### Presentation

to

### Bluegrass Water Supply Consortium

May

### May 12, 2003

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### Louisville Water Company 550 South Third Street Louisville, Kentucky 40202 (502) 569-3600

### **General Information**

The Louisville Water Company, chartered in 1854 as a municipal corporation, is a nationally recognized utility with demonstrated technical competence in all areas of water utility management. The Company has been an industry leader in dealing with legislation and regulations under the U.S. EPA-administered Safe Drinking Water Act and continuously maintains a vigorous research program to effectively deal with future State and Federal regulations. The Company currently exceeds all standards for drinking water.

The Louisville Water Company's raw water source is the Ohio River, an abundant, reliable supply. This source will meet all anticipated supply requirements beyond the 21<sup>st</sup> century.

The Louisville Water Company owns and operates two water treatment plants with reserve capacity. The Crescent Hill Treatment Plant can produce a firm capacity of 180 million gallons per day (MGD). The firm capacity for production at the B.E. Payne Treatment Plant is 45 MGD. The combined design capacity for both plants is 300 MGD. The present average daily pumpage is 127 MGD. The maximum recorded single day usage is 197 MGD (1999). Both water treatment plants utilize a chloramine disinfection process that allows high water quality to be maintained over long distances.

The Louisville Water Company establishes rates on cost of service principles established by the American Water Works Association. The Company maintains competitive water rates, with the five-year forecast indicating favorable rate levels compared to projected cost-of-living increases. The average residential customer pays a monthly bill of \$14.13 for 6,000 gallons of consumption. The Company bills retail customers on a bi-monthly schedule.

The Louisville Water Company serves approximately 255,000 customer accounts through nearly 3,400 miles of water mains and nearly 23,000 fire hydrants. In addition to those retail customer accounts, it also serves five nearby water utilities on a wholesale basis.

The Louisville Water Company maintains a vigorous Capital Improvement Program. This Capital Improvement Program is heavily committed in three core areas.

- Infrastructure Replacement and Rehabilitation
- Water Transmission Mains
- Water Treatment Plant and Distribution System Storage Improvements

### Louisville Water Company Key Contacts

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Greg Heitzman, P.E. Vice President Operations and Chief Engineer (502) 569-3600, ext. 3681

Karla Teasley Vice President, Serving Customers and Business Development (502) 569-3600, ext. 3692

Robert K. Miller Vice President, Treasurer (502) 569-3600, ext. 2277

Jim Smith Manager, Infrastructure Planning (502) 569-3600, ext. 3687

Patti Kaelin Manager, Business Development (502) 569-3600, ext. 2262

### LOUISVILLE WATER COMPANY 2002 HIGHLIGHTS

### Abundant Capacity

-Raw water source is Ohio River -225 million gallons per day (MGD) firm treatment and production capacity -Average production is 127 MGD -15 MGD horizontal collector well system, being expanded to 60 MGD in 2004

### **Financial Capacity**

-Bond rating of AA -Moody Bond Rating of Aa1 -Debt service coverage end of 2002 was 3.33 -Return on equity end of 2002 exceeded 9% -40.2 billion gallons of water sold, with revenues of \$93,970,000 -\$134,460,000 million in debt

### Managerial and Technical Capacity

-24/7 operation and emergency response capability -24 hour call center

-Industry leader :

- drinking water regulatory issues
- water treatment research
- infrastructure renewal

-Staff of Class IV Treatment Plant and Distribution System Operators

-Staff of professional engineers

-Superior water quality

- meets all US EPA and Ky Division of Water regulatory requirements
- water quality and treatment operations meets Phase III Partnership for Safe Drinking Water

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### System Mergers and Acquisitions

-Jeffersontown Water - 1989 -West Oldham Utilities - 1995 -Oldham County Water District #1 - 1996 -Ky Turnpike Water Districts #1 and #2 - 2000 -Goshen Utilities, Inc. - 2002 -City of Shepherdsville - 2002

### **Operations and Maintenance Contract Operations Experience**

-Oldham County Water District #1 (1968 – 1995) -Ky Turnpike Water District #1 (1968 – 2002) -West Oldham Utilities (1978 – 1995)

### Wholesale Customers

-North Shelby Water District (Shelby County) -West Shelby Water Company (Shelby County) -City of Taylorsville (Spencer County) -City of Mt. Washington (Bullitt County) -North Nelson Water District (Nelson County)



| NOTES |
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### Louisville Water Company Responses to BWSC Questions May 12, 2003

- 1. What quantity of the 2020 67-mgd demand are you interested in providing? Louisville Water Company is interested in providing up to 67 mgd supply to BWSC.
- 2. What is the source of your raw water? Ohio River.

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### 3. Describe your current treatment process.

Conventional water treatment including pre-sedimentation, flocculation/coagulation with ferric chloride, and polymer; dual media, rapid sand filtration; free chlorine disinfection with a chloramine residual; and fluoridation. Additional treatment includes pH adjustment with lime, caustic soda and carbon dioxide; taste/odor/algae control with powdered activated carbon, potassium permanganate and copper sulfate, and enhanced filtration with filter aide.

- 4. Will additional supply/treatment/transmission facilities be required in order to supply BWSC? LWC can provide 25 mgd of the 67 mgd total 2020 demand requirement using existing source, treatment and transmission capacity. Water supply exceeding 25 mgd will require additional investment in treatment, pumping, and transmission facilities.
- 5. What is the location of the point(s) of connection to your water transmission system? A 25 mgd supply is available at the English Station 10 million gallon reservoir and 60-inch water main located at Interstate 265 and US 60. A supply exceeding 25 mgd will require construction of transmission to either the Crescent Hill Treatment Plant on Frankfort Avenue in Crescent Hill and/or to the BE Payne Water Treatment Plant on River Road in Prospect. Treatment facilities may be required depending on the peak demand scenarios.
- 6. What is the approximate hydraulic gradient and pressure at the point of delivery? The proposed delivery point is located at Interstate 64 and Highway 55 in Shelby County. The approximate hydraulic grade is 900 feet msl at ground elevation 750 feet msl yielding a pressure range of 45 to 65 psi at the point of delivery.
- What is your current disinfection process? LWC utilizes free, breakpoint chlorination followed by ammoniation to form a chloramine residual (4:1 chlorine/ammonia ratio). Chloramine residuals are maintained at 1.5 to 2.0 ppm in the distribution system.
- 8. Identify all agencies or authorities from which approval would be required in order to sell water to BWSC.

