KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2012-00096
ATTORNEY GENERAL STAFF'S FIRST REQUEST FOR INFORMATION

Witness: Lance Williams

1. Reference: Application of Kentucky-American Water Company (Application). Please explain:
   A. Whether the proposed 16-inch main would allow for expansion of Kentucky-American Water Company (KAW) into markets outside of those already serviced by its Northern Division.
   B. Whether KAW plans to take advantage of expansion opportunities available as a result of the construction 16-inch main servicing Monterey and Owenton. Please provide any pertinent text from KAW's strategic planning documents.
   C. Which utilities currently serve those areas and whether KAW has contacted any of those utilities to discuss acquisition, contract services, or other type of administrative, management or operational arrangement?

Response:

A) The improvements were designed to provide service to existing customers and provide for growth within the existing service area of the Northern Division.
B) At this point KAW has no specific plans for further expansion opportunities in the Northern Division.
C) Suppliers to sections of the Northern Division include Gallatin County Water District, Carroll County Water District #1, and Georgetown Municipal Water and Sewer Service. KAW has not contacted current suppliers to discuss acquisition, contract services, or other types of administrative, management or operational arrangement as a result of planning for the connection from KRS II to the Northern Division system. Unrelated discussions have occurred related to sewer billing, water usage data and sewer shut-off services.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2012-00096
COMMISSION STAFF'S FIRST REQUEST FOR INFORMATION

Witness: Lance Williams

2. Provide all studies and reports that Kentucky-American prepared or commissioned prior to January 1, 2006 that review or discuss the operation of the Owenton Water Treatment Plant and any repairs or improvements to that plant.

Response:

See attached. A portion of the attached report is redacted and has been provided under seal and is the subject of a petition for confidential protection.

Kentucky-American Water Company

Purchase of the Water and Sewer Assets of Owenton KY

September 9, 2003

Kentucky-American Water Company

Contents

I. Recommended Action

Kentucky-American Water Company ("KAWC") management recommends and requests approval to purchase the City of Owenton's water and sewer assets for $1,852,628 and $998,850, respectively subject to the following condition with such approval also being contingent upon the terms and conditions in the Agreement, including, but not limited to, final approval by the City, receipt of a final unappealable order of approval from the Kentucky Public Service Commission, all other approvals of the appropriate regulatory authorities, and satisfactory results of the Company's investigations of the financial, regulatory, management and physical condition of the System to be purchased.

The PSC must approve a use fee in lieu of property taxes (IDB concept) adequate to allow Owenton to borrow $300,000 to fund capital improvements of the water system. Pending that approval, Owenton must set aside $300,000 of the proceeds to be used to fund capital projects if the PSC does not approve the use fee or if the use fee approved is not adequate to fund $300,000 in capital projects.

Also, the model is based on filing for rate relief for both systems coincident with the filing of the petition for approval of the purchase. Rate increases in the model are included using the statutory 7-month suspension period. The rate year for the first rate increase begins August 1, 2004. The initial rate increase included for the water system is 7.38% and for the sewer system, 8.78%.

A second rate increase for the water model, to coincide with rehabilitation of the water treatment plant, is included in the model with a rate year beginning October 1, 2006. This increase is 13.91%.

II. Transaction Overview

1. Kentucky-American has been working with the City of Owenton since the late 1990's to develop a mutually acceptable deal. By combining these systems with our current Northern Division, the opportunity for synergies exists. Two prior proposals have been made, the first in November 1999. Since we began discussions with Owenton, the city has been firm on these conditions for sale:

- **Protect all current employees.**
- **Maintain an office in Owenton for walk-in bill payment and customer service.**
- **Proceeds of at least $1 million to the city after the sale is complete.**

2. There is a strong indication of growth in Owen and surrounding counties:

- **Economic impact of the Kentucky Speedway and associated improvement of roads and bridges.**
- **Natural gas will be available in Owenton in 1 – 2 years.**
- **Strong support from Owen County elected officials including involvement in public private partnerships and against condemnation.**
- **Potential for regional airport in Owen or a surrounding county.**
- **Possible relocation of Kentucky Kingdom Amusement Park to this area.**

3. Owenton finished water is the main source of supply for the 2,000 customers in the Company's Northern Division. Acquisition of the Owenton system will result in the greater potential to eliminate the water quality problems that have plagued this system, and as a result, our customers, in the past.

4. Purchase of this water system will give KAWC access to a new and reliable source of water – Pool # 2 on the Kentucky River.

III. City of Owenton Overview

Owenton, Kentucky is the county seat for Owen County, which is in north central Kentucky, approximately 30 miles north of Frankfort, and 50 miles southwest of Cincinnati, Ohio. The population of Owenton, according to the 2000 census was 1,387. The population of Owen County, also according to the 2000 census was 10,547. The area is mostly rural farmland, but is highly developable with the advent of water served by KAWC's Northern Division (formerly Tri-Village Water District).

The City of Owenton has been in existence for approximately 180 years and the water system was started after the First World War. Over the years, it expanded to most of the streets in town and later some countywide expansion was made, but the majority of the expansion into Owen County was a result of the creation of the Tri-Village Water District.

Water System – The Owenton water system serves approximately 1,100 retail customers and one wholesale customer. The one wholesale customer, KAWC's Northern Division, uses about 63% of the total water sold by the City of Owenton.

Owenton's and KAWC's Northern Division water needs are served by an intake plant which pulls water from Severn Creek and pumps it to a manmade reservoir adjacent to the filtration plant. An important part of this transaction is the construction of a new raw water intake on the Kentucky River at Pool #2 (at a location approximately 1,000 feet from the current intake) to help meet new water quality regulations. From the reservoir, the water is treated and placed into the system by pumping it into storage tanks and further by gravity flow to customers. There are approximately 22 miles of distribution main inside the city limits of Owenton and approximately 20 miles of main in the county for transmission and distribution with 7 miles of that being the approximate distance from the intake on the banks of the Severn Creek to the main water filtration plant.

When the new intake is built, the 12" raw water line from the Severn Creek intake will be extended to the new intake and after connection will by-pass the reservoir and go straight to the filtration plant. The reservoir will be maintained as a back-up supply in cases of emergency.

One lacking factor in the filtration plant is reliance on a single claricone for treatment. While this has not created significant problems in the past, reliance on this single claricone is a potential source of problems. KAWC's proposal includes funds to study and make improvements in the filtration plant to improve efficiency and to provide necessary redundancy.

Sewer System – Owenton's sewer system serves approximately 600 customers. The first sewer collection started in the 1950's and continually grew as the collection system was expanded through the city. In 1988 a major sewer facility was built on land owned by the city – a state of the art concrete, steel, brick and masonry facility with a very large aeration pond/lagoon, which proves to be highly efficient and takes very little effort to maintain. The potential for an increased sewer customer base exists because there is considerably more capacity in the plant than is presently being used. However, as Owen County is a rural community there is currently a lot of distance between dwelling units. Expansion of the sewer system, at least initially, will have to be made selectively due to the high cost of sewer lines and lift stations for a relatively small population base.

IV. Opportunities and Vulnerabilities Assessment

Opportunities

- **There is a strong potential for growth in Owen County due to development brought about by the Kentucky Speedway, the advent of natural gas service to Owenton, the potential for a regional airport and the strong support that KAWC has from elected officials in Owen County.**

- **The acquisition of the Owenton Water System will give KAWC an additional and reliable source of supply in pool #2 of the Kentucky River.**

- **This project is valuable strategically in that it sends a "business as usual" message as KAWC expands its service territory.**

- **Using creative partnerships, this acquisition would allow KAWC to expand its presence in the sewer business in Kentucky.**

- **This acquisition would allow KAWC to be in control of its own destiny for water quality for its Northern Division customers.**

- **The County Judge has demonstrated his willingness to seek grant funds for partnership projects and we expect that will continue.**

Vulnerabilities

- **Significant rate increases needed to cover the current cost of service and to make needed capital improvements.**

- **While we feel that we have the necessary votes for a sale of the systems to KAWC, in the event that we do make a proposal to the city, the potential exists that the city could reject our proposal.**

V. Financial Analysis/5 Year Forecast

KENTUCKY-AMERICAN WATER COMPANY
OWENTON WATER SYSTEM PURCHASE
SUMMARY KEY PERFORMANCE INDICATORS

		Forecast Year 1	Forecast Year 2	Forecast Year 3	Forecast Year 4	Forecast Year 5
PROFIT & LOSS:						
	Revenue (Turnover)	$783,112	$824,960	$862,628	$958,957	$967,720
	EBITDA	$293,879	$323,969	$378,169	$463,738	$462,208
	Operating Result	$225,323	$240,103	$292,828	$360,678	$359,149
	Profit before Tax	$218,356	$161,222	$216,367	$246,570	$247,936
	Distributable profit	$125,440	$92,504	$133,846	$142,651	$143,484
	EBITDA Margin	37.53%	39.27%	43.84%	48.36%	47.76%
	Operating Result Margin	28.77%	29.10%	33.95%	37.61%	37.11%
	ROCE	10.52%	10.85%	11.09%	12.10%	12.21%
	Value Contribution	$491	$7,739	$15,539	$47,615	$50,372
BALANCE SHEET & CASHFLOW:						
	Net Operating Assets	$3,454,850	$3,574,449	$4,282,861	$4,223,848	$4,145,135
	Net Debt	$1,280,973	$1,379,124	$1,831,188	$1,791,300	$1,739,287
	Operating Cash Flow	$176,695	$179,215	$202,280	$253,468	$254,300
	Equity Investment	$885,342	$935,568	$1,220,406	$1,229,478	$1,230,674
	Return on Equity	14.17%	9.89%	10.97%	11.60%	11.66%
OTHER:	Cost to Acquire	$1,952,628				
	Customers Acquired	1,086				
	Capex	$317,118	$254,400	$844,688	$94,982	$75,282
	Depreciation	$68,556	$83,866	$85,341	$103,060	$103,060
	Amortization Goodwill	$7,757	$7,757	$7,757	$7,757	$7,757
	OPEX (Excluding Depr)	$489,233	$500,991	$484,460	$495,220	$505,512
	OPEX as % Sales	62.47%	60.73%	56.16%	51.64%	52.24%
	Operating Result Per employee	$34,665	$36,939	$53,241	$65,578	$65,300
	Headcount all employees	6.5	6.5	5.5	5.5	5.5

MULTIPLES

TEV Revenues	2.9	Cost to acquire/Owenton revenues at 6/30/02
TEV EBIT	37.6	Cost to acquire/Owenton EBIT at 6/30/02
TEV EBITDA	12.9	Cost to acquire/Owneton EBITDA at 6/30/02
NET PP&E	0.64	Cost to acquire/Owenton Net PP&E at 6/30/02
Customers	$1,798	Cost to acquire/Owenton Customers at 11/30/02

ACQUISITION PROJECT VALUE CONTRIBTUTION: OWENTON WATER SYSTEM PURCHASE					
	Forecast Year 1 (04)	Forecast Year 2 (05)	Forecast Year 3 (06)	Forecast Year 4 (07)	Forecast Year 5 (08)
Net Operating Result:					
Revenues	$783,112	$824,960	$862,628	$958,957	$967,720
Less:					
O & M Expense	$469,180	$480,114	$459,230	$470,158	$480,863
Depreciation	$68,556	$83,866	$85,341	$103,060	$103,060
Amortization					
General Taxes	$1,139	$1,199	$1,254	$1,394	$1,407
Property Taxes	$18,914	$19,678	$23,975	$23,668	$23,242
Net Operating Result	$225,323	$240,103	$292,828	$360,678	$359,149
Accumulated AFUDC	$25,058	$29,970	$54,634	$54,634	$54,634
Invested Capital:					
Total Capital (Adjusted for UPAA & AFUDC)	$2,141,257	$2,284,723	$2,996,960	$2,966,144	$2,915,327
Less:					
Cash	($0)	($0)	($0)	$0	($0)
Invested Capital	$2,141,257	$2,284,723	$2,996,960	$2,966,144	$2,915,327
Average Invested Capital	$2,141,257	$ 2,212,990	$ 2,640,841	$ 2,981,552	$ 2,940,735
Return on Invested Capital	10.52%	10.85%	11.09%	12.10%	12.21%
Hurdle Rate	10.50%	10.50%	10.50%	10.50%	10.50%
Operating Result to Meet Hurdle	$ 224,832	$ 232,364	$ 277,288	$ 313,063	$ 308,777
Value Contribution	$ 491	$ 7,739	$ 15,539	$ 47,615	$ 50,372

KENTUCKY-AMERICAN WATER COMPANY

Valuation of:

OWENTON WATER SYSTEM PURCHASE

Discounted Cash Flow Analysis - EBITDA Multiple Method

(Dollars in thousands)

Projections tie to accompany financial statements to be included in final packages yo prepare.

Calculation of Free Cash Flow

	Actual	Projected	Projected	Projected	Projected	Projected
	2003	2004	2005	2006	2007	2008
EBITDA	$0	$294	$324	$378	$464	$462
Less: Depreciation & Amortization	0	(76)	(92)	(93)	(111)	(111)
EBIT	0	218	232	285	353	351
Taxes on EBIT [1] at 39%	0	(85)	(91)	(111)	(138)	(137)
Tax-effected EBIT	0	133	142	174	215	214
Plus: Depreciation & Amortization	0	76	92	93	111	111
Less: Capital Expenditures	0	(317)	(254)	(845)	(95)	(75)
Plus: Change in Cust. Advances & CIAC	0	27	14	15	15	15
+/- Change in Non-Cash Working Cap.	0	0	0	0	0	0
Free Cash Flow	$0	($81)	($7)	($563)	$246	$265

Notes:
(1) Taxes on EBIT calculated at composite rate for federal and state taxes.

Discount Rate
WACC **6.37%** State Specific Economic Profit hurdle rate provided by Corporate Finance Dept.

Calculation of Terminal Value

TEV / EBITDA Factor		9.25	Average TEV / EBITDA multiple for publicly traded water utilities
EBITDA of 0	x	$462	Projected 2008 EBITDA
TEV:		$4,275	Projected 2008 Enterprise Value

Calculation of Discounted Cash Flow Valuation

	A +	B			=	C		
	Discounted Cash	PV of Terminal Value as a						
Discount	Flows	Multiple of 2008 EBITDA				Enterprise Value		
Rate	(2004-2008)	9.00	9.25	9.50		9.00	9.25	9.50
6.12%	($162)	$3,091	$3,177	$3,263		$2,929	$3,015	$3,100
6.37%	**(163)**	3,055	**3,140**	3,225		2,892	**2,977**	3,062
6.62%	(163)	3,019	3,103	3,187		2,856	2,940	3,023

	- D =	E		
Discount	Net Debt at	Total Equity Value		
Rate	**12/31/2003**	9.00	9.25	9.50
6.12%	$0	$2,929	$3,015	$3,100
6.37%	**0**	2,892	**2,977**	3,062
6.62%	0	2,856	2,940	3,023

Terms
Net Debt = Debt (long term, current, and notes payable or bank debt) + preferred stock - cash
Equity Value = Value of Common Stock
Enterprise Value = Equity Value + Net Debt

Additional Comments / Assumptions:

$0	Pre-Tax Operating Synergies reflected in first year of projections ($ thousands)
$1,952,628	Proposed Purchase Price ($ thousands)
	Anticipated Closing Date
	Other: (Please provide detail)

KENTUCKY-AMERICAN WATER COMPANY
OWENTON WATER SYSTEM PURCHASE

	Forecast Year 1 (04)	Forecast Year 2 (05)	Forecast Year 3 (06)	Forecast Year 4 (07)	Forecast Year 5 (08)
VALUATION:					
Revenues:					
Revenues	$783,112	$824,960	$862,628	$958,957	$967,720
AFUDC	$25,058	$4,912	$24,664	$0	$0
Total Revenues/Income	$808,169	$829,872	$887,293	$958,957	$967,720
Total (less AFUDC)	$783,112	$824,960	$862,628	$958,957	$967,720
YE ROE	14.17%	9.89%	10.97%	11.60%	11.66%
Total O&M Expenses	$469,180	$480,114	$459,230	$470,158	$480,863
Depreciation	$68,556	$83,866	$85,341	$103,060	$103,060
Amort Acq Adjustment	$7,757	$7,757	$7,757	$7,757	$7,757
General Taxes	$1,139	$1,199	$1,254	$1,394	$1,407
Property Taxes	$18,914	$19,678	$23,975	$23,668	$23,242
Total Operating Exp Before Taxes	$565,546	$592,614	$577,558	$606,036	$616,328
EBIT	$217,566	$232,346	$285,071	$352,921	$351,392
Depreciation/Amortization	$76,313	$91,623	$93,098	$110,817	$110,817
EBITDA	$293,879	$323,969	$378,169	$463,738	$462,208

Weighted Cost of Capital	Ratio	Cost Rate	Pre-Tax Rate	Weighted Cost
Acq. New Long-Term Debt	60.00%	6.30%	6.30%	3.78%
Acq. New Common Equity	40.00%	10.25%	16.80%	6.72%
Total Acq. Capitalization	100.00%			10.50%

