notes to the financial statements, Notes Nos. 2, 3, 4, 5, 6, and 8.

29. Provide a detailed breakdown of the \$1,537.50 asset referred to as "Phase II Project." Indicate if the amount is construction work in progress, completed but unclassified, or another appropriate classification. Explain why this asset was not included in the depreciation schedule, Exhibit K.

30. Provide a detailed schedule for the Notes Payable, listing the issue date, maturity date, interest rate, and in whose favor.

Exhibit L - Monthly Revenues and Operating Expenses

31. Provide an explanation as to why the Payroll Taxes Withheld were not included in the Total Expenses and identify what the asterisk means.

32. Provide explanations for each of these items on the schedule:

a. December 1985, adjusting entry of \$(81.94) for "Interest Income - Phase II."

b. Why were expenditures for 13 months presented for "Contracted Repair and Maintenance" and "Office Supplies and Printing" while only 11 months were presented for "Chemical Analysis and Supplies?"

c. Why expenditures for "Travel and Mileage" in March and October were higher than usual?

Exhibit N & P - Projected Revenues, Expenses, and Pro Forma Adjustments

33. Indicate whether the adjustments related to the bulk water sales expenses were derived from actual expenditure documents which were solely for bulk water sales or were they based on an allocation of expenditures incurred for bulk water sales and other East Clark activities? If allocation was used, provide a detailed explanation of the method used and all supporting computations to arrive at the amounts included in the adjustment.

34. Listed below are several adjustments proposed by East Clark, giving the expense category and the method used to determine the pro forma adjustment. Provide an explanation of why the particular method was used in each situation:

a. Adjustment 10 - Contracted Repair and Maintenance. Method used - Cost per mile of existing system applied to additional mileage. Explain why a new line requires the same level of repair and maintenance as older lines.

b. Adjustment 13 - Operating Materials and Supplies Expense. Method used - Cost per current customers applied to new customers. Explain why this method is preferable to other methods such as a projection based on historical costs and anticipated additional needs.

c. Adjustment 16 - Office Supplies, Printing and Expenses. Method used - Cost per current customer applied to new customers. Explain why this method is preferable to other methods such as a projection based on historical costs and anticipated additional needs.

d. Adjustment 19 - Miscellaneous Expenses. Method used - Cost per current customer applied to new customers. Explain why this expense would vary on a per customer basis and why the actual expense would not be a better estimate.

e. Adjustment 21 - PSC Assessment Tax. Method used - Tax per current customer applied to new customers. Explain why this method is preferable to an adjustment based on projected receipts rather than the average test year cost per customer.

f. Adjustment 24 - Interest Expense. Method used - Cost per current customer applied to new customers. If this is for customer deposits, explain why this method is preferable to an adjustment based on the projected level of customer deposits?

35. Provide a breakdown of the \$731.31 Postage Expense between postage to mail water bills and general correspondence. Provide an explanation for why the pro forma adjustment is based on the cost per current customer applied to new customers rather than the calculated cost of postage for billing the projected new customers.

36. Provide a detailed depreciation schedule for the Phase II additions. Include the type of plant asset, asset life, estimated cost of the asset type, and the estimated first year depreciation charge.

Revenue Requirements

37. Provide the Debt Service Coverage ratio sought in this filing and the computations used to arrive at the ratio and total revenue requirements.

1985 PSC Annual Report - Operation and Maintenance Expenses

38. Provide an explanation as to why the following Operation and Maintenance Expenses experienced significant increases over the amounts reported in 1984:

a. Transmission and Distribution Expenses - Maintenance of Mains, up 69.5 percent.

b. Customer Accounts Expenses - Meter Reading Labor, up 16.7 percent.

c. Administrative and General Expenses - Administrative and General Salaries, up 35.3 percent.

d. Administrative and General Expenses - Miscellaneous General Expenses, up 73.1 percent.

39. With regard to the aforementioned question, provide complete details of any expenses charged to these accounts which would be considered unusual in a typical year or expenses which would not be incurred on an ongoing basis.

Miscellaneous

40. Provide a Monthly Payroll Analysis for the beginning and end of the test year and show all salary increases granted during the test period, by employee. Also include the same information for Meter Readers.

41. Provide an analysis of the Restricted Revenue Funds, identifying what each fund is for, how much has been accumulated at the beginning and end of the test year, and the amounts required to be on deposit in those funds.

Rates and Rate Design

42. What type of "enlargements, revisions, replacements or extensions" are contemplated by Item 6, Page 3, of the Supplement to Water Purchase Agreements (Exhibit H)?

43. Would any such "enlargements, revisions, replacements or extensions" be paid for entirely by Winchester?

44. Within the context of Item 7, Page 3, of the Supplement to Water Purchase Agreement, are any such contracts currently in effect and, if so, what is the nature of such contracts?

45. Exhibit P, Attachment 9a, shows water for resale to Winchester of 16,093,900 gallons and bulk sales of 5,826,600 gallons, totaling 21,920,500 gallons. Does East Clark anticipate resales to Winchester to remain at approximately 21,920,500 gallons annually for the foreseeable future?

46. The current rate for water for resale is \$1.45 per 1,000 gallons. Is any increase in this rate proposed? If so, what rate is proposed? If not, why?

47. What is the average cost of delivering 1,000 gallons of water?

48. Are there peculiar circumstances which would cause the cost to differ for delivery of 1,000 gallons of water to general customers and delivery to Winchester for resale? If so, explain.

49. The rates proposed by East Clark differ from those contained in the 1983 FmHA letter of conditions. Is FmHA aware of the difference in rate proposals? Has any objection or agreement been made by FmHA to East Clark's rate proposal?

50. Is any increase proposed in the current tap fee? If not, is the current tap fee compensatory? If so, specify the amount of the proposed tap fee and provide cost justification.

Done at Frankfort, Kentucky, this 2nd day of May, 1986.

PUBLIC SERVICE COMMISSION


For the Commission

ATTEST:

Secretary