Project Design – LWC Board of Water Works and Kentucky Division of Water Supply Agreement and Water Rates – LWC Board of Water Works and Kentucky Public Service Commission.

- 9. Please provide a water quality report for your utility. 2002 Annual Report and Water Quality Report included.
- 10. Please provide a map indicating the possible point(s) of connection to your utility by BWSC. Map enclosed.



### 699 Perimeter Dr. • Lexington, Kentucky 40517-4120 Phone:(859)269-8021 • Fax:(859)269-7917

Bluegrass Area Development Districe

June 13, 2003

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ANDERSON • BOURBON • BOYLE • CLARK • ESTILL • FAYETTE • FRANKLIN • GARRARD • HARRISON • JESSANINE • LINCOLN • MADISON • MERCER • NICHOLAS • POWELL • SCOTT • WOODFORD

Mr. Jim Smith, Manager, Infrastructure Planning Louisville Water Company 550 South Third Street Louisville, Kentucky 40202

> Re: Request for Proposal to supply water Bluegrass Water Supply Consortium

Dear Mr. Smith:

On behalf of the Bluegrass Water Supply Consortium (BWSC), the Bluegrass Area Development District is pleased to inform you that purchase of finished water from the Louisville Water Company is one of eight alternatives that remain under consideration as near term options for their additional water supply. This determination was the result of the preliminary screening of alternatives performed at Public Workshop No. 4, on May 28, 2003, based in part upon the information provided at your interview on May 12, 2003. We now request your written proposal for the sale of finished water, as described below. This proposal will be used in the selection of a recommended option(s). It should be as accurate as possible, recognizing that some details of any future agreement for water purchase would be resolved subsequently. Please address the following items:

1. Quantity, location and pressure of finished water- Based on your prior submission, BWSC requests the cost to supply an initial guaranteed capacity of approximately 25 mgd at the English Station Standpipe location. Also provide the cost to supply an initial guaranteed capacity of approximately 45 mgd at the same location, or at another location that you identify. Please confirm that you would provide water at an hydraulic gradient of 900 feet msl.

2. Please confirm that your treated water hardness level is less than 150 mg/1.

3. Minimum purchase- For the two cases identified above, please assume that BWSC will contract to purchase a minimum annual average daily quantity equal to 5.0 mgd if the contracted capacity is 25 mgd, or 9.0 mgd if the contracted capacity is 45 mgd.

4. Annual "fixed" fees - Provide the proposed annual "fixed" fees for the commitment of the above guaranteed quantities of finished water, including the provision of the above minimum purchase. Please identify any proposed adjustment over time for "cost of living" or other purposes. Please assume:

BWSC would pay the full annual fixed fee regardless of whether they took the full minimum on any day.

A 20-year contract term with, with provisions for renewal for at least an additional 30 years.

Louisville Water Company June 13, 2003 Page 2

- 5. "Variable" fees Provide the fee per 1,000 gallons sold beyond the daily minimum, up to the full guaranteed capacity. If you propose a variable fee, please explain the rationale for such a fee.
- 6. Alternate proposals- We welcome alternate proposals or supplemental information that may help us in our evaluation. For example, please explain if there are some intermediate capacities such as 30 or 35 mgd that define a "breakpoint" in your cost to serve. We also request any back-up information showing your basis for capital and operating costs, so that we can assess whether we are comparing "apples and apples".

Please submit your proposal no later than July 9, 2003, to my attention, with a copy to our consultant, O'Brien and Gere Engineers, Inc. Attn.: George B. Rest P.E. (see contact information below). In the meantime, please contact George Rest if you have any questions. Thank you for your interest in supplying water to the BWSC.

Very truly yours, assall 1

Don R. Hassall, P. E. Assistant Executive Director

Contact Information:

George B. Rest, P. E. O'Brien & Gere Engineers, Inc. 8201 Corporate Drive Suite 1000 Landover Md. 20785 email <u>restgb@obg.com</u> direct dial 301-731-1162 fax dial 301-577-4737





### LOUISVILLE WATER COMPANY

550 SOUTH THIRD STREET • LOUISVILLE, KENTUCKY 40202 TEL 502-569-3600 FAX 502-569-0815

July 9, 2003

Mr. Don R. Hassall, P.E. Assistant Executive Director Bluegrass Area Development District 699 Perimeter Drive Lexington, KY 40517-4120

Re: Bluegrass Water Supply Consortium

Dear Mr. Hassaller and share and the second strategy of the

Louisville Water Company (LWC) is pleased to respond to your recent inquiry concerning the supply of finished water to the Bluegrass Water Supply Consortium on a wholesale basis.

Our response is attached and considers the two water demand scenarios outlined in your letter of June 13, 2003. We have prepared this response using our understanding of your project objectives. This document is consistent with the engineering and water rate methodology used in the 1998 contract with Kentucky American Water Company to deliver water to Lexington. Our response is based upon a suggested delivery point located at Interstate 64 and Highway 53.

LWC appreciates this opportunity to work with the Consortium. We look forward to furthering our mutual interests in providing a reliable source of high quality drinking water to Central Kentucky. We would appreciate receiving from you as soon as it becomes available, detailed information regarding the legal authority, identity and authorized management structure of the consortium. Additionally, please be aware that should we enter into formal discussions regarding the provision of water to the consortium, all such discussions are subject to approval of the Board of Water Works. Mr. Jim Smith is our designated contact, and he can be reached at (502) 569-3687. If you need additional information please call me at (502) 569-3680.