ACQUISITION FINANCING: OWENTON WATER SYSTEM PURCHASE			Forecast	Forecast	Forecast	Forecast	Forecast
		Rate	Year 1 (04)	Year 2 (05)	Year 3 (06)	Year 4 (07)	Year 5 (08)
Purchase Price	$1,852,628		$1,852,628				
Estimated Cost to Acquire - Legal	$100,000		$100,000				
CAPX to Acquire (New Customers * CAPX Rate)			$0	$0	$0	$0	$0
CAPX to Acquire (Scheduled Investment)	$290,000		$317,118	$254,400	$844,688	$94,982	$75,282
LESS AFUDC			$25,058	$4,912	$24,664	$0	$0
Total Cap Required	$2,242,628		$2,244,688	$249,488	$820,024	$94,982	$75,282
Debt Assumed	$0	0.00%	$0	$0	$0	$0	$0
Prior Yr. Cash			$109,734	$124,237	$116,583	$161,462	$161,970
Total Cash Required	$2,242,628		$2,134,954	$125,252	$703,441	($66,479)	($86,688)
		2.50%					
New L-T Debt	$1,345,577	6.30%	$1,280,973	$98,151	$452,064	($39,888)	($52,013)
New Common Equity	$897,051		$853,981	$27,101	$251,377	($26,591)	($34,675)
	$2,242,628		$2,134,954	$125,252	$703,441	($66,479)	($86,688)
Planned YE CE%			40.00%	40.00%	40.00%	40.00%	40.00%
Total Interest Expense			$32,024	$83,793	$101,125	$114,108	$111,213
YE CE to Total Capital			40.87%	40.42%	39.99%	40.70%	41.44%
Return on YE Common Equity			14.17%	9.89%	10.97%	11.60%	11.66%

ACQUISITION BALANCE SHEET: OWENTON WATER SYSTEM PURCHASE							
	@Pur Price	@Acq. Per Books	Forecast Year 1 (04)	Forecast Year 2 (05)	Forecast Year 3 (06)	Forecast Year 4 (07)	Forecast Year 5 (08)
ASSETS:							
Utility Plant	**$4,263,439**	$4,263,439	$4,263,439	$4,580,557	$4,834,957	$5,679,646	$5,774,628
Additions (cost to acq is initial)		$0	$317,118	$254,400	$844,688	$94,982	$75,282
Retirements (estimate)			$0	$0	$0	$0	$0
Accum depreciation (adjusted)	**($1,316,490)**	($1,316,490)	($1,428,224)	($1,555,268)	($1,683,788)	($1,830,026)	($1,976,264)
Net Utility Plant	$2,946,949	$2,946,949	$3,152,333	$3,279,689	$3,995,858	$3,944,602	$3,873,645
Cash			($0)	($0)	($0)	$0	($0)
Acq Adjustment in Price	$310,275	$310,275	$302,518	$294,761	$287,004	$279,247	$271,490
Acq. Contributions (adjusted)	**$0**	$0	$0	$0	$0	$0	$0
Acq. Advances	**$0**	$0	$0	$0	$0	$0	$0
Current Assets	**$0**	$0	$0	$0	$0	$0	$0
CWIP			$0	$0	$0	$0	$0
Total Assets	$3,257,224	$3,257,224	$3,454,850	$3,574,449	$4,282,861	$4,223,848	$4,145,135
LIABILITIES & EQUITY:							
Current Liabilities	**$0**	$0	$0	$0	$0	$0	$0
Long Term Debt							
Assumed	$0	$0	$0	$0	$0	$0	$0
Issued	$1,171,577	$1,171,577	$1,280,973	$1,379,124	$1,831,188	$1,791,300	$1,739,287
Common Equity	$781,051	$781,051	$885,342	$935,568	$1,220,406	$1,229,478	$1,230,674
Total Cap	$1,952,628	$1,952,628	$2,166,315	$2,314,692	$3,051,594	$3,020,778	$2,969,961
Net Working Capital	$0	$0	$0	$0	$0	$0	$0
Advances	$0	$0	$0	$0	$0	$0	$0
Gross CIAC	**$1,772,487**	$1,772,487	$1,799,605	$1,814,005	$1,828,694	$1,843,676	$1,858,958
Accum Amortization CIAC	**($467,891)**	($467,891)	($511,070)	($554,248)	($597,427)	($640,605)	($683,784)
Total Cap & Liabilities	$3,257,224	$3,257,224	$3,454,850	$3,574,449	$4,282,861	$4,223,848	$4,145,135
			$0	$0	$0	$0	$0

ACQUISITION CAPITAL STRUCTURE: OWENTON WATER SYSTEM PURCHASE					
	Forecast Year 1 (04)	Forecast Year 2 (05)	Forecast Year 3 (06)	Forecast Year 4 (07)	Forecast Year 5 (08)
Debt	$1,280,973	$1,379,124	$1,831,188	$1,791,300	$1,739,287
% of Total Cap	59.13%	59.58%	60.01%	59.30%	58.56%
CE	$885,342	$935,568	$1,220,406	$1,229,478	$1,230,674
% of Total Cap	40.87%	40.42%	39.99%	40.70%	41.44%
Total Cap	$2,166,315	$2,314,692	$3,051,594	$3,020,778	$2,969,961
CE EOY% TO TOT CAP	40.87%	40.42%	39.99%	40.70%	41.44%

ACQUISITION INCOME STATEMENT: OWENTON WATER SYSTEM PURCHASE					
	Forecast Year 1 (04)	Forecast Year 2 (05)	Forecast Year 3 (06)	Forecast Year 4 (07)	Forecast Year 5 (08)
Total Revenue/Income	$808,169	$829,872	$887,293	$958,957	$967,720
O&M, Depr, Taxes Other	$557,789	$584,857	$569,801	$598,279	$608,571
Pre-Tax UOI	$250,381	$245,015	$317,492	$360,678	$359,149
Interest Expense	$32,024	$83,793	$101,125	$114,108	$111,213
Pre-Tax Income	$218,356	$161,222	$216,367	$246,570	$247,936
Income Tax Rate	39.00%	39.00%	39.00%	39.00%	39.00%
Income Taxes Net of AFUDC	$85,159	$60,961	$74,764	$96,162	$96,695
Income After Tax	$133,197	$100,261	$141,603	$150,408	$151,241
Acq. Adj. Amortization	$7,757	$7,757	$7,757	$7,757	$7,757
Net to CE	$125,440	$92,504	$133,846	$142,651	$143,484
Pre-tax Interest Coverage	7.82	2.92	3.14	3.16	3.23
ROE YE Equity	14.17%	9.89%	10.97%	11.60%	11.66%
Beginning CE		$885,342	$935,568	$1,220,406	$1,229,478
New Equity	$853,981	$27,101	$251,377	($26,591)	($34,675)
Net Income	$125,440	$92,504	$133,846	$142,651	$143,484
Dividends	$94,080	$69,378	$100,385	$106,988	$107,613
RE	$31,360	$23,126	$33,461	$35,663	$35,871
CE 12/31	$885,342	$935,568	$1,220,406	$1,229,478	$1,230,674
Avg. ROE Earned	11.66%				

ACQUISITION STATEMENT OF CASH FLOWS: OWENTON WATER SYSTEM PURCHASE					
	Forecast Year 1 (04)	Forecast Year 2 (05)	Forecast Year 3 (06)	Forecast Year 4 (07)	Forecast Year 5 (08)
Cash Flows from Operating Activities:					
Net to CE	$125,440	$92,504	$133,846	$142,651	$143,484
Adjust:					
AFUDC	$25,058	$4,912	$24,664	$0	$0
Depreciation	$68,556	$83,866	$85,341	$103,060	$103,060
Amortization	$7,757	$7,757	$7,757	$7,757	$7,757
Net Cash from Operations	$176,695	$179,215	$202,280	$253,468	$254,300
Cash Flows from Investing Activities:					
Acquisition/Cost to Acquire	($1,952,628)				
Construction Expenditures	($292,060)	($249,488)	($820,024)	($94,982)	($75,282)
Net Cash from Investing	($2,244,688)	($249,488)	($820,024)	($94,982)	($75,282)
Cash Flows from Financing Activities:					
Add: Tap Fees	$27,118	$14,400	$14,688	$14,982	$15,282
Long Term Debt	$1,280,973	$98,151	$452,064	($39,888)	($52,013)
Common Stock	$853,981	$27,101	$251,377	($26,591)	($34,675)
Deduct:					
Dividends	($94,080)	($69,378)	($100,385)	($106,988)	($107,613)
Net Cash from Financing	$2,067,992	$70,274	$617,744	($158,485)	($179,019)
Cash for Year	($0)	$0	$0	$0	($0)
Cash 1/1	$0	($0)	($0)	($0)	$0
Cash 12/31	($0)	($0)	($0)	$0	($0)

KENTUCKY-AMERICAN WATER COMPANY
OWENTON WATER SYSTEM PURCHASE
HISTORICAL DATA

Balance Sheet

	6/30/2000	6/30/2001	6/30/2002
Assets			
Cash	$ 265,159	$ 288,015	$ 290,325
Investments	$ 189,812	$ 199,587	$ 206,993
AR, net	$ 74,104	$ 81,804	$ 86,295
Other Rec.	$ 20,506	$ 27,801	$ 37,801
Interest Rec.	$ 541	$ 593	$ 314
Inventory	$ 7,842	$ 8,726	$ 8,220
Prepaids	$ 4,036	$ 4,213	$ 408
Total Current Assets	$ 562,000	$ 610,739	$ 630,356
Restricted Assets:	$ 210,448	$ 240,255	$ 261,298
Fixed Assets:			
Property, plant and equipment	$ 4,204,808	$ 4,209,107	$ 4,263,439
Less accumulated depreciation	$ (1,015,486)	$ (1,116,033)	$ (1,215,160)
Total Net Fixed Assets	$ 3,189,322	$ 3,093,074	$ 3,048,279
Total Assets	$ 3,961,770	$ 3,944,068	$ 3,939,933
Liabilities and Fund Equity			
Current Liabilities			
Accounts Payable	$ 18,771	$ 18,801	$ 26,210
Accrued liabilities	$ 39,031	$ 20,359	$ 22,963
Current maturities Notes Payable	$ 17,000	$ 19,000	$ 19,000
Accrued Interest	$ 16,235	$ 16,039	$ 15,819
Customer Deposits	$ 66,355	$ 55,719	$ 57,992
Total Current Liabilities	$ 157,392	$ 129,918	$ 141,984
Long-Term Liabilities			
Bonds Payable	$ 1,398,000	$ 1,379,000	$ 1,360,000
Notes Payable			
Total Notes and Bonds	$ 1,398,000	$ 1,379,000	$ 1,360,000
Total Liabilities	$ 1,555,392	$ 1,508,918	$ 1,501,984
Fund Equity:			
Contributed Capital	$ 1,772,487	$ 1,772,487	$ 1,772,487
Retained Earnings:			
Reserved	$ 110,858	$ 149,496	$ 168,487
Unreserved	$ 523,033	$ 513,167	$ 496,975
Total Fund Equity	$ 2,406,378	$ 2,435,150	$ 2,437,949
Total Liabilities and Fund Equity	$ 3,961,770	$ 3,944,068	$ 3,939,933
	0	0	0

KENTUCKY-AMERICAN WATER COMPANY
OWENTON WATER SYSTEM PURCHASE
HISTORICAL DATA

Income Statements

	6/30/2000	6/30/2001	6/30/2002
Revenues			
Water Sales	$ 612,082	$ 636,770	$ 659,208
Installations/reconnects	$ 17,355	$ 7,150	$ 8,800
Late Charges			
Other Income	$ 416	$ 1,351	$ 647
Total Operating Revenues	**$ 629,853**	**$ 645,271**	**$ 668,655**
Operating Expenses			
Fuel and Power	$ 63,231	$ 54,806	$ 59,095
Chemicals	$ 61,798	$ 75,361	$ 65,601
Supplies and Maint	$ 123,287	$ 77,559	$ 68,492
Payroll	$ 167,403	$ 168,430	$ 198,945
Payroll taxes	$ 14,150	$ 13,169	$ 15,428
Truck Expense	$ 9,450	$ 10,099	$ 11,852
Employee Benefits	$ 8,099	$ 8,313	$ 9,786
New Installations			
Total Operating Expenses	$ 447,418	$ 407,737	$ 429,199
Administrative & General			
Insurance	$ 27,555	$ 31,488	$ 37,124
Office Supplies & Expense	$ 9,369	$ 7,016	$ 7,214
Professional Fees	$ 14,055	$ 9,634	$ 24,350
Telephone	$ 1,758	$ 1,693	$ 2,519
Uncollectables	$ 545	$ 593	$ 5,089
Total Admin & General	$ 53,282	$ 50,424	$ 76,296
Depreciation	$ 101,989	$ 100,548	$ 99,127
KRA Fees	$ 5,420	$ 5,619	$ 5,704
All Other	$ 6,599	$ 6,390	$ 6,350
Total Operating Expenses	$ 614,708	$ 570,718	$ 616,676
Operating Income	**$ 15,145**	**$ 74,553**	**$ 51,979**
Non-Operating Items			
Interest Income	$ 16,756	$ 18,570	$ 14,315
Gain on Disposal of Assets	$ 2,000	$ -	
Interest Expense	$ (65,136)	$ (64,351)	$ (63,495)
Total Non-Operating Items	$ (46,380)	$ (45,781)	$ (49,180)
NET INCOME	**$ (31,235)**	**$ 28,772**	**$ 2,799**

KENTUCKY-AMERICAN WATER COMPANY
OWENTON WATER SYSTEM PURCHASE
HISTORICAL DATA

Statement of Cash Flows

	6/30/2000	6/30/2001	6/30/2002
Cash from Operations			
Operating Income (Loss)	$ 15,145	$ 74,553	$ 51,979
Depreciation	$ 101,989	$ 100,548	$ 99,127
(Incr)/Decr in Receivables	$ 4,328	$ (7,700)	$ (4,491)
Incr/(Decr) in Accts Payable	$ 23,783	$ (37,635)	$ 6,597
Net Cash from Operations	$ 145,245	$ 129,766	$ 153,212
Cash from Capital Activities			
Acquisition of fixed assets	$ (20,667)	$ (4,299)	$ (54,333)
Pricipal paid on LT debt	$ (17,000)	$ (17,000)	$ (19,000)
Interest Paid on LT debt	$ (65,332)	$ (64,547)	$ (63,714)
Cash used for Capital Activities	$ (102,999)	$ (85,846)	$ (137,047)
Cash from Investing Activities			
Interest Income	$ 16,735	$ 18,518	$ 14,594
Purchase investments	$ (8,465)	$ (9,775)	$ (7,406)
	$ 8,270	$ 8,743	$ 7,188
Net Decrease in Cash & Equivalents	$ 50,516	$ 52,663	$ 23,353
Add: Cash & Equivalents, Prior Year	$ 425,091	$ 475,607	$ 528,270
Cash & Equivalents, Year End	$ 475,607	$ 528,270	$ 551,623

KENTUCKY-AMERICAN WATER COMPANY
OWENTON SEWER SYSTEM PURCHASE
SUMMARY KEY PERFORMANCE INDICATORS

			Forecast Year 1	Forecast Year 2	Forecast Year 3	Forecast Year 4	Forecast Year 5
PROFIT & LOSS:							
	Revenue (Turnover)		$270,789	$301,472	$303,447	$305,422	$307,397
	EBITDA		$127,624	$152,970	$151,737	$150,397	$148,953
	Operating Result		$92,869	$117,116	$115,950	$115,363	$113,919
	Profit before Tax		$76,934	$77,678	$77,795	$78,476	$78,444
	Distributable profit		$46,930	$47,384	$47,455	$47,870	$47,851
	EBITDA Margin		47.13%	50.74%	50.00%	49.24%	48.46%
	Operating Result Margin		34.30%	38.85%	38.21%	37.77%	37.06%
	ROCE		8.65%	11.09%	11.36%	11.71%	11.99%
	Value Contribution		-$19,911	$6,218	$8,814	$11,945	$14,179
BALANCE SHEET & CASHFLOW:							
	Net Operating Assets		$2,002,993	$1,944,805	$1,886,685	$1,829,317	$1,771,949
	Net Debt		$637,418	$614,578	$596,681	$574,323	$551,874
	Operating Cash Flow		$81,684	$83,238	$83,242	$82,904	$82,885
	Equity Investment		$436,678	$423,663	$405,774	$393,097	$380,512
	Return on Equity		10.75%	11.18%	11.69%	12.18%	12.58%
OTHER:	Cost to Acquire		$998,850				
	Customers Acquired		603				
	Capex		$157,500	$3,125	$3,125	$3,125	$3,125
	Depreciation		$34,754	$35,854	$35,786	$35,034	$35,034
	Amortization Goodwill		$0	$0	$0	$0	$0
	OPEX (Excluding Depr)		$143,165	$148,501	$151,710	$155,024	$158,444
	OPEX as % Sales		52.87%	49.26%	50.00%	50.76%	51.54%
	Operating Result Per employee		$61,913	$78,077	$77,300	$76,909	$75,946
	Headcount all employees		1.5	1.5	1.5	1.5	1.5

TRANSACTION MULTIPLES		
TEV Revenues	4.5	Cost to acquire/Owenton revenues at 6/30/02
TEV EBIT	42.6	Cost to acquire/Owenton EBIT at 6/30/02
TEV EBITDA	11.8	Cost to acquire/Owneton EBITDA at 6/30/02
NET PP&E	0.5	Cost to acquire/Owenton Net PP&E at 6/30/02
Customers	$1,656	Cost to acquire/Owenton Customers at 11/30/02

PROJECT VALUE CONTRIBTUTION: OWENTON SEWER SYSTEM PURCHASE					
	Forecast	Forecast	Forecast	Forecast	Forecast
	Year 1 (04)	Year 2 (05)	Year 3 (06)	Year 4 (07)	Year 5 (08)
Net Operating Result:					
Revenues	$270,789	$301,472	$303,447	$305,422	$307,397
Less:					
O & M Expense	$130,753	$136,395	$139,949	$143,604	$147,365
Depreciation	$34,754	$35,854	$35,786	$35,034	$35,034
Amortization	$0	$0	$0	$0	$0
General Taxes	$394	$438	$441	$444	$447
Property Taxes	$12,018	$11,669	$11,320	$10,976	$10,632
Net Operating Result	$92,869	$117,116	$115,950	$115,363	$113,919
Invested Capital:					
Total Capital	$1,074,096	$1,038,241	$1,002,455	$967,420	$932,386
Less:					
Cash	$0	($0)	$0	($0)	$0
Invested Capital	$1,074,096	$1,038,241	$1,002,455	$967,421	$932,386
Average Invested Capital	$1,074,096	$ 1,056,168	$ 1,020,348	$ 984,938	$ 949,903
Return on Invested Capital	8.65%	11.09%	11.36%	11.71%	11.99%
Hurdle Rate	10.50%	10.50%	10.50%	10.50%	10.50%
Operating Result to Meet Hurdle	$ 112,780	$ 110,898	$ 107,137	$ 103,418	$ 99,740
Value Contribution	$ (19,911)	$ 6,218	$ 8,814	$ 11,945	$ 14,179

KENTUCKY-AMERICAN WATER COMPANY

Valuation of:

OWENTON SEWER SYSTEM PURCHASE

Discounted Cash Flow Analysis - EBITDA Multiple Method

(Dollars in thousands)

Projections tie to accompany financial statements to be included in final packages yo prepare.