Sincerely

John L. Huber President

### Discussion Points: Provision of Finished Potable Water to the Bluegrass Water Consortium of Central Kentucky

### July 9, 2003

<u>Delivery Point</u>, <u>Water Quality and Demand Scenarios</u> - Louisville Water Company (LWC) envisions that the point of delivery for finished water will be located in the vicinity of Interstate 64 and Highway 53. LWC would own, operate, and maintain the water transmission main, pump station and storage facilities to the point of delivery. LWC is willing to make a capital commitment towards construction of these pipeline facilities based upon volume, demand factors, length of contract, and other factors negotiated between LWC and the Consortium (or its designee). In consideration of such a capital commitment, LWC recommends a 50-year contract with renewal options, compared to the 20 year term outlined in your letter of June 13, 2003.

LWC's potable, finished water supply could be delivered at a hydraulic grade of 900-950 msl, and working pressure of 40-60 psi (ground elevation 810). The water supply will meet all state and federal drinking water standards. The finished water hardness from both the Crescent Hill and B.E. Payne water treatment plants averaged 162 mg/l in 2002. In 2003, the Company adopted a goal to maintain finished water hardness below 150 mg/l. Through June 2003, the finished water hardness averaged 148 mg/l from both treatment plants. Monthly finished water hardness data is available for review upon request.

In order to meet the demand criteria identified in your letter of June 13, 2003, LWC outlines the following two scenarios for consideration:

Scenario 1 – Provide 5 mgd base rate of flow with maximum day design capacity of 25 mgd. This requires installation of 60-inch water main to Interstate - 64, a 36-inch water main along Interstate 64 to Highway 53, a booster pump station in Jefferson County at Interstate 265 and a 3 million gallon storage facility at Highway 53 in Shelby County. The estimated cost for this scenario is \$23 million, subject to adjustment based upon final design, right-of-way acquisition, and competitive bidding.

Scenario 2 – Provide 9 mgd base rate of flow with a maximum day design capacity of 45 mgd. This scenario requires installation of a 60-inch water main to Interstate 64, two parallel 36-inch water mains along Interstate 64 to Highway 53, a booster pump station in Jefferson County at Interstate 265 and a 5 million gallon storage facility at Highway 53 in Shelby County. To ensure reliable service to meet this demand, facility improvements such as pumping and clear well upgrades are also needed. We recommend parallel facilities to reduce the higher operating risk and allow future maintenance while maintaining operations to deliver the base rate of flow. Parallel facilities will also allow phased construction and capital investment approach. The estimated cost for this option is \$47 million, subject to adjustment based upon final design, right-of-way acquisition, and competitive bidding.

These two scenarios have been prepared from a preliminary engineering review of the project objectives outlined in your letter of June 13, 2003. We have not performed a detailed engineering or hydraulic analysis of these scenarios. The suggested scope of the project is intended to be a conservative approach to providing the two water demand scenarios identified. Further engineering design, hydraulic analysis, property/easement research, and review of construction procurement methods may yield opportunities for additional cost savings in the project. In addition, our estimates are based upon projects valued at \$5 million or less. A construction scope of this magnitude will likely yield additional economies of scale, further reducing capital costs.

<u>Water Rate Methodology</u> – In addition to the capital components previously discussed, the rate for volumes of consumption described in your letter would be based upon terms and conditions that need to be negotiated. Based upon LWC staff's current authorization from the Board of Water Works, any contracted consumption over 1 mgd may be negotiated, based upon certain criteria, including peak demand factors, contract duration, and other terms and conditions. LWC would calculate the rate for this kind of water consumption by taking into consideration four elements: operating expenses, depreciation expenses, return on plant investment, and customer costs. These rate elements are defined as follows:

- A. Operating Expense Component determined for the billing period by dividing the Buyer's usage by the Seller's total sales and multiplying the quotient by Seller's Operating Expenses, less expenses common only to retail customer expenses and to customers generally. This is a variable cost component.
- B. Depreciation Expense Component determined for the billing period by dividing the Buyer's Request by the Seller's production capacity and multiplying the quotient by the Seller's Depreciation Expense, less depreciation on contributed capital and depreciation common only to retail customers and to customers generally. This is a fixed cost component based upon the requested reserved production capacity.
- C. Return on Plant Investment Component determined for the billing period by dividing the Buyer's Request by the Seller's production capacity and multiplying the quotient by Seller's Return on Plant Investment, excluding return on plant investment common only to retail customers and to customers generally. This is a fixed cost component based upon the requested reserved production capacity.
- D. Customer Cost Component determined for the billing period by the Service Charge, at it may change from time to time, currently contained in Section 6.02.1 of Seller's rate schedule. This is a fixed cost component based upon the number and size of meters installed at Buyer's request.

Based upon the above criteria, the Company contemplates several rate scenarios for delivery of water, of which the specifics remain subject to negotiation. The peaking factors identified below are the ratio of the requested reserved production capacity to minimum average day consumption. For the Consortium's planning purposes, those rate elements yield the following imputed water rates based upon current (2003) costs, with periodic adjustment for actual cost of service:

- 1) Contract with peaking factor of 5:1
  - Annual fixed cost for minimum average day of 5 mgd and requested reserved production capacity of 25 mgd is estimated at \$4,198,800.
  - Annual fixed cost for minimum average day of 9 mgd and requested reserved production capacity of 45 mgd is estimated at \$7,508,100.
  - Variable cost per 1000 gallons above minimum average day is estimated at \$0.54 up to requested reserved production capacity.
  - Imputed rate per 1000 gallons is \$2.33.
- 2) Contract with peaking factor of 4:1
  - Annual fixed cost for minimum average day of 5 mgd and requested reserved production capacity of 20 mgd is estimated at \$3,568,300.
  - Annual fixed cost for minimum average day of 9 mgd and requested reserved production capacity of 36 mgd is estimated at \$6,373,200.
  - Variable cost per 1000 gallons above minimum average day is estimated at \$0.54 up to requested reserved production capacity.
  - Imputed rate per 1000 gallons is \$1.98.