Calculation of Free Cash Flow

	Actual 2003	Projected 2004	Projected 2005	Projected 2006	Projected 2007	Projected 2008
EBITDA	$0	$128	$153	$152	$150	$149
Less: Depreciation & Amortization	0	(35)	(36)	(36)	(35)	(35)
EBIT	0	93	117	116	115	114
Taxes on EBIT [1] at 39%	0	(36)	(46)	(45)	(45)	(44)
Tax-effected EBIT	0	57	71	71	70	69
Plus: Depreciation & Amortization	0	35	36	36	35	35
Less: Capital Expenditures	0	(158)	(3)	(3)	(3)	(3)
Plus: Change in Cust. Advances & CIAC	0	48	3	3	3	3
+/- Change in Non-Cash Working Cap.	0	0	0	0	0	0
Free Cash Flow	$0	($19)	$107	$107	$105	$105

Notes:
(1) Taxes on EBIT calculated at composite rate for federal and state taxes.

Discount Rate		
WACC	6.37%	State Specific Economic Profit hurdle rate provided by Corporate Finance Dept.

Calculation of Terminal Value		
TEV / EBITDA Factor	9.25	Average TEV / EBITDA multiple for publicly traded water utilities
EBITDA of 0 x	$149	Projected 2008 EBITDA
TEV:	$1,378	Projected 2008 Enterprise Value

Calculation of Discounted Cash Flow Valuation

	A +	B			=	C		
	Discounted Cash	PV of Terminal Value as a Multiple of 2008 EBITDA				Enterprise Value		
Discount Rate	Flows (2003-2007)	9.00	9.25	9.50		9.00	9.25	9.50
6.12%	$328	$996	$1,024	$1,051		$1,324	$1,351	$1,379
6.37%	**325**	984	**1,012**	1,039		1,309	**1,337**	1,364
6.62%	322	973	1,000	1,027		1,295	1,322	1,349

	- D =	E		
		Total Equity Value		
Discount Rate	Net Debt at 12/31/2003	9.00	9.25	9.50
6.12%	$0	$1,324	$1,351	$1,379
6.37%	**0**	1,309	**1,337**	1,364
6.62%	0	1,295	1,322	1,349

Terms
Net Debt = Debt (long term, current, and notes payable or bank debt) + preferred stock - cash
Equity Value = Value of Common Stock
Enterprise Value = Equity Value + Net Debt

Additional Comments / Assumptions:

$0	Pre-Tax Operating Synergies reflected in first year of projections ($ thousands)
$998,850	Proposed Purchase Price ($ thousands)
	Anticipated Closing Date
	Other: (Please provide detail)

	Forecast Year 1 (04)	Forecast Year 2 (05)	Forecast Year 3 (06)	Forecast Year 4 (07)	Forecast Year 5 (08)
VALUATION: OWENTON SEWER SYSTEM PURCHASE					
Revenues:					
Retail Customer Revenues	$270,789	$301,472	$303,447	$305,422	$307,397
AFUDC		$0	$0	$0	$0
Total (less AFUDC)	$270,789	$301,472	$303,447	$305,422	$307,397
YE ROE	10.75%	11.18%	11.69%	12.18%	12.58%
Total O&M Expenses	$130,753	$136,395	$139,949	$143,604	$147,365
Depreciation	$34,754	$35,854	$35,786	$35,034	$35,034
Amort Acq Adjustment	$0	$0	$0	$0	$0
General Taxes	$394	$438	$441	$444	$447
Property Taxes	$12,018	$11,669	$11,320	$10,976	$10,632
Total Operating Exp Before Taxes	$177,919	$184,356	$187,497	$190,059	$193,478
EBIT	$92,869	$117,116	$115,950	$115,363	$113,919
Depreciation/Amortization	$34,754	$35,854	$35,786	$35,034	$35,034
EBITDA	$127,624	$152,970	$151,737	$150,397	$148,953
		Cost	Pre-Tax	Weighted	
Weighted Cost of Capital	Ratio	Rate	Rate	Cost	
Acq. New Long-Term Debt	60.00%	6.30%	6.30%	3.78%	
Acq. New Common Equity	40.00%	10.25%	16.80%	6.72%	
Total Acq. Capitalization	100.00%			10.50%	

ACQUISITION FINANCING: OWENTON SEWER SYSTEM PURCHASE			Forecast	Forecast	Forecast	Forecast	Forecast
		Rate	Year 1 (04)	Year 2 (05)	Year 3 (06)	Year 4 (07)	Year 5 (08)
Purchase Price	$998,850		$998,850				
Estimated Cost to Acquire - Legal	$0		$0				
CAPX to Acquire (New Customers * CAPX Rate)			$0	$0	$0	$0	$0
CAPX to Acquire (Scheduled Investment)	$110,000		$157,500	$3,125	$3,125	$3,125	$3,125
LESS AFUDC			$0	$0	$0	$0	$0
Total Cap Required	$1,108,850		$1,156,350	$3,125	$3,125	$3,125	$3,125
Debt Assumed	$0	0.00%	$0	$0	$0	$0	$0
Prior Yr. Cash			$93,986	$50,825	$50,775	$50,128	$50,121
Total Cash Required	$1,108,850		$1,062,364	($47,700)	($47,650)	($47,003)	($46,996)
		2.50%					
New L-T Debt	$665,310	6.30%	$637,418	($22,840)	($17,897)	($22,358)	($22,449)
New Common Equity	$443,540		$424,946	($24,860)	($29,753)	($24,645)	($24,547)
	$1,108,850		$1,062,364	($47,700)	($47,650)	($47,003)	($46,996)
Planned YE CE%			40.00%	40.00%	40.00%	40.00%	40.00%
Total Interest Expense			$15,935	$39,438	$38,155	$36,887	$35,475
YE CE to Total Capital			40.66%	40.81%	40.48%	40.63%	40.81%
Return on YE Common Equity			10.75%	11.18%	11.69%	12.18%	12.58%

ACQUISITION BALANCE SHEET: OWENTON SEWER SYSTEM PURCHASE							
	@Pur Price	@Acq. Per Books	Forecast Year 1 (04)	Forecast Year 2 (05)	Forecast Year 3 (06)	Forecast Year 4 (07)	Forecast Year 5 (08)
ASSETS:							
Utility Plant	**$2,917,722**	$2,917,722	$2,917,722	$3,075,222	$3,078,347	$3,081,472	$3,084,597
Additions (cost to acq is initial)	$0	$0	$157,500	$3,125	$3,125	$3,125	$3,125
Retirements (estimate)			$0	$0	$0	$0	$0
Accum depreciation (adjusted)	**($1,012,016)**	($1,012,016)	($1,072,229)	($1,133,542)	($1,194,787)	($1,255,280)	($1,315,773)
Net Utility Plant	$1,905,706	$1,905,706	$2,002,993	$1,944,805	$1,886,685	$1,829,317	$1,771,949
Cash			$0	($0)	$0	($0)	$0
Acq Adjustment in Price	($0)	($0)	($0)	($0)	($0)	($0)	($0)
Acq. Contributions (adjusted)	**$0**	$0	$0	$0	$0	$0	$0
Acq. Advances	**$0**	$0	$0	$0	$0	$0	$0
Current Assets	**$0**	$0	$0	$0	$0	$0	$0
CWIP			$0	$0	$0	$0	$0
Total Assets	$1,905,706	$1,905,706	$2,002,993	$1,944,805	$1,886,685	$1,829,317	$1,771,949
LIABILITIES & EQUITY:							
Current Liabilities	**$0**	$0	$0	$0	$0	$0	$0
Long Term Debt							
Assumed	$0	$0	$0	$0	$0	$0	$0
Issued	$599,310	$599,310	$637,418	$614,578	$596,681	$574,323	$551,874
Common Equity	$399,540	$399,540	$436,678	$423,663	$405,774	$393,097	$380,512
Total Cap	$998,850	$998,850	$1,074,096	$1,038,241	$1,002,455	$967,420	$932,386
Net Working Capital	$0	$0	$0	$0	$0	$0	$0
Advances	$0	$0	$0	$0	$0	$0	$0
Gross CIAC	**$1,275,146**	$1,275,146	$1,322,646	$1,325,771	$1,328,896	$1,332,021	$1,335,146
Accum Amortization CIAC	**($368,290)**	($368,290)	($393,749)	($419,207)	($444,666)	($470,125)	($495,583)
Total Cap & Liabilities	$1,905,706	$1,905,706	$2,002,993	$1,944,805	$1,886,685	$1,829,317	$1,771,949
			$0	$0	$0	$0	$0

ACQUISITION CAPITAL STRUCTURE: OWENTON SEWER SYSTEM PURCHASE					
	Forecast Year 1 (04)	Forecast Year 2 (05)	Forecast Year 3 (06)	Forecast Year 4 (07)	Forecast Year 5 (08)
Debt	$637,418	$614,578	$596,681	$574,323	$551,874
% of Total Cap	59.34%	59.19%	59.52%	59.37%	59.19%
CE	$436,678	$423,663	$405,774	$393,097	$380,512
% of Total Cap	40.66%	40.81%	40.48%	40.63%	40.81%
Total Cap	$1,074,096	$1,038,241	$1,002,455	$967,420	$932,386
CE EOY% TO TOT CAP	40.66%	40.81%	40.48%	40.63%	40.81%

ACQUISITION INCOME STATEMENT: OWENTON SEWER SYSTEM PURCHASE					
	Forecast Year 1 (04)	Forecast Year 2 (05)	Forecast Year 3 (06)	Forecast Year 4 (07)	Forecast Year 5 (08)
Total Revenue/Income	$270,789	$301,472	$303,447	$305,422	$307,397
O&M, Depr, Taxes Other	$177,919	$184,356	$187,497	$190,059	$193,478
Pre-Tax UOI	$92,869	$117,116	$115,950	$115,363	$113,919
Interest Expense	$15,935	$39,438	$38,155	$36,887	$35,475
Pre-Tax Income	$76,934	$77,678	$77,795	$78,476	$78,444
Income Tax Rate	39.00%	39.00%	39.00%	39.00%	39.00%
Income Taxes Net of AFUDC	$30,004	$30,294	$30,340	$30,606	$30,593
Income After Tax	$46,930	$47,384	$47,455	$47,870	$47,851
Acq. Adj. Amortization	$0	$0	$0	$0	$0
Net to CE	$46,930	$47,384	$47,455	$47,870	$47,851
Pre-tax Interest Coverage	5.83	2.97	3.04	3.13	3.21
ROE YE Equity	10.75%	11.18%	11.69%	12.18%	12.58%
Beginning CE		$436,678	$423,663	$405,774	$393,097
New Equity	$424,946	($24,860)	($29,753)	($24,645)	($24,547)
Net Income	$46,930	$47,384	$47,455	$47,870	$47,851
Dividends	$35,198	$35,538	$35,591	$35,902	$35,888
RE	$11,732	$11,846	$11,864	$11,968	$11,963
CE 12/31	$436,678	$423,663	$405,774	$393,097	$380,512
Avg. ROE Earned	11.68%				

ACQUISITION STATEMENT OF CASH FLOWS: OWENTON SEWER SYSTEM PURCHASE					
	Forecast Year 1 (04)	Forecast Year 2 (05)	Forecast Year 3 (06)	Forecast Year 4 (07)	Forecast Year 5 (08)
Cash Flows from Operating Activities:					
Net to CE	$46,930	$47,384	$47,455	$47,870	$47,851
Adjust:					
AFUDC	$0	$0	$0	$0	$0
Depreciation	$34,754	$35,854	$35,786	$35,034	$35,034
Amortization	$0	$0	$0	$0	$0
Net Cash from Operations	$81,684	$83,238	$83,242	$82,904	$82,885
Cash Flows from Investing Activities:					
Acquisition/Cost to Acquire	($998,850)				
Construction Expenditures	($157,500)	($3,125)	($3,125)	($3,125)	($3,125)
Net Cash from Investing	($1,156,350)	($3,125)	($3,125)	($3,125)	($3,125)
Cash Flows from Financing Activities:					
Add: Tap Fees	$47,500	$3,125	$3,125	$3,125	$3,125
Long Term Debt	$637,418	($22,840)	($17,897)	($22,358)	($22,449)
Common Stock	$424,946	($24,860)	($29,753)	($24,645)	($24,547)
Deduct:					
Dividends	($35,198)	($35,538)	($35,591)	($35,902)	($35,888)
Net Cash from Financing	$1,074,666	($80,113)	($80,116)	($79,780)	($79,759)
Cash for Year	$0	($0)	$0	($1)	$1
Cash 1/1	$0	$0	($0)	$0	($0)
Cash 12/31	$0	($0)	$0	($0)	$0

KENTUCKY-AMERICAN WATER COMPANY
OWENTON SEWER SYSTEM PURCHASE
HISTORICAL DATA

Balance Sheet

	6/30/2000	6/30/2001	6/30/2002
Assets			
Cash	$ 70,365	$ 62,416	$ 59,303
Investments	$ 87,419	$ 88,661	$ 89,609
AR, net	$ 32,997	$ 33,493	$ 29,904
Other Rec.	$ 19,992	$ 1,159	$ 1,159
Interest Rec.	$ 957	$ 949	$ 543
Inventory	$ 1,018	$ 1,169	$ 1,469
Prepaids	$ 3,517	$ 1,370	$ 208
Total Current Assets	$ 216,265	$ 189,217	$ 182,195
Restricted Assets:	$ 270,690	$ 240,858	$ 253,147
Fixed Assets:			
Property, plant and equipment	$ 2,907,870	$ 2,917,722	$ 2,917,722
Less accumulated depreciation	$ (829,610)	$ (890,789)	$ (951,903)
Total Net Fixed Assets	$ 2,078,260	$ 2,026,933	$ 1,965,819
Total Assets	$ 2,565,215	$ 2,457,008	$ 2,401,161
Liabilities and Fund Equity			
Current Liabilities			
Accounts Payable	$ 25,496	$ 11,532	$ 2,753
Accrued liabilities	$ 51,484	$ 55,051	$ 63,894
Current maturities Notes Payable	$ 22,000	$ 23,000	$ 25,000
Accrued Interest			
Customer Deposits	$ -	$ -	$ -
Total Current Liabilities	$ 98,980	$ 89,583	$ 91,647
Long-Term Liabilities			
Bonds Payable	$ 1,281,000	$ 1,258,000	$ 1,233,000
Notes Payable			
Total Notes and Bonds	$ 1,281,000	$ 1,258,000	$ 1,233,000
Total Liabilities	$ 1,379,980	$ 1,347,583	$ 1,324,647
Fund Equity:			
Contributed Capital	$ 1,275,146	$ 1,275,146	$ 1,275,146
Retained Earnings:			
Reserved	$ -	$ -	$ -
Unreserved	$ (89,911)	$ (165,721)	$ (198,632)
Total Fund Equity	$ 1,185,235	$ 1,109,425	$ 1,076,514
Total Liabilities and Fund Equity	$ 2,565,215	$ 2,457,008	$ 2,401,161