Contract with peaking factor of 3:1

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- Annual fixed cost for minimum average day of 5 mgd and requested reserved production capacity of 15 mgd is estimated at \$2,937,700.
- Annual fixed cost for minimum average day of 9 mgd and requested reserved production 8 capacity of 27 mod is estimated at \$5,238,300.
- Variable cost per 1000 gallons above minimum average day is estimated at \$0.54 up to requested reserved production capacity.
- Imputed rate per 1000 gallons is \$1.63.
- Contract with peaking factor of 2:1
  - Annual fixed cost for minimum average day of 5 mgd and requested reserved production capacity of 10 mod is estimated at \$2,307,200.
  - Annual fixed cost for minimum average day of 9 mgd and requested reserved production capacity of 18 mgd is estimated at \$4,103,300.
  - Variable cost per 1000 gallons above minimum average day is estimated at \$0.54 up to . . . . . . .
  - requested reserved production capacity.
    - Imputed rate per 1000 gallons is \$1.28.
- 5) Contract with peaking factor of 1:1
  - Annual fixed cost for minimum average day of 5 mgd and requested reserved production capacity of 5 mgd is estimated at \$1,676,700.
  - Annual fixed cost per minimum average day of 9 mod and requested reserved production capacity of 9 mgd is estimated at \$2,968,400.
  - Variable cost per 1000 gallons above minimum average day is estimated at \$0.54 up to requested reserved production capacity.
  - Imputed rate per 1000 gallons is \$0.93

Next Steps - Additional elements must be addressed before we can move forward, offer a formal proposal and enter into final negotiations. These include determination of the investment in the project by LWC, provisions for design services, construction timetables, operating parameters, as well as further delineation of water rate adjustments. We look forward to the opportunity for the detailed discussions which will allow us to further define these parameters. Mr. Jim Smith is our designated contact, and he can be reached at (502) 569-3687.



### LOUISVILLE WATER COMPANY

550 SOUTH THIRD STREET • LOUISVILLE, KENTUCKY 40202 TEL 502-569-3600 FAX 502-569-0815

August 8, 2003

Mr. Don R. Hassall, P.E. Assistant Executive Director Bluegrass Area Development District 699 Perimeter Drive Lexington, KY 40517-4120

Re: Bluegrass Water Supply Consortium

Dear Mr. Hassall:

Louisville Water Company is pleased to provide an update to our initial response concerning the supply of finished water to the Bluegrass Water Supply Consortium.

Thank you again for the opportunity to work with the Consortium. We continue to look forward to furthering our mutual interests in providing a reliable source of high quality drinking water to Central Kentucky. Again, should we enter into formal discussions regarding the provision of water to the Consortium, any agreement resulting from the discussion remains subject to approval of the Board of Water Works. Please continue to utilize Mr. Jim Smith as your primary contact. He can be reached at (502) 569-3687. If you need additional information please call me at (502) 569-3680.

Sincerely,

John L. Huber President

### Updated Discussion Points: Provision of Finished Potable Water to the Bluegrass Water Consortium of Central Kentucky

### August 8, 2003

<u>Delivery Point</u>, <u>Water Quality and Demand Scenarios</u> – As indicated in our July 9, 2003 communication, the Louisville Water Company (LWC) envisions that the point of delivery for finished water will be located in the vicinity of Interstate 64 and Highway 53. LWC would own, operate, and maintain the water transmission main, pump station and storage facilities to the point of delivery. LWC is willing to make a capital commitment towards construction of these pipeline facilities based upon volume, demand factors, length of contract, and other factors negotiated between LWC and the Consortium (or its designee). In consideration of such a capital commitment, LWC recommends a 50-year contract with renewal options, compared to the 20 year term outlined in your letter of June 13, 2003.

LWC's potable, finished water supply could be delivered at a hydraulic grade of 900-950 msl, and working pressure of 40-60 psi (ground elevation 810). The water supply will meet all state and federal drinking water standards. The finished water hardness from both the Crescent Hill and B.E. Payne water treatment plants averaged 162 mg/l in 2002. In 2003, the Company adopted a goal to maintain finished water hardness below 150 mg/l. Through June 2003, the finished water hardness averaged 148 mg/l from both treatment plants. Monthly finished water hardness data is available for review upon request.

In order to meet the demand criteria identified in your letter of June 13, 2003, LWC outlines the following two scenarios for consideration:

Scenario 1 – Provide 5 mgd base rate of flow with maximum day design capacity of 25 mgd. This requires installation of 60-inch water main to Interstate - 64, a 36-inch water main along Interstate 64 to Highway 53, a booster pump station in Jefferson County at Interstate 265 and a 3 million gallon storage facility at Highway 53 in Shelby County. The estimated cost for this scenario is \$23 million, subject to adjustment based upon final design, right-of-way acquisition, and competitive bidding.

Scenario 2 – Provide 9 mgd base rate of flow with a maximum day design capacity of 45 mgd. This scenario requires installation of a 60-inch water main to Interstate 64, two parallel 36-inch water mains along Interstate 64 to Highway 53, a booster pump station in Jefferson County at Interstate 265 and a 5 million gallon storage facility at Highway 53 in Shelby County. To ensure reliable service to meet this demand, facility improvements such as pumping and clear well upgrades are also needed. We recommend parallel facilities to reduce the higher operating risk and allow future maintenance while maintaining operations to deliver the base rate of flow. Parallel facilities will also allow phased construction and capital investment approach. The estimated cost for this option is \$47 million, subject to adjustment based upon final design, right-of-way acquisition, and competitive bidding.

These two scenarios have been prepared from a preliminary engineering review of the project objectives outlined in your letter of June 13, 2003. We have not performed a detailed engineering or hydraulic analysis of these scenarios. The suggested scope of the project is intended to be a conservative approach to providing the two water demand scenarios identified. Further engineering design, hydraulic analysis, property/easement research, and review of construction procurement methods may yield opportunities for additional cost savings in the project. In addition, our estimates are based upon projects valued at \$5 million or less. A construction scope of this magnitude will likely yield additional economies of scale, further reducing capital costs.

<u>Water Rate Methodology</u> – In addition to the capital components previously discussed, the rate for volumes of consumption described in your letter would be based upon terms and conditions that need to be negotiated. Based upon LWC staff's current authorization from the Board of Water Works, any contracted consumption over 1 mgd may be negotiated, based upon certain criteria, including peak demand factors, contract duration, and other terms and conditions. LWC would calculate the rate for this kind of water consumption by taking into consideration four elements: operating expenses, depreciation expenses, return on plant investment, and customer costs. These rate elements are defined as follows:

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- A. Operating Expense Component determined for the billing period by dividing the Buyer's usage by the Seller's total sales and multiplying the quotient by Seller's Operating Expenses, less expenses common only to retail customer expenses and to customers generally. This is a variable cost component.
- B. Depreciation Expense Component determined for the billing period by dividing the Buyer's Request by the Seller's production capacity and multiplying the quotient by the Seller's Depreciation Expense, less depreciation on contributed capital and depreciation common only to retail customers and to customers generally. This is a fixed cost component based upon the requested reserved production capacity.
- C. Return on Plant Investment Component determined for the billing period by dividing the Buyer's Request by the Seller's production capacity and multiplying the quotient by Seller's Return on Plant Investment, excluding return on plant investment common only to retail customers and to customers generally. This is a fixed cost component based upon the requested reserved production capacity.
- D. Customer Cost Component determined for the billing period by the Service Charge, as it may change from time to time, currently contained in Section 6.02.1 of Seller's rate schedule. This is a fixed cost component based upon the number and size of meters installed at Buyer's request.

Based upon the above criteria, the Company contemplates a scenario for delivery of water based upon requested reserved capacity of two times the minimum average day and available capacity of up to five times the minimum average day. For the Consortium's planning purposes, those rate elements yield the following imputed water rate based upon current (2003) costs, with periodic adjustment for actual cost of service:

- Annual fixed cost for minimum average day of 5 mgd and requested reserved production capacity of 10 mgd and available capacity of up to 25 mgd is estimated at \$2,307,200.
- Annual fixed cost for minimum average day of 9 mgd and requested reserved production capacity of 18 mgd and available capacity of up to 45 mgd is estimated at \$4,103,300.
- Variable cost per 1000 gallons above minimum average day is estimated at \$0.54 up to requested reserved production capacity. Variable cost per 1000 gallons above requested reserved production capacity is estimated at \$1.35, our standard wholesale rate, up to available capacity.
- Imputed rate per 1000 gallons is \$1.28.
- Any consumption above requested reserved production capacity will be the new reserved production capacity for the next 36 months.

The reserved capacity is the production capacity set aside for the exclusive use of the Bluegrass Consortium. Available capacity is Louisville Water Company reserve production capacity available equally to all LWC customers. It is the Company's intention to provide available reserve capacity above maximum day requirements to meet the Consortium's future growth needs. This approach offers the greatest degree of flexibility to both the Consortium and LWC by allowing a phased-approach to address growth opportunities and needs, while providing low rates for minimum average daily quantities.

<u>Next Steps</u> – Please remember additional elements must be addressed before we can move forward, offer a formal proposal and enter into final negotiations. These include determination of the investment in the project by LWC, provisions for design services, construction timetables, operating parameters, as well as further delineation of water rate adjustments. We look forward to the opportunity for the detailed discussions which will allow us to further define these parameters. Mr. Jim Smith is our designated contact, and he can be reached at (502) 569-3687.

Bluegrass Water Supply Commission

Water, Our Future

699 PERIMETER DR. • LEXINGTON, KENTUCKY 40517-4120 PHONE: (859) 269-8021 • FAX: (859) 269-7917

Cynthiana®Frankfort®Georgetown®Lancaster®Lexington=Friette®Mt.Sterling®Nicholasville®Paris®Winchester

November 14, 2005

Mr. Jim Smith Louisville Water Company 550 South Third Street Louisville, Kentucky 40202

### **Re:** Request for Updated Proposal

Dear Mr. Smith:

The Bluegrass Water Supply Commission (BWSC) invites the Louisville Water Company (LWC) to update their proposal to furnish finished water. LWC previously provided proposals dated July 9, 2003 and August 8, 2003, while the Bluegrass Water Supply Consortium was conducting their Water System Regionalization Feasibility Study (O'Brien & Gere, 2004). Since that time several things have changed, including:

- creation of the Bluegrass Water Supply Commission in August 2004
- plans for additional storage on the Kentucky River, via increasing the height of Dam 9, Dam 10, or via a new dam, have not progressed
- implementation of Kentucky Division of Water's Water Credit Program has not progressed
- capacity requirements of BWSC have changed
- the Kentucky Infrastructure Authority is exploring options to interconnect major water supplies, and may support such projects

Recognizing that there may also have been changes that affect LWC, we invite you to submit a revised proposal, including these options:

- 1. Reserved capacity of 31 MGD, with minimum daily purchase of 6.2 MGD
- 2. Reserved capacity of about 15 to 20 MGD, at your preference, based on the limits of LWC's existing facilities, with minimum purchase of 20 % of that amount
- 3. Reserved capacity of 10 MGD, with minimum purchase of 2 MGD
- 4. Reserved capacity of 5 MGD, with available capacity of 10 MGD and minimum purchase of 2 MGD

THE BI URBRASS WATER SUPPLY COMMISSION WILL ENSURE ADEQUATE POTABLE WATER SUPPLY AND TREATMENT RELIABILITY UNDER ANY CONDITIONS TO UTILITY CURTOMERS AND CONTRACTICAL PARTNERS. HWSCC WILL MARKIZE UTILIZATION OF THE KENTUCKY RIVER AS A RAW WATER SOURCE, MAINTAIN RASSINABLE MATES, AND IN ENSURE CONFLIANCE WITH ALL WATER QUALITY AND CHER SEQUATIONS.

Based on your previous proposals, we understood your preference was to deliver water to Shelbyville, near the intersection of Interstate 64 and Kentucky Highway 53. Please specify whether that has changed. Other terms of our prior request are unchanged.

We request your reply within four weeks from the date of this letter. If you have any questions, please contact George Rest of O'Brien & Gere Engineers, at 301-731-1162, email <u>restgb@obg.com</u>.