KENTUCKY-AMERICAN WATER COMPANY
OWENTON SEWER SYSTEM PURCHASE
HISTORICAL DATA

Income Statements

	6/30/2000	6/30/2001	6/30/2002
Revenues			
Sales	$ 233,432	$ 216,646	$ 219,299
Installations/reconnects	$ 4,500	$ 625	$ 2,500
Late Charges			
Other Income	$ 396	$ 488	$ 141
Total Operating Revenues	**$ 238,328**	**$ 217,759**	**$ 221,940**
Operating Expenses			
Fuel and Power	$ 16,190	$ 16,364	$ 16,584
Chemicals	$ 181	$ 90	$ 323
Supplies and Maint	$ 9,482	$ 28,230	$ 14,572
Payroll	$ 80,450	$ 80,546	$ 64,831
Payroll taxes	$ 7,068	$ 6,290	$ 5,196
Truck Expense	$ 734	$ 284	$ 10
Employee benefits	$ 4,023	$ 4,038	$ 3,204
Total Operating Expenses	$ 118,128	$ 135,842	$ 104,720
Administrative & General			
Insurance	$ 18,391	$ 19,710	$ 16,485
Office Supplies & Expense	$ 2,994	$ 2,620	$ 1,812
Professional Fees	$ 4,580	$ 12,472	$ 3,585
Telephone	$ 765	$ 850	$ 1,062
Uncollectables	$ 2,453	$ 1,606	$ 7,340
Total Admin & General	$ 29,183	$ 37,258	$ 30,284
Depreciation	$ 61,012	$ 61,180	$ 61,114
All Other	$ 3,522	$ 3,968	$ 2,350
Total Operating Expenses	$ 211,845	$ 238,248	$ 198,468
Operating Income	**$ 26,483**	**$ (20,489)**	**$ 23,472**
Non-Operating Items			
Interest Income	$ 9,144	$ 9,004	$ 6,805
Gain on Disposal of Assets			
Interest Expense	$ (65,413)	$ (64,325)	$ (63,188)
Total Non-Operating Items	$ (56,269)	$ (55,321)	$ (56,383)
NET INCOME	**$ (29,786)**	**$ (75,810)**	**$ (32,911)**

KENTUCKY-AMERICAN WATER COMPANY
OWENTON SEWER SYSTEM PURCHASE
HISTORICAL DATA

Statement of Cash Flows

	6/30/2000	6/30/2001	6/30/2002
Cash from Operations			
Operating Income (Loss)	$ 26,483	$ (20,489)	$ 23,472
Depreciation	$ 61,012	$ 61,180	$ 61,114
(Incr)/Decr in Receivables	$ 648	$ (456)	$ 3,589
Incr/(Decr) in Accts Payable	$ (17,379)	$ 35,631	$ 1,213
Net Cash from Operations	$ 70,764	$ 75,866	$ 89,388
Cash from Capital Activities			
Acquisition of fixed assets	$ (54,532)	$ (34,427)	$ -
Pricipal paid on LT debt	$ (21,000)	$ (22,000)	$ (23,000)
Interest Paid on LT debt	$ (65,675)	$ (64,990)	$ (63,475)
Cash used for Capital Activities	$ (141,207)	$ (121,417)	$ (86,475)
Cash from Investing Activities			
Interest Income	$ 9,133	$ 9,012	$ 7,211
Purchase investments	$ (1,176)	$ (1,242)	$ (948)
	$ 7,957	$ 7,770	$ 6,263
Net Decrease in Cash & Equivalents	$ (62,486)	$ (37,781)	$ 9,176
Add: Cash & Equivalents, Prior Year	$ 403,541	$ 341,055	$ 303,274
Cash & Equivalents, Year End	$ 341,055	$ 303,274	$ 312,450

VI. Next Steps

- **Submission of Business Development Package to KAWC Board for approval to purchase the City of Owenton's water and sewer assets**
- **Final due diligence and signing of Purchase Agreement**
- **IP submitted to KAWC Board for approval**
- **Petition filed with PSC for approval of Project**
- **Project turned over to KAWC operations for integration into KAWC system**

VII. Draft Purchase Agreement

ASSET PURCHASE AGREEMENT

THIS ASSET PURCHASE AGREEMENT ("Agreement") is entered into on this ____ day of _____, 2003, between **the City of Owenton, Kentucky** ("Seller"), a city of the 5th class in Kentucky, with its mailing address at 220 South Main Street, Owenton, Kentucky 40359 and **Kentucky American Water Company** ("Buyer"), a Kentucky corporation, with its principal offices at 2300 Richmond Road, Lexington, Kentucky 40502, which agree as follows:

1. **PURCHASE OF ASSETS**. Seller hereby agrees to sell to Buyer on the Closing Date identified in paragraph 12 herein, and Buyer hereby agrees to purchase, free and clear of all liens, claims and encumbrances, all of Seller's tangible assets devoted to the provision of potable water service and wastewater service to the public, whether or not carried on or reflected in Seller's books and records. The purchase shall include the tangible assets of Seller's potable water system and wastewater system and all interest Seller has in real property, whether license, easement, fee simple, or any other type of ownership, ("collectively referred to as the Assets") which are listed in Exhibits 1 and 2. Although Exhibits 1 and 2 are intended to be complete, to the extent Seller on the date of this Agreement owns any assets which are needed to operate the potable water system or wastewater system that should be but are not included in the exhibits, such assets nonetheless shall be transferred to Buyer on the Closing Date.

2. **CONSIDERATION**. In consideration of the sale of such Assets, Buyer shall pay to Seller on the Closing Date, the sum of $2,851,478 (two million eight hundred fifty one thousand, four hundred seventy eight dollars) ("The Proposal"), adjusted for (i) any difference between the actual change in Book Value and the pro forma change in Book Value used to arrive

at an estimated Book Value at the end of FYE June 30, 2003 for purposes of the Proposal and (ii) for the net increase or decrease in the Book Value of the assets subsequent to June 30, 2003 (Book Value is defined for purposes of this agreement as gross utility plant, less book depreciation and less contributions in aid of construction), the sufficiency of which is acknowledged by Seller. In the event Seller acquires or disposes of tangible assets devoted to the provision of utility service subsequent to the date of this Agreement, the purchase price shall be adjusted to reflect the net book value of those assets on the Closing Date. As further consideration of the sale of the Assets, Seller agrees that the transaction is conditioned on approval by the Public Service Commission of the Commonwealth of Kentucky ("PSC") of a Use Fee in lieu of property tax as defined in Section 22 hereof, said use fee being paid to Seller by Buyer to service debt of at least $300,000 toward capital improvements to the water and wastewater systems within the city limits. Also, as a condition of the sale of the Assets, Seller will set aside $300,000 of the proceeds from the sale of the Assets until such time as the PSC has ruled on the Use Fee. If the Use Fee is not approved or if the Use Fee approved is not adequate to service $300,000 in debt, the money set aside from the proceeds will be immediately contributed by Seller to Buyer toward the capital improvements of the systems in an amount equal to the difference between $300,000 and the actual debt serviced by the Use Fee approved. Said contribution to capital improvements to be in Buyer's determination after consulting with Seller.

3. **WARRANTIES**.

Seller represents and warrants to Buyer as follows as of the date of this Agreement and as of the Closing Date:

(A) Seller is a city of the 5th class in Kentucky with the requisite right, power and authority (i) to carry on its business as is now being conducted and (ii) to own, lease or operate its properties, which it currently owns, leases, or operates. Seller has, and at all times has had, full power and authority to own its properties and to conduct its business.

(B) Seller has full capacity, right, power and authority to enter into, deliver, and perform this Agreement. Prior to closing, all consents, approvals, authorizations, or other requirements prescribed by law, rule or regulation which must be obtained or satisfied by Seller and are necessary in order for it to enter into and perform this Agreement have been satisfied. This Agreement has been duly executed and delivered by Seller and constitutes its legal, valid and binding obligation, enforceable against Seller in accordance with its terms.

(C) The execution, delivery, and performance of and the consummation of the transactions contemplated in this Agreement do not and will not: (i) conflict with or result in a violation or breach of any of the terms, conditions, or provisions of or constitute a default of the Seller's governance documents or any instrument, loan, grant, contract, bond, agreement, mortgage, judgment, order, writ, award, decree, or other restriction to which Seller is a party, or to which any of its Assets are subject, or by which Seller is bound or any statute or regulatory provision affecting Seller, (ii) require the approval, consent, or authorization of any federal, state, or local court, governmental authority, or regulatory body (except as provided in paragraph 11 of this Agreement) or of any creditor or seller or of any person or entity, nor (iii) give any party with rights under any instrument, agreement, mortgage, judgment, order, writ, award, decree or other restriction the right to terminate, modify, or otherwise change the Seller's rights or obligations thereunder.

(D) Seller has complied with all existing laws, rules, regulations, ordinances, orders, instruments, contracts, loans, grants, bonds, agreements, judgments and decrees now or hereafter applicable to the Assets. Seller is not aware of any proposed laws, rules, regulations, ordinances, orders, judgments, decrees, governmental takings, condemnations, or other proceedings which would be applicable to the Assets or which might adversely affect the Assets either before or after the date of this Agreement, other than as listed in Exhibit 3.

(E) Seller has not received any notice or notification from any court or governmental agency, authority, or body that it is in violation of or not in compliance with any federal, state, or local law, statute, ordinance, rule, regulation, guideline (including voluntary guidelines), decree, or order or permit relating to the Assets or that upon the passage of time it will be in violation of any of the foregoing. Seller's operation of its water and wastewater systems complies in all respects with all governmental requirements relating to the provision of potable water service and wastewater system operation.

(F) Seller has good, marketable, and insurable title to all of the Assets. None of the Assets will, after closing, be subject to any mortgage, pledge, lien, charge, security interest, encumbrance, restriction, lease, license, easement, liability or adverse claim of any nature whatsoever, direct or indirect, whether accrued, absolute contingent or otherwise. All the Assets are in good operating condition and repair and are suitable for the purposes used.

(G) No other person or entity now has, nor at any time in the future will have, the right to purchase, own, use, or sell any of the Assets.

(H) Seller is not insolvent. Seller is able to meet all business obligations as they become due and will not be insolvent or unable to meet its business obligations as a result of completing the transactions described herein.

(I) All tax returns, if applicable, employee withholding forms and other tax-related documents, of every kind relating to Seller and the Assets that are due to be filed in accordance with any applicable law have been duly filed and all taxes and benefits shown to be due on such returns have been paid in full.

(J) Seller has delivered to Buyer copies of 2002 and 2003 (when available) audited and unaudited financial statements, which are complete and correct and have been prepared from Seller's books and records in accordance with generally accepted accounting principles consistently applied and maintained throughout the periods indicated and fairly present the Seller's financial condition. Except as set forth in the financial statements, Seller has no debts, liabilities or obligations (whether absolute, accrued, contingent or otherwise), of any nature whatsoever including, without limitation,

any other debts, liabilities or obligations relating to or arising out of any act, omission, transaction, circumstance, except those incurred in the ordinary course of Seller's business. There is not any condition or event which could materially or adversely affect the Assets.

(K) With the exception of the legal proceedings listed in Exhibit 3, there is no claim, legal action, suit, arbitration, governmental investigation or other legal or administrative proceeding, nor any order, decree or judgment in progress, pending or in effect, or threatened, against or relating to Seller, its officers, directors, employees or business, the Assets, or the transactions contemplated by this Agreement, and Seller neither knows nor has reason to be aware of any basis for the same. After the execution of this Agreement Seller will take all actions necessary to assist Buyer in pursuing the claims addressed in the legal proceedings described in Exhibit 3. Each of the parties will be responsible for its costs incurred in such legal proceedings.

(L) Between the date of this Agreement and the Closing Date Seller shall conduct its business diligently and substantially in the same manner as heretofore conducted prior to the date of this Agreement. Prior to the Closing Date Seller shall not change its rates or charges without Buyer's approval and shall not institute any new methods of accounting or operation or engage in any transaction or activity, enter into any agreement or make any commitment except in the ordinary course of business and consistent with past practice.

(M) Seller shall not prior to the Closing Date permit any Assets to be subjected to a mortgage, pledge, lien or encumbrance, without notice to and approval of Buyer, and further shall not dispose of such Assets. Prior to the Closing Date Seller shall not acquire any asset devoted to serving the public costing more than One Thousand Dollars ($1,000.00) without the approval of Buyer.

(N) Seller shall maintain until the Closing Date the insurance policies in effect on the Assets.

(O) Seller shall not perform any act or omit to perform any act or permit any act or omission that will cause a breach or default in this Agreement.

(P) No representation or warranty by Seller in this Agreement nor any statement or certificate furnished or to be furnished by Seller to Buyer or its representatives in connection herewith or pursuant hereto contains or will contain any untrue statement of a material fact or will omit a statement of any material fact required to make the statements herein or therein contained not misleading. Seller has disclosed to Buyer in writing all material adverse facts known to it relating to the Assets. Seller is not aware of any circumstances or facts which could be detrimental to the Assets other than those disclosed to the Buyer in writing.

(Q) Seller has provided to Buyer all of its records regarding the operation of this water and wastewater system for calendar year 1998 through the present.

4. **LIABILITIES**. Buyer is not assuming any of Seller's liabilities or debts. All of Seller's debts and liabilities will be settled prior to or on the Closing Date and any debts outstanding on the Closing Date will remain Seller's sole obligation and will be paid by Seller under this Agreement. Consistent with Seller's obligation to remove all debts from the Assets, Seller will, on the Closing Date, utilize as much of the purchase price as is necessary to pay off all outstanding secured obligations.

5. **OPERATION OF WATER AND WASTEWATER SYSTEMS**. Buyer shall own and operate the water and wastewater systems acquired from Seller and all customers currently served by Seller shall, for all intents and purposes, be customers of Buyer. Said customers shall, after the Closing Date, be charged at those rates and charges for such customers as from time to time are approved for use for such customers by Buyer by the PSC. Buyer as of the Closing Date will specifically assume Seller's obligations under all other contracts to which Seller may be bound as of the date of this Agreement, all as listed in Exhibit 4 except the Water Purchase Agreement as it may have been amended, which is herby terminated.

6. **EMPLOYEES**. Buyer agrees to offer employment to Seller's employees, at mutually agreed upon compensation levels, who are listed in Exhibit 5, provided that such employees pass the examinations, background check and other screening tests routinely required of applicants for employment with Buyer. The employees meeting such requirements will be employed, on an at will basis, as the Buyer's full-time employees with benefits comparable to the Buyer's employees performing the same tasks as listed in Exhibit 6, although Buyer and Seller recognize that the specific duties and responsibilities of said employees may be different from duties and responsibilities of Buyer's existing employees at other geographic locations and may be subject to different supervisory oversight and reporting. The employees shall be deemed to have been employed by Buyer on the dates indicated in Exhibit 5 for the limited purpose of determining vacation or sick pay benefits with Buyer.

7. **FINAL METER READING AND BILLING**. At least one week prior to the Closing Date Seller will provide Buyer with a current list of the names and addresses of the Seller's customers. Within the week prior to the Closing Date, Buyer's meter readers, accompanied at the Seller's election, by Seller's meter readers, will read all customer meters and provide copies of those meter readings to Seller. Seller will bill all customers for water service as reflected in the final meter reading. Seller will, after satisfaction of all routine customary expenses of Seller through the Closing Date use any monies received from these billings in addition to all monies from all accounts receivable from prior billings for the payment of any other of the Seller's liabilities remaining at the closing. Buyer will be entitled to all revenue from water services provided by Buyer on and after the Closing Date.

8. **OPERATION OF UPPER AND LOWER THOMAS LAKES ("Lakes").** Seller will grant Buyer the right to use the Lakes as an emergency source of supply at no additional cost to Buyer, including the right to pump water into and withdraw water from the Lakes and the right to increase or decrease the level of water in the Lakes. Seller agrees not to take or allow any action that would cause any pollution or detrimental effect on the quality of the water in the Lakes. Seller agrees to maintain the surrounding land, including the dam, in a safe and operational condition. This shall be a right that attaches to the real estate and passes with the title.

9. **OFFICE IN OWENTON.** Buyer agrees to maintain an office in Owenton for walk-in customer service purposes.

10. **GRANT REPAYMENT.** In the event that any grant existing at the date of closing is later required to be repaid, Seller assumes all liability for such repayment.

11. **PUBLIC SERVICE COMMISSION APPROVAL.** Within ninety (90) days from the satisfaction of the conditions precedent described in paragraph 17 (C), (D), (E), (F), (G), (H) and (I) and both Seller and Buyer agree to file and pursue with diligence a Joint Application with the PSC seeking complete approval of this Agreement.

12. **CLOSING DATE.** The closing of this Agreement shall take place within sixty (60) days after the latest of (a) receipt of an acceptable final order from the PSC approving this Agreement, and no appeal having been taken from the issuance of such order, and (b) receipt of any other required waivers or consents to the transfer of the water system, and (c) completion of all conditions precedent as provided in Section 17 hereof.