Very truly yours,

Bluegrass Water Supply Commission

Thomas P. Calkins

Thomas Calkins Chairman

cc: Mr. Don Hassall, BWSC Mr. George Rest, O'Brien & Gere Mr. Bryan Lovan, O'Brien & Gere



### LOUISVILLE WATER COMPANY

550 SOUTH THIRD STREET . LOUISVILLE, KENTUCKY 40202 TEL 502-569-3600 FAX 502-569-0815

JOHN L.HUBER

December 15, 2005

Mr. Thomas Calkins Chairman Bluegrass Water Supply Commission 699 Perimeter Drive Lexington, KY 40517-4120

Re: Bluegrass Water Supply Commission

Dear Mr. Calkins:

Thank you for your November 14, 2005 letter on behalf of the Bluegrass Water Supply Commission (BWSC). Louisville Water Company (LWC) appreciates the opportunity to update our previous proposals to furnish finished water to the Commission for the residents of Central Kentucky.

As indicated in 2003, LWC continues to anticipate the point of delivery in the vicinity of I-64 and Highway 53. We have prepared our response to the four options outlined in your letter using similar engineering and water rate methodologies as we used before.

LWC submits the enclosed proposal to provide a reliable source of high quality drinking water to central Kentucky based upon the information contained herein and contingent upon an agreement, the terms and conditions of which would be negotiated by the parties. We request the opportunity to present our proposal to the Commission and discuss it further at your convenience. Any such final agreement is subject to approval by the LWC Board of Water Works. Mr. Jim Smith will continue to be our designated contact, and he can be reached at (502) 569-3687. Please feel free to call me if you need additional information.

Sincerely.

John L. Huber President

C: Mr. Don Hassall, BWSC Mr. George Rest, O'Brien & Gere Mr. Bryan Lovan, O'Brien & Gere

enclosure

### Supply of Finished Potable Water to the Bluegrass Water Supply Commission (BWSC)

### December 15, 2005

<u>Delivery Point, Water Quality and Demand Options:</u> The Louisville Water Company (LWC) desires the point of delivery for finished water to be located in the vicinity of Interstate 64 and Highway 53. LWC's potable, finished water supply could be delivered at a hydraulic grade of 900-950 msl, and working pressure of 40-60 psi (ground elevation 810). The water supply will meet all state and federal drinking water standards. LWC will design, build, own, and operate the water transmission main, pump station and storage facilities to the point of delivery near KY Highway 53.

LWC will contribute the required capital to fully fund construction of a 10 mgd capacity delivery system terminating at KY Highway 53 for all of the supply options specified below. These facilities will consist of a 24-inch water main along Interstate 64 from the Snyder Freeway (Interstate 265) to KY Highway 53, a booster pump station in Jefferson County at Interstate 265 and a 2 million gallon storage facility at Highway 53 in Shelby County. The BWSC will be responsible for any additional costs of upsizing these facilities to meet the required reserved capacities specified. In consideration of such a capital commitment, LWC requires, at a minimum, a 50-year contract with renewal options.

In order to meet the demand criteria identified in your letter of November 14, 2005, LWC outlines the following options for consideration:

<u>Option 1</u>: Provide 6.2 mgd base rate of flow with maximum day design capacity of 31 mgd, LWC recommends the installation of a 42-inch water main along Interstate 64 from the Snyder Freeway (I-265) to Highway 53, a booster pump station in Jefferson County at Interstate 265 and a 6 million gallon storage facility at Highway 53 in Shelby County. LWC will design, build, own, and operate these facilities to the point of delivery at KY Highway 53. Alternatively, parallel 30-inch transmission facilities are recommended to reduce the higher operating risk and allow future maintenance while maintaining operations to deliver the base rate of flow. To ensure reliable service to meet this demand, improvements in LWC transmission, clear well and finished water pumping facilities will be needed. Costs for these improvements are estimated to be \$10 million.

As noted above, the BWSC will be responsible for the costs of upsizing these facilities from the base 10 mgd option to deliver the 31 MGD reserved capacity requested to KY Highway 53 in addition to the \$10 million required to upgrade LWC plant and core transmission facilities.

<u>Option 2a</u>: Provide 4 mgd base rate of flow with a maximum day design capacity of 20 mgd. LWC recommends the installation of a 36-inch water main along Interstate 64 from the Snyder Freeway (Interstate 265) to KY Highway 53, a booster pump station in Jefferson County at Interstate 265 and a 4 million gallon storage facility at KY Highway 53 in Shelby County. LWC will design, build, own, and operate these facilities to the point of delivery at KY Highway 53. As noted above, the BWSC will be responsible for the costs of upsizing these facilities from the base 10 mgd option to deliver the requested 20 MGD reserved capacity.

<u>Option 2b</u>: Provide 3 mgd base rate of flow with a maximum day design capacity of 15 mgd. LWC recommends the installation of a 30-inch water main along Interstate 64 from the Snyder Freeway (Interstate 265) to KY Highway 53, a booster pump station in Jefferson County at Interstate 265 and a 3 million gallon storage facility at KY Highway 53 in Shelby County. LWC will design, build, own, and operate these facilities to the point of delivery at KY Highway 53. As noted above, the BWSC

will be responsible for the costs of upsizing these facilities from the base 10 mgd option to deliver the requested 15 MGD reserved capacity.

<u>Options 3 & 4</u>: Provide 2 mgd base rate of flow with a maximum day design capacity of 10 mgd. This option requires installation of a 24-inch water main along Interstate 64 from the Snyder Freeway (Interstate 265) to KY Highway 53, a booster pump station in Jefferson County at Interstate 265 and a 2 million gallon storage facility at Highway 53 in Shelby County. LWC will fully fund, design, build own, and operate these facilities to the point of delivery at KY Highway 53.

The above options have been prepared from a preliminary engineering review of the project objectives outlined in your letter of November 14, 2005. We have not performed a detailed engineering or hydraulic analysis of these scenarios. The suggested scope of the project is intended to be a conservative approach to providing the water demand options identified. Further engineering design, hydraulic analysis, property/easement research, and review of construction procurement methods may yield opportunities for additional cost savings in the project. A construction scope of this magnitude will likely yield additional economies of scale, further reducing capital costs.