13. **CONVEYANCE AND TRANSFERS**. Seller will not convey, lease or in any way dispose of the Assets, which it holds as of the date of this Agreement. On the Closing Date Seller shall transfer and convey to Buyer, its successors and assigns forever, the Assets together with all files, plats, maps, plans, records and ledgers or copies thereof in any way connected with rendition of water service by Seller.

14. **ACCESS TO BOOKS**. Between the date of this Agreement and the Closing Date Buyer shall have the right to examine all of Seller's assets and to obtain copies of all Seller's books and records at such reasonably convenient times as Buyer may require. In the event the transaction contemplated by this Agreement is not consummated, all such copies of the inventory and books and records shall be returned to Seller. If prior to the Closing Date (a) any material discrepancies are discovered in the Seller's books and records (b) any claims, liabilities, liens, encumbrances or defects in title which would materially affect the value of the Assets are discovered by or disclosed to Buyer, or (c) any one of the representations and warranties set forth in this Agreement is determined by Buyer not to be true and correct, Buyer may at its sole option terminate this Agreement and neither Buyer nor Seller shall be further obligated hereunder or incur or be liable for any claim, loss, damage or expenses to the other as a result of such termination.

15. **BINDING EFFECT**. This Agreement shall be binding upon and shall inure to the benefit of the parties hereto and their respective successors and assigns.

16. **FORCE MAJEURE**. If the performance of any of the covenants or agreements contained herein is delayed or prevented by reasons beyond the Buyer's or Seller's control such as an act of God, act of war, strike, walkout, restraint of labor, from whatever cause, either

partial or general, riot or civil commotion, order of court or administrative tribunal having jurisdiction over either party hereto, then the affected party shall be excused from such performance to the extent that the affected party is necessarily prevented, hindered or delayed thereby during the continuance of any such happening or event and the time for such performance shall be extended to commensurate with such delays provided that the affected party shall notify the other party of the happening of such event or force majeure within a reasonable time after the affected party acquires knowledge thereof.

17. **CONDITIONS PRECEDENT**. The parties hereto understand and agree that this Agreement and the obligations of the parties hereunder are expressly conditioned on the following, each of which is a condition precedent to the closing and the validity and enforceability of the Agreement:

(A) The PSC shall have entered a final order (from which no appeal is taken) which approves the Joint Application to be filed by Buyer and Seller including (i) any specific rate making approach or request as set forth in the Joint Application, (ii) a request for the use of Buyer's existing rules and regulations for Seller's water and wastewater customers, (iii) a request for the use of the Seller's existing rates to its customers as may be changed from time to time and as approved by the Public Service Commission, and (iv) this Agreement and all of its terms, conditions, undertakings, agreements and limitations between Buyer and Seller.

(B) The PSC, nor any court, shall not have attached to any order, any terms, conditions or limitations which in the sole opinion of either the Buyer or the Seller shall adversely affect the economic feasibility of this project or the Agreement between the parties or require Buyer or Seller to take any action or refrain from taking any action which might require

either of them to breach any of their obligations under any mortgage indenture, as supplemented, or any other agreement to which either of them might be a party.

(C) Buyer and Seller shall have received all consents or waivers to the sale of the Assets.

(D) Buyer shall have determined that the assets are free from the presence or harmful effects of any hazardous or toxic substances, including, but not limited to, petroleum products and asbestos in friable form. Buyer shall be permitted to make or obtain such inspections and/or testing of the assets as may be desired by Buyer using such experts or consultants as Buyer deems desirable. In the event any of the inspections of testing made or obtained by Buyer reveal a condition of the assets which is not acceptable to Buyer, Buyer shall notify Seller, in writing, of such fact within ninety (90) days from the date of execution of this Agreement.

(E) Buyer's Board of Directors shall have approved the execution of this Agreement.

(F) Prior to the Closing Date there shall be a written determination from all appropriate authorities that Buyer shall have no obligation to repay any monetary obligations of Seller.

(G) Water quality shall be acceptable to Buyer.

(H) If applicable, the PSC shall have approved a certificate of convenience and necessity for Buyer regarding this transaction and such order shall not have been appealed.

(I) Except as may be specifically agreed to by Buyer elsewhere in this Agreement, there shall not be or have been any material or adverse changes in the Assets or financial condition of Seller, as determined by Buyer's discretion.

(J) Seller shall have granted a 20-year, non-exclusive franchise, at no further cost to Buyer, to serve the City and citizens of Owenton.

18. **INDEMNITY AGREEMENT**. Seller agrees to indemnify and hold harmless Buyer against any loss, claim, action, suit, proceeding, deficiency or expense (including attorneys' fees) relating to or arising from or in connection with (a) any misrepresentation, breach of representation, warranty or obligation, covenant or agreement or default by Seller under this Agreement (including the Exhibits) or any documents delivered to Buyer in connection with this Agreement; (b) claims of negligence or strict liability in connection with the Assets or the business conducted prior to the Closing Date; (c) all debts, liabilities, contracts or obligations whatsoever relating to the Assets prior to the Closing Date, or (d) all contingent liabilities relating to Seller, its business or the Assets which Buyer becomes obligated to pay with respect to any state of facts or occurrences existing at or prior to the Closing Date.

19. **UTILITY BOARD.** The Owenton Utility Board ("Utility Board") shall remain in place to serve as an advisor on growth and capital investment issues. The Seller through its Utility Board may partner with the Buyer to extend service and upgrade facilities. The Utility Board shall meet with Buyer on a regular basis no less than quarterly.

20. **ENTIRE AGREEMENT**. This Agreement, including all of its Exhibits, which are hereby incorporated by reference, constitutes the entire agreement of the parties with respect to the subject matter hereof and may not be modified or amended or terminated except by written agreement specifically referring to this Agreement, and signed by all of the parties hereto.

21. **GOVERNING LAW**. This Agreement and all amendments hereto shall be governed and construed in accordance with the laws of the Commonwealth of Kentucky.

22. **USE FEE**. For purposes of this Agreement, the Use Fee is defined as a fee in lieu of property taxes recovered in rates charged to customers. Said Use Fee is to be paid by Buyer to Seller for the purpose of Seller paying debt service on monies borrowed to be invested in water system capital improvements. Once the transaction contemplated by this Agreement is consummated, Buyer will take all available legal means to transfer legal title of the Improved Assets ("Improved Assets under this section means the Assets included by definition under this Agreement plus any subsequent capital improvements to be transferred by the Buyer to the Seller as determined by the Buyer") to the Seller, subject to the lien of the Company's General Mortgage Indenture, in exchange for tax-exempt bonds issued by the Seller in an amount equal to the Buyer's cost of the Improved Assets. The Seller then leases the Improved Assets to the Buyer. The Buyer operates and uses the Assets under a capital lease from the Seller, but the Seller continues to hold legal title while the tax-exempt bonds are outstanding. The Seller, by statute, has no liability with respect to the tax-exempt bonds or the Improved Assets. All obligations with respect to the

Improved Assets are contractually assumed by the Buyer. The Seller, the legal owner of the Improved Assets, pays no property taxes on the Improved Assets thus allowing the Buyer to include a Use Fee equal to the avoided property taxes in its cost of service for determining rates.

IN WITNESS WHEREOF, the parties have caused this Agreement to be duly executed by their duly authorized representatives, and a copy of the resolution from the Seller is attached, this the day and year first above written.

CITY OF OWENTON

_____ BY: _____
Attest Mayor

KENTUCKY-AMERICAN WATER COMPANY

_____ BY: _____
Witness President

Exhibit 1
Assets

Exhibit 1								
List of Assets - Owenton Water and Sewer								
Owenton Waterworks								
Audit Report								
Year ended: June 30, 2002								
Kind of property	**Date**	**Method Life Rate**	**Balance at 7/1/01**	**FYE 2002 Additions**	**FYE 2002 Retirements**	**Balance at 6/30/02**	**Accum. Depreciation as of 6/30/02**	**CIAC as of 6/30/02**
Land & Rights of Way								
Land & Rights of Way	1933	n/a	1,293.46			1,293.46	-	
Land & Rights of Way	1941	n/a	1,160.00			1,160.00	-	
Land & Rights of Way	1944	n/a	1,000.00			1,000.00	-	
Land & Rights of Way	1960	n/a	2,560.00			2,560.00	-	
Land & Rights of Way	1969	n/a	4,080.00			4,080.00	-	
Land & Rights of Way	1977	n/a	7,619.29			7,619.29	-	
Virgil Cobb Easement	Jun-88	n/a	3,031.50			3,031.50	-	
Land - 75M gallon tanksite dismantled	1990	n/a	6,543.13			6,543.13	-	
Land - Water Plant	1994	n/a	9,286.00			9,286.00	-	
						-	-	
						-	-	
						-	-	
						-	-	
Subtotal Land & ROW			36,573.38	-	-	36,573.38	-	
Roads & Power Lines								
Roads & Power Lines	1933	n/a	4,527.11			4,527.11	-	
Roads & Power Lines	1941	n/a	4,060.00			4,060.00	-	
Roads & Power Lines	1944	n/a	3,500.00			3,500.00	-	
Roads & Power Lines	1960	n/a	8,960.00			8,960.00	-	
Roads & Power Lines	1969	n/a	14,280.00			14,280.00	-	
Roads & Power Lines	1977	n/a	20,591.33			20,591.33	-	
						-	-	
						-	-	
						-	-	
						-	-	
Subtotal - Roads and Power Lines			55,918.44	-	-	55,918.44	-	
Buildings & Improvements								
Barn	Jan-85	SL-10	6,000.00			6,000.00	6,000.00	
Rrestroom improvements	Apr-87	SL-10	287.00			287.00	287.00	
Addition - Maintenance Bldg.	Dec-90	SL-10	1,930.46			1,930.46	1,930.46	
Addition to Red Barn	Jun-92	SL-10	1,400.00			1,400.00	1,400.00	
Storage Building	Jun-02	SL-10		21,495.00		21,495.00	179.00	
						-	-	
						-	-	
						-	-	
						-	-	
Subtotal - Buildings & Improvements			9,617.46	21,495.00	-	31,112.46	9,796.46	

Furniture & Fixtures								
Furniture & Fixtures	1977	SL-10	1,019.55			1,019.55	1,019.55	
Posting machine (1/2)	1978	SL-10	4,220.91			4,220.91	4,220.91	
Copier	Feb-84	SL-5	833.75			833.75	833.75	
Typewriter (1/2)	Jun-85	SL-5	318.00			318.00	318.00	
Table	Jan-86	SL-10	158.00			158.00	158.00	
Fire Proof Cabinet	Nov-89	SL-10	300.00			300.00	300.00	
Computer	Jun-91	SL-5	2,737.50			2,737.50	2,737.50	
Copier (1/2)	Jun-96	SL-5	1,557.50			1,557.50	1,557.50	
PS 120 Computer	Jun-96	SL-5	2,311.93			2,311.93	2,311.93	
						-	-	
						-	-	
						-	-	
						-	-	
Subtotal - Furniture & Fixtures			13,457.14	-	-	13,457.14	13,457.14	
Distribution System								
Distribution System	1933	SL-50	51,231.32			51,231.32	51,231.32	
Distribution System	1960	SL-50	116,480.00			116,480.00	99,207.00	
Distribution System	1969	SL-50	185,640.00			185,640.00	119,121.00	
Distribution System	1977	SL-50	277,000.55			277,000.55	141,733.00	55,394.75
Tank	1980	SL-50	16,000.00			16,000.00	7,067.00	
Apartment Hook Up	1981	SL-35	3,277.82			3,277.82	1,979.00	
Water Loading Building	Sep-82	SL-35	1,420.00			1,420.00	814.00	
8" Water Meter	Aug-86	SL-35	978.15			978.15	447.00	
New Line - Druther's	Sep-86	SL-35	2,588.00			2,588.00	1,172.00	
Flowmeter for hydrant	Oct-86	SL-35	480.83			480.83	220.00	
Ford Street Line	Jan-87	SL-35	7,331.26			7,331.26	3,240.00	
Kelly Court Line	Jun-88	SL-35	7,000.00			7,000.00	3,000.00	
Road Bore & Forsee's	Jun-88	SL-35	5,662.95			5,662.95	2,413.00	
(1) 6" meter/(6) 3/4" meters	Jul-88	SL-40	2,096.80			2,096.80	742.00	
Waterline for Horizon Homes	Jan-89	SL-50	6,854.00			6,854.00	1,850.00	
Hwy 22/Gratz Road Waterline	Feb-89	SL-50	1,380.79			1,380.79	376.00	
Horizon Homes material for line	Mar-89	SL-50	2,261.42			2,261.42	600.00	
Fire Hydrant - Horizon Homes	Mar-89	SL-40	801.62			801.62	267.00	
Fire Hydrant - Horizon Homes	Mar-90	SL-40	978.00			978.00	300.00	
Pipe - 2" meter	Apr-90	SL-35	2,253.24			2,253.24	800.00	
Old Lines Replaced	Jun-90	SL-35	10,161.50			10,161.50	3,625.00	
Hwy 127 Waterline	Jun-90	SL-50	82,087.00			82,087.00	18,881.31	75,671.50
Water main & Plant Improvements	Jun-90	SL-50	178,882.61			178,882.61	44,725.00	
400,000 Gallon Tank	Jun-90	SL-30	576,526.56			576,526.56	239,811.60	577,166.56
Capitalize Repairs to 100.000 Gallon Tank	Jun-90	SL-30	93,718.80			93,718.80	39,049.70	
2 Hydrants	Jun-91	SL-40	1,743.32			1,743.32	503.27	
Services	Various	SL-50	19,005.00			19,005.00	5,691.00	
Meters	Various	SL-50	17,384.75			17,384.75	5,213.00	
Meter Installations	Various	SL-50	19,005.00			19,005.00	5,691.00	
New Water Treatment Plant	Jun-96	SL-50	2,272,841.02			2,272,841.02	295,470.00	1,064,254.37
Pipe Upgrade - Cedar Hill Road	2-Mar	SL-50		6,447.00		6,447.00	43.00	
						-	-	
						-	-	
						-	-	
						-	-	
Subtotal - Distribution System			3,963,072.31	6,447.00	-	3,969,519.31	1,095,283.20	1,772,487.18

Equipment						-		
Equipment	1977	SL-10	2,227.30			2,227.30	2,227.30	
Temporary line	1977	SL-10	14,000.00			14,000.00	14,000.00	
Snow Plow	1979	SL-10	1,617.00			1,617.00	1,617.00	
Boat	Jul-83	SL-5	100.00			100.00	100.00	
Alum Feeder Tank	Jun-85	SL-5	2,887.91			2,887.91	2,887.91	
Ditch Witch	Jun-86	SL-7	450.00			450.00	450.00	
Chlorinator Equipment	Oct-86	SL-10	3,370.00			3,370.00	3,370.00	
Two Cylinder Scale	Nov-86	SL-10	755.00			755.00	755.00	
Push Rod Machine	Apr-87	SL-10	4,500.00			4,500.00	4,500.00	
Jar Test Equipment	Oct-86	SL-5	778.02			778.02	778.02	
Communication Equipment	Jan-89	SL-10	1,396.00			1,396.00	1,396.00	
PH Meter & Line Converter	Jun-89	SL-15	424.29			424.29	366.00	
Eccentric Slide Block	Jun-89	SL-15	188.42			188.42	170.00	
Porta Pump & Tow Chain	Jun-89	SL-20	608.89			608.89	333.00	
Hi Tork Mixer	Jun-89	SL-10	1,582.00			1,582.00	1,582.00	
1/2 Intercom	Oct-89	SL-10	30.45			30.45	30.45	
Telephone system (partial)	Jan-90	SL-10	272.84			272.84	272.84	
Jackhammer	Feb-90	SL-10	5,499.90			5,499.90	5,499.90	
Copy Machine	May-90	SL-10	421.25			421.25	421.25	
Coin Operated Machine	Mar-90	SL-10	989.00			989.00	989.00	
Valve - River gate	Apr-90	SL-40	3,150.00			3,150.00	987.00	
Fencing	Jun-90	SL-20	6,025.00			6,025.00	3,763.00	
Ten Foot Jon Boat	Jun-91	SL-10	85.00			85.00	85.00	
1/2 Mower	Jun-91	SL-10	561.87			561.87	561.87	
Roto Tiller	Jun-93	SL-10	579.95			579.95	468.82	
Lawnmower	Dec-94	SL-10	1,716.96			1,716.96	1,290.00	
Computer	Dec-94	SL-5	350.00			350.00	350.00	
P/U Truck Chevy (1/2)	Jun-96	SL-5	18,916.57			18,916.57	18,916.57	
Snow Plow & Utility bed for truck	Jul-90	SL-5	7,245.00			7,245.00	7,245.00	
Computer Upgrade	Oct-97	SL-3	4,686.00			4,686.00	4,686.00	
1989 Dodge Truck	Aug-99	SL-5	6,000.00			6,000.00	3,500.00	
1999 Deere 310E Backhoe	Sep-99	SL-10	28,034.41			28,034.41	7,942.00	
12' Truck Bed	Apr-00	SL-10	6,722.00			6,722.00	1,512.00	
Scag Power mower	Jun-01	SL-5	4,000.00			4,000.00	866.67	
Scag Power mower accessories	Jun-01	SL-5	299.00			299.00	64.98	
2002 Chevy Pickup	Jan-02	SL-5		26,390.25		26,390.25	2,639.00	
						-	-	
Subtotal - Equipment			130,470.03	26,390.25	-	156,860.28	96,623.58	
						-		
Grand Total Waterworks			4,209,108.76	54,332.25	-	4,263,441.01	1,215,160.38	1,772,487.18
						equals 6/30/02 audit	equals 6/30/02 audit	equals 6/30/02 audit

Owenton Sewer								
Audit Report								
Year ended: June 30, 2002								
Kind of property	Date	Method Life Rate	Beginning Balance	Additions	Retirements	Ending Balance	Accum. Depr.	CIAC
Land								
Land & Rights of Way	1938	n/a	2,250.00			2,250.00	-	
Subtotal - Land & Rights of Way			2,250.00	-	-	2,250.00	-	
Buildings & Improvements								
Restroom improvements	Apr-87	SL-10	287.00			287.00	287.00	
						-		
						-		
						-		
						-		
Subtotal - Buildings & Improvements			287.00	-	-	287.00	287.00	
Furniture & Fixtures								
1/2 Posting Machine	1978	SL-10	4,220.91			4,220.91	4,220.91	
1/2 IBM Typewriter	2-12-85	SL-5	318.00			318.00	318.00	
Office Chair	1-23-86	SL-7	139.00			139.00	139.00	
Fire Proof Safe	Nov-89	SL-10	300.00			300.00	300.00	
Phone System - partial	Jun-90	SL-10	984.24			984.24	984.24	
						-	-	
						-	-	
						-	-	
						-	-	
Subtotal - Furniture & Fixtures			5,962.15	-	-	5,962.15	5,962.15	

Equipment						-		
Equipment	1938	SL-10	3,335.66			3,335.66	3,335.66	
Equipment	1964	SL-10	3,335.67			3,335.67	3,335.67	
Equipment	1977	SL-10	1,050.00			1,050.00	1,050.00	
78 Chev Truck	Aug-83	SL-3	3,500.00			3,500.00	3,500.00	
Radio (1/3 interest)	Aug-83	SL-3	100.00			100.00	100.00	
Sewer Cleaning Machine	Apr-84	SL-5	974.85			974.85	974.85	
Chlorinator Machine	Feb-86	SL-7	1,350.00			1,350.00	1,350.00	
Smoke Blower	Apr-87	SL-10	602.10			602.10	602.10	
Monitoring Kit	Jun-87	SL-10	884.64			884.64	884.64	
Communication System	Jan-89	SL-10	1,396.00			1,396.00	1,396.00	
Sludge Truck	Aug-88	SL-10	27,691.00			27,691.00	27,691.00	
91 S10 Chevey P/U	Jul-91	SL-5	3,953.16			3,953.16	3,953.16	
V-500 Chlorinator	Aug-89	SL-10	1,222.38			1,222.38	1,222.38	
12' Boat & 4 hp motor	Sep-89	SL-10	200.00			200.00	200.00	
Air Tanks	Dec-89	SL-10	1,522.00			1,522.00	1,522.00	
Equipment	Jan-90	SL-10	173.61			173.61	173.61	
Copy Machine	May-90	SL-10	421.25			421.25	421.25	
Computer System	Jun-90	SL-10	3,500.00			3,500.00	3,500.00	
Computer System	Jun-90	SL-10	2,737.50			2,737.50	2,737.50	
Mower (1/2 interest)	Jun-91	SL-10	500.00			500.00	500.00	
Sewer Cleaning Machine	Apr-93	SL-10	20,009.00			20,009.00	19,009.00	
Aerator	Jun-96	SL-10	8,200.00			8,200.00	4,988.00	
2 Myer Pumps & Installation	Nov-97	SL-10	4,842.84			4,842.84	2,218.00	
99 Deere 310E Backhoe (1/2)	Sep-99	SL-10	9,792.59			9,792.59	2,692.00	
Aerators	Apr-00	SL-10	11,962.00			11,962.00	2,691.00	
						-	-	
						-	-	
						-	-	
						-	-	
Subtotal - Equipment			113,256.25	-	-	113,256.25	90,047.82	

Distribution System						-		
Distribution System	1938	SL-50	101,899.32			101,899.32	101,899.32	106,338.26
Distribution System	1964	SL-50	146,664.34			146,664.34	113,171.00	
Sewer Lines	Apr-89	SL-50	3,748.55			3,748.55	994.00	
Horizon Home Lines	Jan-89	SL-50	5,635.00			5,635.00	1,525.00	
Wastewater Plant Improvements	Dec-89	SL-50	2,110,399.46			2,110,399.46	526,980.00	1,168,806.00
Pump Station Replacements	Jun-89	SL-50	267,212.77			267,212.77	69,472.00	
Sewer Rehab and television service	Dec-89	SL-20	46,935.29			46,935.29	28,342.00	
Meters, services & installations	Jun-90	SL-50	2,000.00			2,000.00	500.00	
Meters, services & installations	var 6/89	SL-50	4,700.00			4,700.00	1,729.00	
Meters, services & installations	Jun-91	SL-50	2,850.00			2,850.00	656.00	
Sewer Rehab	Dec-91	SL-20	4,561.51			4,561.51	2,394.00	
Sewer Rehab	Dec-92	SL-20	6,913.79			6,913.79	3,287.00	
Lift Station	Mar-99	SL-50	15,450.00			15,450.00	1,004.00	
Madison Street Force Main	Jan-00	SL-50	67,145.00			67,145.00	3,357.00	
Madison Street Force Main	Dec-00	SL-50	9,851.78			9,851.78	296.00	
						-	-	
						-	-	
						-	-	
						-	-	
Subtotal - Distribution System			2,795,966.81	-	-	2,795,966.81	855,606.32	1,275,144.26
Grand Total Sewer			2,917,722.21	-	-	2,917,722.21	951,903.29	1,275,144.26
						equals 6/30/02 audit	equals 6/30/02 audit	equals 6/30/02 audit

Exhibit 2
Real Estate

Exhibit 2		
Real Estate - Owenton Water and Sewer		
Owenton Waterworks		
Audit Report		
Year ended: June 30, 2002		
In Progress		
Owenton Sewer		
Audit Report		
Year ended: June 30, 2002		
In Progress		

Exhibit 3
Legal Proceedings

In Progress

Exhibit 4
Contracts

In Progress

Exhibit 5
Employees

Last name	First name	SS#	Date of hire	Title	Water licenses	WW licenses	DOB
WATER							
Glore	Athelene	[redacted]	1/25/1971	Office Manager			[redacted]
Gibson	Marshall		7/24/1985	Superintendent	II-D 5121 III-A 05354 ALT 532	II-05029	
Clifton	David		5/9/1975	WTP Operator	III-D 01489 III-A 01488	II-01916	
Dempsey	Steve		6/29/1999	Maintenance backhoe	II-D 3707		
O'Banion	Bobby		4/18/1979	WTP Operator	II-D 02682 III-A 03077	II-03030	
Callan	Anthony		4/4/1994	WWTP/WTP Operator	II-D 00173 III-A 00611	II-00758	
Kincaid	Terry		6/26/1980	Maintenance backhoe	II-D 05652 ALT 532 III-A 06146		
SEWER							
Young	Ashley		7/28/1997	Maintenance			
Howard	Robert		9/24/1985	WWTP Operator	II-D 5524	II-05743	
Osborne	LeeAnn		4/1/1999	Billing Clerk			

Exhibit 6
Employee Benefits

Kentucky-American Water Company
offers many benefits to its full-time associates. . . .

Holidays

Associates of the Company receive eleven paid holidays each year. The eleven holidays are:

New Year's Day	Thanksgiving Day
Good Friday	Friday after Thanksgiving
Memorial Day	Christmas Eve
Fourth of July	Christmas Day
Labor Day	Personal Floating Days* (2)

Vacation

Completed Years of Continuous Service	Vacation	Completed Years of Continuous Service	Vacation
1 Year	10 Days	15 & 16 Years	20 Days
2 Years	11 Days	17 & 18 Years	21 Days
3 Years	12 Days	19 & 20 Years	22 Days
4 Years	13 Days	21 & 22 Years	23 Days
5 & 6 Years	15 Days	23 & 24 Years	24 Days
7 & 8 Years	16 Days	25 Years Plus	25 Days
9& 10 Years	17 Days		
11 & 12 Years	18 Days		
13 & 14 Years	19 Days		

Death in the Family

When death occurs in the immediate family of an associate and in a locality where it is reasonably possible for the associate to attend the funeral, the Company shall grant said associate up to three (3) consecutive scheduled working days at straight time for the purpose of making necessary arrangements and attending the funeral. The associate shall report to work no later than the second scheduled workday following the funeral. The Company should be advised when the associate plans to return to work. Within the meaning of this section, immediate family includes husband and wife, children, mother or father, brother, sister and immediate mother-in-law or father-in-law, stepfather or stepmother only. The Company shall grant two (2) scheduled work days with pay at straight time for the purpose of attending the funeral of a grandchild, grandmother and grandfather and one (1) scheduled work day with pay (providing the funeral occurs on a scheduled work day) at straight time for the purpose of attending the funeral of an immediate brother-in-law, sister-in-law, grandmother and grandfather of spouse.

Sick Leave

The Company provides a sick leave program wherein each associate who has completed six months of continuous service will be eligible for compensation after the first day of illness. An associate who is unable to perform his regular duties as a consequence of illness or accident shall be paid as follows during such disability:

Effective July 1, 2001, new associates will have two weeks of annual sick leave in which the associate will receive 100% of his/her base pay. After the two weeks of sick leave has been exhausted, the associate will receive 75% of his/her base pay under the short-term disability benefit. If the associate needs to be off, for more than 26 weeks, the associate will start to receive long-term disability benefits @ 60% of his/her base pay for as long as the associate remains disabled.

The Company has the option to select a medical doctor to examine the associate stating that the associate was ill and unable to perform his regular duties during such absence. Only a doctor's form provided by the Company will be accepted.

Leave of Absence for Sickness or Accident Disability

Associates will be granted leaves of absence for sickness or accident disability for the maximum periods as follows:

LENGTH OF SERVICE	MAXIMUM PERIOD OF LEAVE OF ABSENCE
UP TO SIX MONTHS	TWO WEEKS
SIX MONTHS BUT LESS THAN TWO YEARS	TWENTY-SIX WEEKS
TWO YEARS BUT LESS THAN FIVE YEARS	ONE YEAR
OVER FIVE YEARS	TWO YEARS

Continuity of Income to a Disabled Associate

Because the Company realizes that delay sometimes occurs in the determination of benefits payable under the Worker's Compensation Law, the Company will pay a disabled associate's normal weekly wages in full for the period indicated under Sick Leave. All the associate need do is to agree that any benefits currently or subsequently received from the Worker's Compensation carrier (other than reimbursement of expenses) with respect to said period of disability, shall be assigned to the Company. The payments assigned from the compensation carrier to the Company include only weekly benefits for temporary disability.

Group Insurance

All full-time associates can participate in the insurance plan, beginning on the first day of the month following 30 days of continuous service.

THE BLUECARD PPO PROGRAM is a national program that links participating doctors and hospitals to Blue Cross and/or Blue Shield Plans throughout the United States. Your only responsibility is for any applicable co-payments or coinsurance and any non-covered expenses. When a participating PPO physician or health care practitioner is used, he/she will file a claim of your behalf. If a nonparticipating provider is used, you are responsible for paying for care up front at the time of service. You then submit the bill along with a completed claim form, for reimbursement.

Information on the Plan is provided in the Summary Plan Description book.

THE PPO DENTAL PROGRAM will be administered by Aetna.

Information on the Plan is provided in the Summary Plan Description book.

Pension Plan (Retirement)

Realizing the necessity of providing now, during your productive years, for the time when you will reach retirement, the Company has established and maintains a liberal pension plan. This plan covers both early and normal retirement, as well as disability retirement. After five years of continuous service, you have vested rights and will receive retirement benefits even if you leave the Company. For full information, consult "Your Pension Plan" booklet. Copies of this booklet may be borrowed from the Director Human Resources. You may also consult your supervisor concerning pension benefits.

Savings Bonds

The Company encourages associates to participate in the U.S. Savings Bonds payroll deduction plan. Depending upon how much you decide to have deducted from each paycheck, you may receive any number of savings bonds per year. Consult the Accounting Supervisor or your immediate Supervisor for details.

401(k) Savings Plan

The Company allows all associates to contribute to the 401(k) Savings Plan on a Pre-Tax Basis. The Company will contribute 50 percent (50%) of the first five percent (5%) contributed starting July 1, 2001. Please refer to the Summary Plan Description Booklet for full details of the Plan.

Credit Union

The Company is a member of the Members Heritage Federal Credit Union. Information on all benefits provided by the Credit Union is included in the associate manual.

Central Kentucky Blood Center Program

Kentucky-American Water Company participates in the Central Kentucky Blood Center drives twice per year. A mobile unit will be stationed at our office complex and associates desirous of donating can schedule a convenient time to give blood during working hours.

Educational Assistance Plan

An educational assistance program was initiated in 1984 (revised in 1991) to assist associates who wish to continue their education on a voluntary basis, during off-duty hours. All associates will be eligible immediately with no waiting period required. If you have any questions, see your supervisor.

Fishing Privileges

Kentucky-American Water Company associates and their immediate families are provided free fishing privileges at No. 4 Reservoir. You are required to abide by the rules and regulations set forth by the Lake Ellerslie Fishing Club. A Kentucky State Fishing License is required for anyone 16 years or older. See attached memo.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2012-00096
ATTORNEY GENERAL STAFF'S FIRST REQUEST FOR INFORMATION

Witness: Lance Williams / Keith Cartier

3. Reference: Application. Please provide the documentation (including workpapers, memoranda, reports from third-parties, etc.) through which the operating and maintenance costs were calculated for both proposed courses of action.

Response:

Please see the response to PSC Data Request No. 40, which contains the calculation documentation relevant to Appendix D and E of the Feasibility Study KAW submitted with its Application in this case. Chemical cost estimates for 2014, 2015, and 2016 are based on modeling that was conducted in conjunction with the 2012 planning process. Fuel & Power and Labor cost estimates are based on the 2012 budget.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2012-00096
ATTORNEY GENERAL STAFF'S FIRST REQUEST FOR INFORMATION