<u>Water Rate Methodology</u>: In addition to the capital components previously discussed, the rate for volumes of consumption described in your letter will be included in the final agreement, the terms and conditions of which would be negotiated by the parties. Based upon LWC staff's current authorization from the Board of Water Works, any contracted consumption over 1 mgd may be negotiated, based upon certain criteria, including peak demand factors, contract duration, and other terms and conditions. LWC will calculate the rate for this kind of water consumption by taking into consideration four elements: operating expenses, depreciation expenses, return on plant investment, and customer costs.

For the Commission's planning purposes, those rate elements yield the following imputed water rate based upon our most recent 2006 cost of service study:

Option 1 - Reserved capacity of 31 mgd, with minimum daily purchase of 6.2 mgd:

- The rate per thousand gallons for minimum daily purchase up to 6.2 mgd is \$2.70.
- The rate per thousand gallons above 6.2 mgd, but not exceeding the reserved capacity of 31 mgd, is \$0.57.
- The rate per thousand gallons above the reserved capacity of 31 mgd is \$1.63.

Option 2a: Reserved capacity of 20 mgd, with minimum daily purchase of 4 mgd:

- The rate per thousand gallons for minimum daily purchase up to 4 mgd is \$2.70.
- The rate per thousand gallons above 4 mgd but not exceeding the reserved capacity of 20 mgd is \$0.57.
- The rate per thousand gallons above the reserved capacity of 20 mgd is \$1.63.

Option 2b: Reserved capacity of 15 mgd, with minimum daily purchase of 3 mgd:

- The rate per thousand gallons for minimum daily purchase up to 3 mgd is \$2.70.
- The rate per thousand gallons above 3 mgd, but not exceeding the reserved capacity of 15 mgd, is \$0.57.
- The rate per thousand gallons above the reserved capacity of 15 mgd is \$1.63.

Option 3: Reserved capacity of 10 mgd, with minimum daily purchase of 2 mgd:

- The rate per thousand gallons for minimum daily purchase up to 2 mgd is \$2.70.
- The rate per thousand gallons above 2 mgd but not exceeding the reserved capacity of 10 mgd is \$0.57.
- The rate per thousand gallons above the reserved capacity of 10 mgd is \$1.63.

Option 4: Reserved capacity of 5 mgd, available capacity of 10 mgd, with minimum daily purchase of 2 mgd:

- The rate per thousand gallons for minimum daily purchase up to 2 mgd is \$1.67.
- The rate per thousand gallons above 2 mgd but not exceeding the reserved capacity of 5 mgd is \$0.57.
- The rate per thousand gallons above the reserved capacity of 5 mgd is \$1.63.

For all options, consumption above the requested reserved production capacity will be the new reserved production capacity for the next 60 months. The reserved capacity is the production capacity set aside for the exclusive use of the Bluegrass Water Supply Commission. Available capacity is Louisville Water Company's production capacity in excess of max day demands available equally to all LWC customers. It is the Company's intention to always maintain, at a minimum, a 15% available capacity above maximum day requirements to meet Kentucky Division of Water standards and future growth needs. The current maximum day production demand for LWC was 205 mgd set this summer on June 25, 2005. As a result of this new demand peak, LWC will conduct a production capacity analysis in 2006 to validate our current production capacity above maximum day requirements. Any upgrades necessary to maintain a 15% available capacity above maximum day requirements. Any upgrades necessary will be integrated into LWC's five year capital improvement plan and executed as part of that plan.

<u>Timeline:</u> LWC believes construction of the required supply facilities for all of the options specified can be accomplished within three years of executing of a supply contract. The three year timeframe is based upon one year for facility design and right-of-way acquisition and two years for facility construction. Based on these estimates construction could be accomplished by the summer of 2009.

### Further Consideration of Additional Option Alternatives

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It is important to note that a lower rate per thousand gallons for the minimum daily purchase can be achieved by increasing the minimum daily purchase quantity or decreasing the amount of capacity reserved for each of the above options. Furthermore, Louisville Water Company would consider additional investment in these facilities based on a larger minimum daily purchase quantity.

| Option                 | Reserved<br>Capacity MGD | Minimum Dally<br>Purchase MGD | Ratio of Reserved<br>Capacity to Minimum<br>Daily Purchase | Rate per Thousand<br>Gallons for Minimum<br>Daily Purchase |
|------------------------|--------------------------|-------------------------------|--|--|
| Additional<br>Option A | 5.0 MGD                  | 2.5 MGD                       | 2.0  | \$1.46   |
| Additional<br>Option B | 5.0 MGD                  | 3.3 MGD                       | 1.5  | \$1.25   |
| Additional<br>Option C | 4.0 MGD                  | 2.0 MGD                       | 2.0  | \$1.46   |
| Additional<br>Option D | 3.0 MGD                  | 2.0 MGD                       | 1.5  | \$1.25   |

<u>Next Steps</u>: LWC staff would appreciate the opportunity to discuss this proposal with BWSC members at their earliest convenience. Future discussions will be needed to further define detailed engineering and construction parameters, among other things. We look forward to the opportunity to begin these discussions, which we believe will result in a mutually beneficial relationship. Any final agreement will need to be approved by the Louisville Water Company Board of Water Works and appropriate regulatory agencies. Mr. Jim Smith is our designated contact, and he can be reached at (502) 569-3687 or (502) 533-5110.



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Presentation to O'Brien & Gere Consulting Engineers for Water Supply to Bluegrass Water Supply Commission

October 4, 2006

# December 2005 Proposal to BWSC

- Four options were outlined in the proposal. All options discussed include:
- a delivery point at KY Highway 53 (Shelbyville) Ш
- pipeline design capacity
- pipeline reserve capacity
- minimum daily purchase
- peaking factor (ratio of maximum day to minimum daily purchase) 龖
  - LWC will fund 24-inch pipeline to KY Highway 53 for options 3 & 4
- BWSC funds upsizing for options 1 & 2