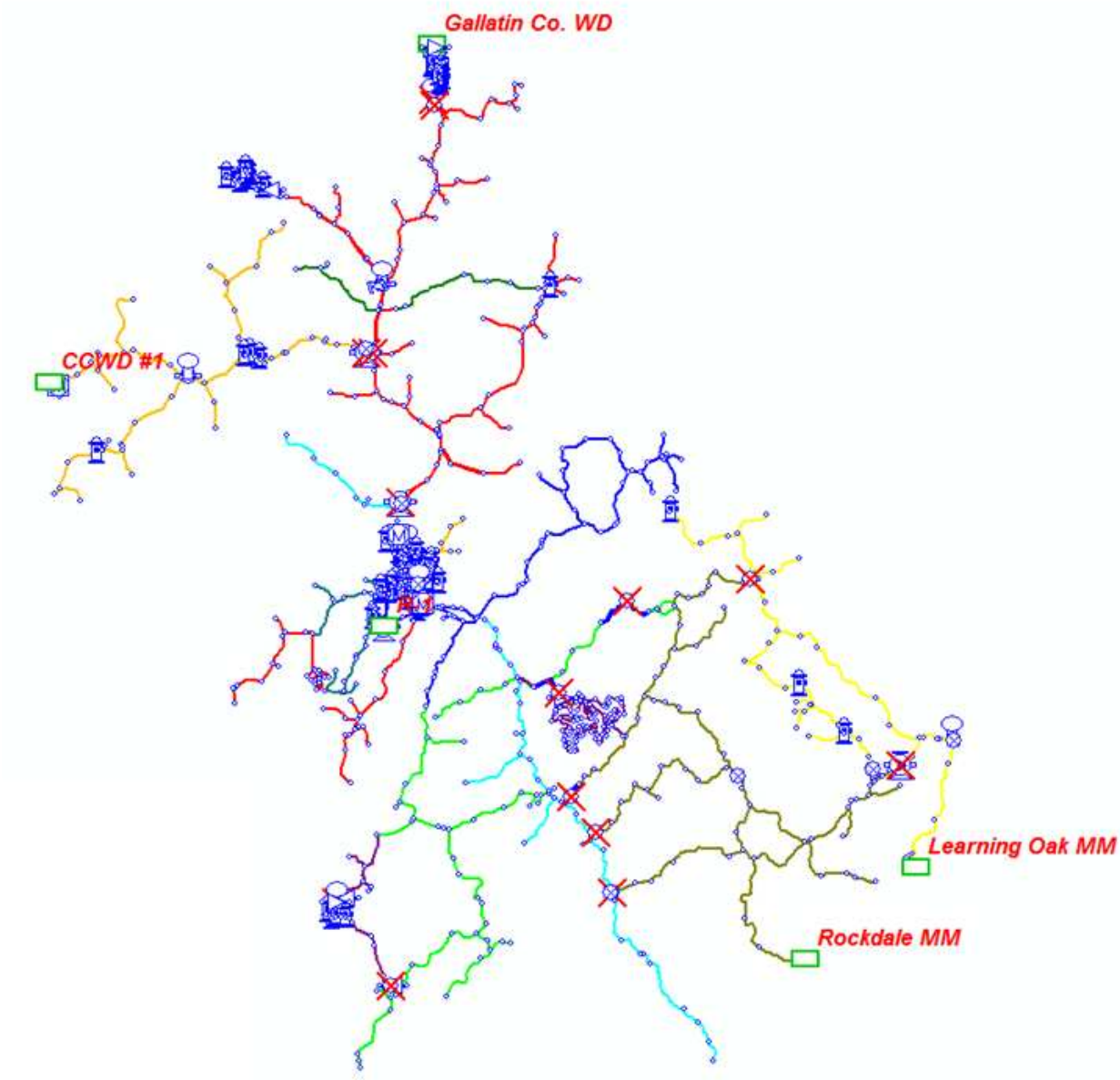
Witness: Lance Williams

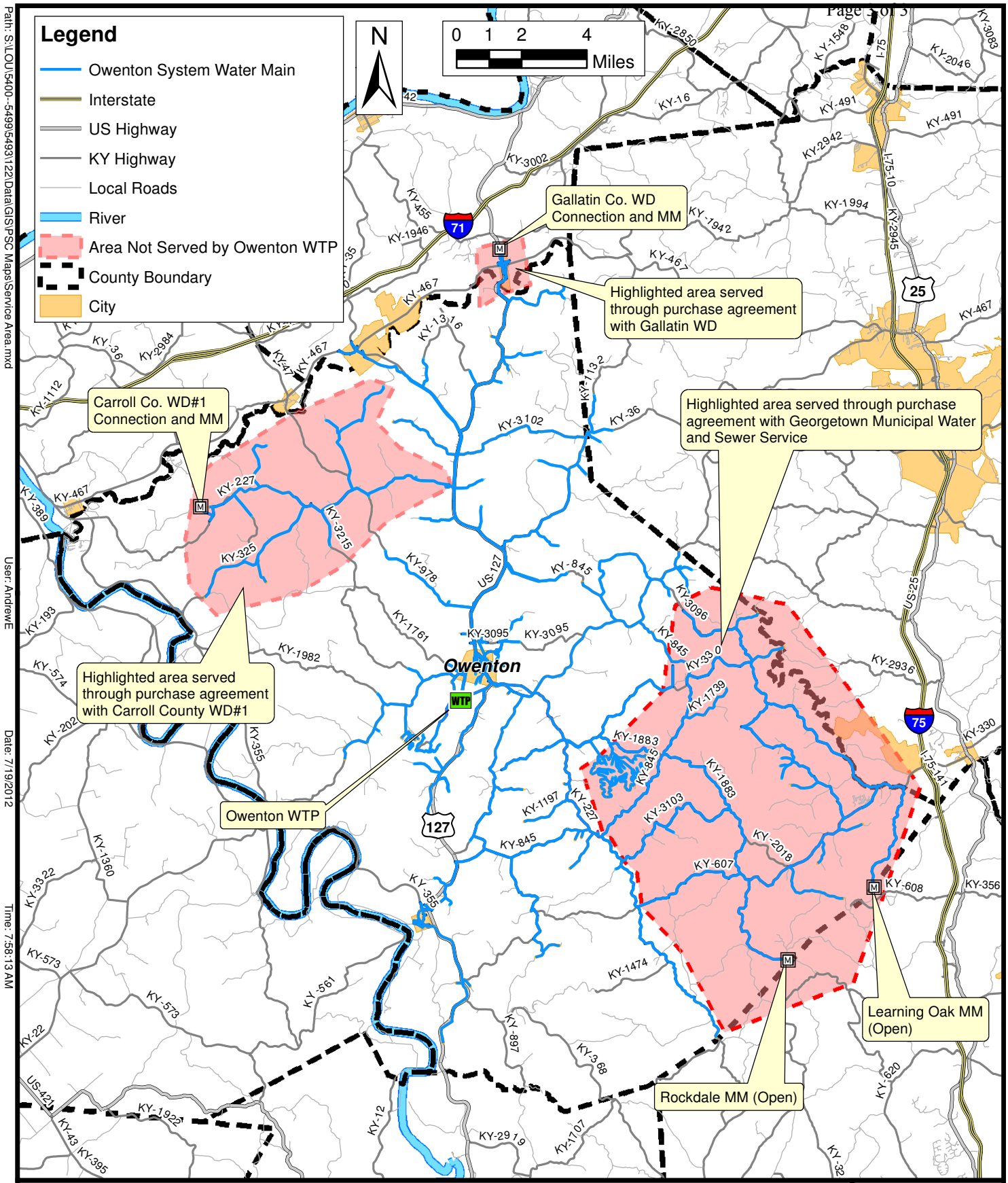
4. Reference: Application. Paragraph 7 states that "the transmission main's *primary* purpose will be to supply water to a new 600,000 gallon storage tank outside of Owenton." (emphasis added). Please explain all current and anticipated non-primary purposes for the construction of the transmission main.

Response:

The completion of the Northern Division Connection project will increase pressure with the installation of the booster pump station and the new 600,000 gallon storage tank outside of Owenton. These improvements will provide reliable service to the Northern Division distribution system. Additionally, the construction of the transmission main will provide reliable service to areas within the existing Northern Division system that are currently served through Purchase Agreements with Georgetown Municipal Water and Sewer Service. These areas are in the Southeast portion of Owen County and are shown on the attached figure. The new 600,000 gallon storage tank will also allow KAW to better utilize the New Columbus tank.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2012-00096
ATTORNEY GENERAL STAFF'S FIRST REQUEST FOR INFORMATION





Path: S:\LOU\5400-5499\5493\122\Data\GIS\PSC Maps\Service Area.mxd
User: AndrewE
Date: 7/19/2012
Time: 7:58:13 AM

OWENTON WATER TREATMENT PLANT
SERVICE AREA

KENTUCKY AMERICAN WATER
LEXINGTON, KENTUCKY

STRAND ASSOCIATES®

5493.122

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2012-00096
ATTORNEY GENERAL STAFF'S FIRST REQUEST FOR INFORMATION

Witness: Lance Williams

5. Reference: Application. Explain why the preexisting Monterey Tank is going to be decommissioned during Phase I and a separate storage tank is going to be built at Monterey during Phase III. Specifically, explain why the original tank cannot be reprovisioned (or otherwise repaired or rehabilitated in a cost-effective manner).

Response:

The existing Monterey Tank will be decommissioned because it will not be a necessary piece of infrastructure if the Northern Division Connection project is completed. Also, removal of the tank will improve water quality and reduce maintenance costs after the completion of the project.

There are several design objectives associated with the capacity of the Monterey Tank, including the three identified below.

1) **Address Volume Needs** - The new Monterey Tank is designed to be of a large enough capacity to supply a flow of 2 MGD for a period of 3 hours (250,000 gallons) should a KRS II water plant outage occur. The new storage tanks are sized such that the Northern Division has at least 1 MG of useable storage volume in the system.

   The existing Monterey Tank, however, is only 120,000 gallons and cannot supply the needed volume.

2) **Provide efficient use of existing infrastructure** - The existing Monterey Tank is lower in elevation than the new tank (650 max EL vs. 880 max EL). Pressure energy created by the existing KRS II high service pumps would be wasted by filling into the existing Monterey Tank. Additional energy from the pumps (as compared to that required if utilizing the new Monterey Tank) would subsequently be required to pump from an existing Monterey Tank to convey water into the Owenton system.

3) **Reduce maintenance costs where feasible and maintain a high standard of water quality** - Taking the existing Monterey Tank out of service after the Northern Division connection is complete is beneficial because:
   - The current service area can be provided with adequate supply volume and pressure without the tank in service. Decommissioning the tank will reduce the maintenance and upkeep costs associated with the tank.
   - The existing Monterey Tank would also turn over less frequently after project completion. This is because customers on the south side of Cedar Creek will be supplied from the transmission main, reducing demand on the tank service area.

KENTUCKY-AMERICAN WATER COMPANY
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Less frequent tank turn over results in increased water age, which can result in decreased water quality.

KENTUCKY-AMERICAN WATER COMPANY
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Witness: Lance Williams

6. Reference: Application. KAW states that 89% of the Northern Division Connection transmission will be installed in existing road rights-of-way. Describe the proposed contingency plan if the remaining 11% cannot be obtained and any elevated or incremental costs associated with that course of action.

Response:

The original number of private easements needed for the Northern Division Connection was 20. KAW has continued to evaluate the route for this project since and in doing so it has determined that it has been able to make minor adjustments to the route to reduce the number of necessary private easements to 18. This adjustment occurred with minimal changes to the existing design. As of the date of this response, 13 of those 18 easements have been obtained. KAW expects to obtain a fourteenth easement in early August. KAW continues to evaluate the location of the pipeline route and has determined that it may be possible to avoid needing the final four easements by using existing right-of-way. This would reduce the percentage of private easements required for the entire route to less than five percent. KAW does not anticipate any elevated project costs due to these realignments.

KENTUCKY-AMERICAN WATER COMPANY
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Witness: Lance Williams / Linda Bridwell

7. Reference: Application. KRS II was originally approved for a rate of 20 MGD from June 1 through August 31 and at a rate of 6 MGD for all other periods in order to service the Central District's water needs.

   A. Explain whether KRS II WTP will need to be expanded to accommodate new output of treated water resulting from KAW's proposal that KRS II now service the Northern District as well.

   B. Explain whether KAW will need to obtain (or has obtained) an approval from the Kentucky Division of Water with respect to the water withdrawal permit that corresponds to the KRS II facility.

Response:

A. The KRS II WTP would not need to be expanded to accommodate supplying the Northern District. KRS II has a rated capacity of 20 mgd and is capable of being safely operated at flows up to 24 mgd. The ability of KRS II to operate at 24 mgd is due to its pumping and filtration capacity. KRS II has five filters and with all filters in service, KRS II could produce 25 mgd. The pumps at KRS II are also sized to reliably produce 24 mgd with one unit out of service.

The Kentucky Division of Water generally permits withdrawals based on actual production of the plant, and will only consider requests for increased withdrawal amounts based on actual withdrawals above the permitted amount by 15% or more, for more than 30 days on average.

B. The current Kentucky Division of Water Withdrawal Permit allows for the withdrawal of 20 mgd during the months of June, July, and August; and 6 mgd during the remaining months of the year. KAW recognizes that a revision to this Withdrawal Permit may need to be obtained in the future.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2012-00096
ATTORNEY GENERAL STAFF'S FIRST REQUEST FOR INFORMATION

Witness: Lance Williams / Keith Cartier

8. Reference: Feasibility Study Report (Feasibility Study). Under Section II, and Direct Testimony of Williams at page 6. Statement of the Problem, Please explain KAW's references to "more stringent water quality standards."

   A. To which future standards does this refer?

   B. What are the anticipated implementation dates for each new standard?

   C. Describe why the Owenton WTP will not be able to meet these standards and provide any supporting documentation to include any site inspections performed by Kentucky Division of Water.

   D. Provide copies of any and all correspondence between the Kentucky Energy and Environment Cabinet and its Division of Water (hereinafter referenced collectively as Division of Water or DOW) related to the present application.

   E. Describe whether or not KRS II will be affected by the new standards and what the associated increased O&M costs will be as a result.

Response:

A) The reference relates to the Stage 2 of the Disinfection/Disinfection Byproducts (D/DBP) Rule.

B) The standards will begin applying to the Northern Division in October 2013.

C) KAW begins compliance monitoring for Stage 2 of the Disinfection/Disinfection Byproducts (D/DBP) Rule for our Northern Division in October 2013. Under current operating conditions, the Plant is having difficulty dealing with the amount of sludge generated due to enhanced coagulation that is necessary to meet existing D/DBP requirements. Without modifications to the sludge handling facilities, KAW will either not meet the Stage 2 D/DBP Rule or discharge requirements in the long-term. Please see the attached ND Routine Surface Inspection of September 8, 2011 which is a site inspection report by the Kentucky Division of Water. Please note section VI Compliance Status for Discharge/Emission Compliance for an inspection notation of "No violations were observed - but impending violation trends observed."

D) Please refer to PSC DR#18 for correspondence with DOW, some of which may be interpreted to relate to the present application.

E) KRS II has been designed to account for new regulatory requirements. No changes are necessary at KRS II to meet these requirements.

ENERGY AND ENVIRONMENT CABINET
KENTUCKY DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
Routine Surface Inspection

Site/Permit ID: KY0940430	Division: **Water**		Regional Office: Florence
Site Name: KY American Water-N. Division		Program: **Drinking Water**	
Site Address: 220 Water Plant Lane			
City: Owenton	State: KY	Zip: 40359	County: Owen
Inspection Type: Routine Surface	Purpose: Comprehensive		AI #: 34054
Inspection Date: 9/8/11	Time: Start 10:30 AM End 3:30 PM		
Latitude:	Longitude:		
Coordinate Collection Method:			Revision Code: 112108

Drinking Water Data

Plant Name: Owenton	Contact Name: Kevin Kruchinski	
Phone No.:	Fax No:	Email Address:

I. Administrative Requirements

Comments:

I. Compliance Status - No violations observed

II. Operator Certification/Accreditation Requirements

Operator in Charge or on duty.

Operator Name	Plant Certification #	Distribution Certification #
David Clifton		
Dalvin Krug		

Comments: The operators for Kentucky American's new plant also are able to come to Owenton division in case of emergencies.

II. Compliance Status - No violations observed

III. Record Keeping Requirements

Comments:

III. Compliance Status - No violations observed

Comments: The facility has a major leak in the pipe gallery that needs to be addressed. The facility has barrels of chemicals in the outside of the plant that need to be put in a proper storage area.

V. Compliance Status - No violations obs-but impending viol trends obs

VI. Discharge/Emission Compliance

Comments: Facility only cleans out backwash basin twice a year. The facility has reminisce of overflowing; none of the sediment was in the creek at the time of the inspection. The full inspection report on the backwash is on a separate inspection form.

VI. Compliance Status - No violations obs-but impending viol trends obs

VII. Monitoring/Analyses Evaluation

Comments:

VII. Compliance Status - No violations observed

VIII. Environmental /Health Impact

Work Site Hazard Assessment : ☐ ATTACHED ☒ REVIEWED

Comments:

VIII. Compliance Status – No violations observed

IX. Documentation

- ☒ **Samples taken by DEP**
- ☐ **Samples taken by outside source**
- ☒ **Instrument readings taken by DEP regional office**
- ☐ **Photographs obtained by DEP**
- ☐ **Copies of records obtained by DEP**
- ☐ **Other documentation**

Inspector: Catherine Haven	**Title:** Environmental Inspector I	**Date:** 9/19/2011

Signature:

Overall Compliance Status

☐ **No violations observed**

STEVEN L. BESHEAR
GOVERNOR

LEONARD K. PETERS
SECRETARY

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

Division of Water
8020 Veterans Memorial Dr Ste 110
Florence, KY 41042
www.kentucky.gov

October 4, 2011

KY American Water Co
Kentucky American Northern Division
220 Water Plant Dr
Owenton, Kentucky 40359

RE: Kentucky American Northern Division -- 34054
Permit No.: KY0940430
Owen County, Kentucky
Activity ID: CIN20110001

Dear Kevin Kruchinski:

Attached for your information and records is a copy of the DW Comp-Surface performed at Kentucky American Northern Division on September 8, 2011.

If you have any questions or comments concerning this inspection, please contact the Florence Regional Office at: (859) 525-4923.

Sincerely,

Catherine Haven
Environmental Inspector
Florence Regional Office
Division of Water

CMH
Enclosure:

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2012-00096
ATTORNEY GENERAL STAFF'S FIRST REQUEST FOR INFORMATION

Witness: Lance Williams

9. Reference: Feasibility Report and Testimony at p. 6. Provide copies of any and all correspondence or other documentation relating to DOW identifying the location of the raw water intake on Severn Creek as an issue for KAW to correct.

Response:

The raw water intake is owned by the City of Owenton. The condition and location of the intake has historically been a point of concern for the Division of Water with the City of Owenton. See the attached 2004 Sanitary Survey by the Division of Water.

ERNIE FLETCHER
GOVERNOR

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
14 REILLY ROAD
FRANKFORT, KENTUCKY 40601-1190
www.kentucky.gov

LAJUANA S. WILCHER
SECRETARY

October 8, 2004

Mr. Marshall Gibson
Owenton Water Works
220 Water Plant Lane
Owenton, Kentucky 40359

RE: PWSID #0940337
2004 Sanitary Survey

Dear Mr. Gibson:

The Division of Water conducted an Interim Enhanced Surface Water Treatment Rule sanitary survey of the Owenton water system on September 8 and 9, 2004. A copy of the survey is attached.