Summarized December 2005 Proposal

|                            | Ontion     | Ontion     | Ointion     | Option     | Option     |
|----------------------------|------------|------------|-------------|------------|------------|
|                            |            | 2A         | 28          |            | 4          |
| Cruena                     |            |            | 404:02      | 24 inch    | 24 inch    |
| Size main                  | 42 inch    | 30 INCI    | 30 1101     | 10111 1-7  |            |
| Decicin canacity           | 31 MGD     | 23 MGD     | 16 MGD      | 10 MGD     | 10 MGD     |
| Reserved canacity          | 31 MGD     | 20 MGD     | 15 MGD      | 10 MGD     | 5 MGD      |
| Minimum daily purchase     | 6.2 MGD    | 4 MGD      | 3 MGD       | 2 MGD      | 2 MGD      |
| Reserved ratio             | 5:1        | 5:1        | 5:1         | 5:1        | 2.5:1      |
|                            |            |            |             |            | ¢1 67 /    |
| Water rate for minimum     | \$2.70 /   | \$2.70 /   | \$2.707     | \$2.1U1    |            |
| daily purchase             | 1,000 gal. | 1,000 gal. | 1,000 gal.  | 1,000 gal. | 1,000 gal. |
|                            |            | \$0 E7 /   | \$0 57 /    | \$0.57 /   | \$0.57 /   |
| Water rate for consumption | 1 10.04    |            |             |            | 1 000 ral  |
| above minimum daily        | 1,000 gal. | 1,000 gal. | 1,000 ยูสเ. | 1,000 gai. | 1,000 gai. |
| purchase and below         |            |            | -           |            |            |
| reserved capacity          |            |            |             |            |            |
|                            | - 00 + 4   |            | ¢1 62 /     | \$1637     | \$1.63 /   |
| Water rate for consumption | \$1.63/    | 100.14     |             |            |            |
| ahove reserved capacity    | 1,000 gal. | 1,000 gal. | 1,000 gai.  | 1,000 gai. | 1,000 gal. |
|                            |            |            |             |            |            |

Option 1 - 31 MGD Reserved Capacity Comparison of Water Rates Reserved Ratio 5:1



### Louisville Water Company Water Rate Example for Minimum Daily Purchase of 2 MGD and Reserved Capacity of 10 MGD



### Bluegrass Water Supply Laiored Solution for

## Investment and Manage Operating Risk Tailored Solution to Maximize Value of

- Reliable supply
- Long-term partnership 50 years
- Lowest life cycle (capital and O&M) yields lowest rate
- Mutual benefits to all participants
- Collaborative regional approach
- Attractive for federal and state grants / loans

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**Pipeline Solution Attributes** 

- Timeliness 24 to 30 months to construct facilities
- Low capital, operating, and maintenance costs
- Long life asset 100 years vs. 30 to 50 years
- Independent source to supply Bluegrass region
- Scaleable for larger demand requirements
- Preserves Kentucky River as a long term supply solution
- Secures source to Ohio River without additional investment



### **Demand Scenarios**

| Facility     | Design Capacity * |
|--------------|-------------------|
| 20 inch main | 7 MGD             |
| 24 inch main | 10 MGD            |
| 30 inch main | 15 MGD            |
| 36 inch main | 20 MGD            |

\* Design capacity at approximately 5 feet per second velocity.

2005 Construction Cost Estimates

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| Section                   | Proposed<br>Route          | 20 in.<br>main<br>(7 MGD) | 24 in.*<br>main<br>(10 MGD) | 30 in.*<br>main<br>(15 MGD) | 36 in.*<br>main<br>(20 MGD) |
|---------------------------|----------------------------|---------------------------|-----------------------------|-----------------------------|-----------------------------|
| Section I<br>(86,200 ft.) | US Hwy 60 to<br>Hwy 53     | \$12.8m                   | \$18.5m                     | \$22.7m                     | \$27.2m                     |
| Section 2<br>(77,400 ft.) | Hwy 53 to<br>Ky 1665       | \$9.3m                    | \$12.4m                     | \$14.3m                     | \$17.4m                     |
| Section 3<br>(51,600 ft.) | Ky 1665 to<br>Duckers Road | \$6.2m                    | \$8.2m                      | \$9.5m                      | \$11.6m                     |
| Total Cost                |                            | \$28.3m                   | \$39.1m                     | \$46.5m                     | \$56.2m                     |

\* Construction cost estimates from December 2005.

## LWC Contribution

- LWC will fund Section 1 (to Hwy 53)
- 20 inch 1 MGD min. purchase \$12.8m construction estimate
- 24 inch 2 MGD min. purchase \$18.5m construction estimate B
- 30 inch 3 MGD min. purchase \$22.7m construction estimate Ð
- 36 inch 4 MGD min. purchase \$27.2m construction estimate Ð
- LWC can provide financing for Section 2 (to Ky 1665) and Section 3 (to Duckers Road)

## LWC System Capacity

- Max Day 205 MGD (June 25, 2005)
- 240 MGD available
- System capacity ratio 205 / 240 = 85%
- LWC proposes to assure system capacity greater than 15% max day for benefit of all customers (retail and wholesale)
- A reserve capacity for single customer advances expansion requirements for existing customers

**Proposed Scenario** 

- Max Day Ratio of 2:1 with standard wholesale rate (\$1.63)
- Minimum take or pay contract based upon following demands:

| Transmission<br>Size | Purchase<br>Range | Max Day<br>Range (2:1) | Rate   |
|----------------------|-------------------|------------------------|--------|
| 20 inch              | 1 - 3.5 MGD       | 2 – 7 MGD              | \$1.63 |
| 24 inch              | 2 - 5 MGD         | 4 - 10 MGD             | \$1.63 |
| 30 inch              | 3 - 7.5 MGD       | 6 - 15 MGD             | \$1.63 |
| 36 inch              | 5 - 10 MGD        | 10 - 20 MGD            | \$1.63 |



Standard Wholesale Pricing

### <u>Advantages</u>

- Simplified rate methodology
- Easy to understand and communicate
- Allows transition to reserve or demand based rates
- Approved by KY PSC

### **Caveats**

- Monthly demand exceeding max day demand factors
- Establishes new minimum daily purchase requirement or a water demand premium ٩
  - Limits total consumption to design capacity of facility Ē

# Advantages of Tailored Solution

- Variety of rate options available
- Several capital and financing scenarios available
- Timeliness to construct (24 30 months)
- Project attractive for federal and state grants / loans
- Independent Ohio River supply from Kentucky River source
- Kentucky River remains long term option