No significant deficiencies were found during the survey. The following non-significant deficiencies were noted:

1. The spent backwash holding basins at the old water treatment plant are not adequate for the amount of backwash water that can be produced at the new plant.
2. There is no containment around the caustic soda bulk tank.
3. There is no formal main break notification process.
4. The flow recorded on the monthly Discharge Monitoring Report (DMR) does not accurately reflect the flow being discharged.

In addition, the Division recommends the following:

1. Maintain a customer complaint/inquire log.
2. Maintain a maintenance log.
3. Place a sign on the chemical feed room door indicating that eye protection is needed due to the use of caustic soda.
4. Inspect and test backflow prevention devices on a regular basis.
5. Repair the tank telemetry system.
6. Remove and inspect the 2 remaining distribution high service pumps for potential caustic soda buildup.

The Division is also concerned over the increased demand placed on the current treatment processes and inability to take the single Claricone out of service without shutting the entire plant down. There is no interconnection with any other water system for an emergency supply that could assist with customer demand during plant shutdown. This inability to take the Claricone out of service for routine maintenance is resulting in sludge buildup that cannot be adequately removed.

Owenton has 90 days to respond to the non-significant deficiencies (January 8, 2005). The response should be sent to the Drinking Water Branch, 14 Reilly Road, Frankfort KY 40601 to the attention of Julie W. Roney.

If you have any questions regarding this report, contact either Julie W. Roney in the DOW Drinking Water Branch at 502/564-2225, extension 535 or Gretchen Bartley in the Florence Regional Office at 859/525-4923.

Sincerely,

Donna S. Marlin, Manager
Drinking Water Branch
Division of Water

DSM:JWR

C: Florence Regional Office
Drinking Water Files

NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
KENTUCKY DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER

Drinking Water Sanitary Survey

Site/Permit ID: 0940337	Division: Water		Regional Office: Florence
Site Name: Owenton Water Workd		Program: Drinking Water	
Site Address: 220 Water Plant Lane			
City: Owenton	State: KY	Zip: 40359	County: Owen
Inspection Type: Sanitary Survey	Purpose: Comprehensive		Not/Com #:
Inspection Dates: 09/08/04, 09/09/04	Time: Start 10:30 AM End		AM
Latitude: 38 31 17.9	Longitude: 84 51 2.6		
Coordinate Collection Method: G40-Handheld receiver			

Drinking Water Data

Revision Code: #040704

(To be changed by Central Office Staff only)

SANITARY SURVEY CODE: 83
INSPECTOR EMPLOYEE CODE: 778 & 833

PWSID: 0940337 **Plant Name:**Owenton Water Works **Plant Contact:**Marshall Gibson **Plant Type:** C (community) **Plant Class:**III (500,000-3,000,000 gpd)
Distribution Class:IID-Pop. 1500-15,000 **County:**Owen **Phone Number:**(502) 484-9077 **Fax Number:** **E- Mail Address:**
Service Connections:1,100 **System Population Served:**3,758
Total No. Purchasers:1 **Total Population Served:**8,181

Treatment

Primary Source: Severn Creek **Secondary Source:**Lower Thomas **Maximum Pumping Rate:**675,000
Plant Capacity MGD:1.2 **Filter Design Rate:** **Total Storage Capacity (gallons):**500,000
Pre-sedimentation Size: **Aeration Code:**
Sedimentation (Primary) Code: **Sedimentation 2 (if 2 different processes) Type:**
Filter (Primary) Code:D-High Rate/Sand Anthracite **Filter 2 (if 2 different filter types) Type:**
Clear well Size (gallons):50,000 Underground + 90,000 above ground

Chemicals

Pre-Disinfection Code:G-Chlorine Gas **Post-Disinfection Code:** G-Chlorine Gas
Primary Coagulant Code:L-Ferric/Lime/Polymer **Secondary Coagulant (Name):**1849A **Filter Aid Name:**
Corrosion Control Code: **Taste and Odor Code:**K-Potassium Permanganate **Softening Code:**
Iron (and Manganese) Removal Code: **Fluoride Supplement Code:**A-Hydrofluosilicic Acid
Other Code:A-Algae Control/Copper Sulfate **Other Name:**

Legend – NA – Not Applicable **NI** – Not Inspected

I. Administrative Requirements

Comments:
Compliance Status - No violations observed

II. Operator Certification/Accreditation Requirements

(Check with Certification Section)

Plant Class	Plant Capacity (MGD)	Hours operated (annual average)	Shifts Operated (per day)	Operator Class Required Plant	Distribution
IIIA	1.2	16	2	IIIA	IID

Does the plant have operators with the appropriate class certificate? Yes ☒ No ☐
Are the certifications up-to-date? Yes ☒ No ☐
Does the system appear well operated and maintained? Yes ☒ No ☐

List Operators and certification numbers:

Operator Name	Plant Certification #	Distribution Certification #
Marshall Gibson	38574 IIIA	5121 IID
David Clifton	1703 IIIA	
Bobby O'Banion	1358 IIIA	2682 IID
Anthony Callan	118 IIIA	00173 IID
Terry Kincaid	1526 IIIA	3470 IID

Comments: The treatment plant is operated so that there is someone on-site at all times when when water is being produced. There are two operators whose job description is such that they are designated to work exclusively at the plant, the other three operators are required to work at all phases of operation and maintenance in the system as well as being able to operate the plant. Shift scheduling is such that there is continual coverage for the plant for the two shifts, seven days per week and someone is on-call 24 hours/ 7 days. Facility personnel report that with the present water demand and capacity of the treatment plant, they begin the first shift as early as 4:00 AM and there are days when the second shift does not end until 8:00 PM.

Compliance Status - No violations observed

III. Record Keeping Requirements

Records to be kept on site	Time it must be kept	Check Yes or No
Data Summaries (if actual data not retained)	Based on data replaced	Yes☒ No☐ N/A☐
Bacteriological Analyses	5 years	Yes☒ No☐
Chemical Analyses	10 years	Yes☐ No☐
Turbidity Analyses	1 year	Yes☒ No☐
Records of Violation Certification (required after May 1, 2002)	10 years	Yes☒ No☐ Yes☐ No☐
Records of Sanitary Surveys	10 years	Yes☐ No☐
Records of Variance and Exemption	5 years	Yes☐ No☐ N/A☐
Distribution Map	Updated In process of being updated	Yes☒ No☐
O & M Manual	Updated	Yes☐ No☐
Sampling Plan Map	Updated	Yes☒ No☐
Consumer Confidence Report and Certification (CWS only)	On File	Yes☒ No☐ N/A☐
CT/ Profiling Data		Yes☒ No☐

Comments: The facility has a distribution map, and is currently in the process of having it updated. The facility maintains excellent daily operator's logs that include the required data on the operation and production of the plant as well as the process controls necessary to properly operate the plant. Although the majority of the records are maintained at the water district office, the operator's logs and associated lab data is maintained in a file in the on-site laboratory. It appears that the facility retains these records for the appropriate amount of time.

Although the facility does track water main leaks, water loss and major repairs, they do not maintain a repair or complaints log. We would recommend that the facility initiate a program whereby they begin to keep a maintenance and complaint log.

Compliance Status - No violations observed-Advisory action taken

IV. Reporting Requirements

(To be completed by Compliance Officer)

Reporting Item	**Normal Reporting** (list last reporting period and note any exceptions)	**Emergency Reporting** (List any reports to the public)
Asbestos	☒ once in 1st 3 years of 9 year period (2002-2004)	☐
Bacteriological	☒ 4 per month	☐
Consumer Confidence Report (CCR)	☒ Due by July 1	☐
Dioxin	☒ Waived	☐
Fluoride (supplemental)	☒ 2 per month; 1 plant tap, 1 distribution	☐
Inorganic Chemicals (IOCs)	☒ Annually	☐
Lead & Copper	☒ 20 per year in 2004	☐
Nitrate	☒ Annually in 3rd Quarter	☐
Nitrite	☐	☐
Operational Reports (MORs)	☒ Monthly	☐
Radionuclides (RADs)	☒ 12/03-12/07?	☐
Secondary Contaminants (SECs)	☒ Annually	☐
Corrosivity	☒ Annually with secondaries	☐
Sodium	☒ 2 per year; 1 in dry season and 1 in wet; 1 can be done with secondaries	☐
Synthetic Organic Compounds (SOCs)	☒ 2 quarters in 12 months in the 3 year period	☐
Total Trihalomethanes (TTHMs)	☒ 4 per quarter	☐
Turbidity (Greater than 1 or 5 NTUs report ASAP)	☒ 0.5 NTU/1 NTU	☐
Unregulated Contaminants (UCMR)	☒ Per Federal EPA	☐
Volatile Organic Chemicals (VOCs)	☒ Annually	☐
Haloacetic Acids	☒ 4 per quarter	☐
Chlorite (Chlorine Dioxide Only)	☐	☐
Bromate (Ozone only)	☐	☐
Chlorine/Chloramines	☒ Chlorine with compliance bacts	☐
Chlorine Dioxide	☐	☐
Total Organic Carbon	☒ Monthly on raw and CFE	☐
Emergency Reports Immediately	☐ Line Breaks, ☐ Loss of Pressure, ☐ Loss of Disinfection	☐

Sample Siting Plan	☒ Bact/LCR/DBT\P	☐

Comments: di(2ethylhexyl)phthalate quarterly in 3rd Q

Compliance Status - No violations observed

V. Operation & Maintenance/Performance Requirements

MANAGEMENT AND SYSTEM OPERATION

Organization:

What is the utility's governing body? Water Board
Are the members familiar with water treatment? Yes ☐ No ☒
How often does this body meet? Monthly
Do operators attend? Yes ☐ No ☒
Is there an organization chart? (Provide) Yes ☐ No ☒
Does the chart include the WTP? If not provide additional chart. Yes ☐ No ☐

Communications:

Does the system have a Mission Statement? (Provide) Yes ☐ No ☒
Does the system have water quality goals? (Provide) Yes ☒ No ☐
Are the operators aware of these goals? Yes ☒ No ☐
Does the system have regular staff meetings? Yes ☐ No ☒
How often?
Who is involved?
Do the administrators visit the water plant? Yes ☒ No ☐
How often? Occasionaly
Does the plant provide reports to the superintendent? Yes ☐ No ☒
Types
Frequency
Does the superintendent provide reports to administrators? Yes ☒ No ☐
Types Oral and Written
Frequency Monthly
Is there an Operations and Maintenance manual? Yes ☒ No ☐
How often is it up-dated? As needed
Who up-dates the manual? Superintendent
Does the system provide any public relations or education activities? Yes ☐ No ☒
Who is responsible for providing this?
What types of public relations or education are done? none
Who answers customer inquiries? Water officce

Planning:

Does the system have any short-term needs? Yes ☐ No ☒
Are they documented? Yes ☐ No ☐
How are they developed?
Who provides input into these needs?
Are the operators involved? Yes ☐ No ☐

Does the system have any long-term needs? Yes ☒ No ☐
Are they documented? Yes ☒ No ☐
How are they developed? Engineers and Superintendent
Who provides input into these needs? Superintendent
Are the operators involved? Yes ☐ No ☒
What security measures are in place at the water plant? none
What security measures are in place in the distribution system? none
Has the system performed, or had performed, a Vulnerability Assessment? Yes ☐ No ☒

Personnel: **Note: Detailed Operator Certification Info in a Separate Section**
Certified Operators **Number** 5
Adequate to cover needed shifts, vacations, and vacancies? Yes ☒ No ☐
What is the attitude of the staff? **Administration** Good
Operators Good
Are the operators cross-trained? Yes ☒ No ☐
Do the operators perform maintenance as well as operations? Yes ☒ No ☐
Is someone cross-trained with the plant lead operator/supervisor? Yes ☒ No ☐
Do you have contingency plans for replacing retiring personnel? Yes ☐ No ☒

Plant Coverage:
Is there shift operation at the plant? Yes ☒ No ☐
Length of shift 8+ hours depending on need of system
Number of operators per shift 1
Number of shifts/day 2
How are weekends and holidays covered? yes
Does this system have unstaffed operations? Yes ☐ No ☒
Are there safeguards for when operators may be doing work outside the plant? Yes ☐ No ☐
What types of safeguards?

Financial:
Does the system have a budget? Provide 1-page summary if available. Yes ☒ No ☐
Is the water plant meeting its expenses? Yes ☒ No ☐
Does the water plant revenue go to meet other city expenses (such as sewer or garbage)? Yes ☐ No ☒
Who prepares the budget? **Superintendent & Assistant**
Do the operators have any input into the budget? Yes ☐ No ☒
Is there a rate structure in place? Yes ☒ No ☐
When was the last rate increase? 11-2000
Does the system have any long-term debts? Yes ☒ No ☐
Is the debt being paid on time? Yes ☒ No ☐
Does the system have a reserve account? Yes ☒ No ☐
Does the system have a capital improvement plan? Yes ☐ No ☒
How many years does the plan cover?
What is the spending authority of the plant superintendent? Budget
Is there a purchase order process? Yes ☐ No ☒

General Observations: The system is in the process of being purchased by Ky-American and little long range planning is being done and the financial future is dependent upon the sale.

Water Purchased Not Applicable

Purchased From	Amount Monthly (average)	Amount Available by Contract (monthly)

Observations:The subject water system does not purchase water from any other system

Water Sold Inspected

Water sold To	Amount	Contract Amount
Kentucky American/Tri-Village Water District 090430	Minimum = 11,024,542 gal/month Maximum = 12,781,076 gal/month	

Observations:The data was taken from the Monthly Operating Reports submitted by Kentucky American Tri-Village Water District. The MORs submitted for Owenton Water District do not reflect the amount of water sold to Kentucky American Tri-Village. Review

of the MORs from both facilities during 2004 indicates that Kentucky American/Tri-Village Water District purchases a minimum of 59 percent of all water produced by Owenton Water District.

PLANT AND DISTRIBUTION SYSTEM OPERATIONS

Insert a plant schematic (can be provided by DWB)
Include the following details:

- **Source water type/location**
- **Major unit processes (including baffling factors and volumes)**
- **Flow measurement locations**
- **Chemical injection locations**
- **Piping Flexibility (including number of raw and finished water mains)**
- **On-line monitoring type/location**
- **Waste handling**

Source

Name	Water Withdrawal Number	Permitted Amount	Is Capacity Adequate?	Are there Water Quality issues?
	0863 -- Severn Creek	**900,000 May - October 800,000 rest.**	Yes☐ No☒	Yes☐ No☐
	0874 – Lower Thomas	**900,000 July - October 850,000 May & June, 800,000 rest**	Yes☐ No☒	Yes☒ No☐
			Yes☐ No☐	Yes☐ No☐
			Yes☐ No☐	Yes☐ No☐

List upstream land uses: 85 - 90 % Agricultural predominantly crops, but some cattle

List upstream discharges (Within 5 miles): None known, Facility did a survey/study a couple of years ago, and determined that there were no dischargers within 5 miles of their intakes.

Is there a source water protection plan in place? Yes ☐ No ☐

Is the system drought-vulnerable? Yes ☒ No ☐

Observations: Facility personnel report that the majority of water is withdrawn from Severn Creek and pumped directly to the Raw Water pumps.
The facility also pumps water from Severn Creek into Lower Thomas Lake, the water flows by gravity to the raw water pumps. In the past the facility also pumped from Severn Creek to Upper Thomas Lake that in-turn flowed into Lower Thomas Lake. There have been problems with the dam on Upper Thomas and the facility no longer uses Upper Thomas as a reservior, although the water district is currently bypassing flow into Upper Thomas Lake, it could be utilized in an emergency situation.

Although Lower Thomas could possibly be employed as a pre-sedimentation basin, the demand for water seems to exceed the capacity of this impoundment. The relatively small size and ongoing sedimentation of the impoundment, combined with increasing demand and summer climatic conditions have the net effect of producing a shallow pool that is very prone to algae growth which degrades the water quality. The quality of the raw water withdrawn directly from Severn Creek is appreciably better than that withdrawn from Lower Thomas Lake.

Owenton Water District is currently in the process of obtaining approval from DOW and funding from Rural Development to relocate their water intake to the Kentucky River. Construction of an intake structure on the Kentucky River should bring about a vast improvement in both the water quality and quantity. Although still a somewhat "flashy source" the river will provide more volume on a sustained basis, and since it is a larger more free flowing body of water, it should alleviate the algae problem to some degree. It should also reduce the raw water Total Organic Carbon (TOC) concentrations, and alleviate the TTHM/HAA problems. Additionally, drawing water from the Kentucky River may well provide for the use of less chemicals in the treatment process. The net affect should be a better more consistent raw water quality providing for the production of a better finished water.

Intake Structure

Location	Type	Number of Inlets	Screen Size	Is Flooding a problem?	Is silt build-up a problem?
Lower Thomas	fixed	1 functioning	Unknown	Yes☐ No☒	Yes☒ No☐
Severn Creek	fixed	2	Unknown	Yes☐ No☒	Yes☐ No☒
				Yes☐ No☐	Yes☐ No☐
				Yes☐ No☐	Yes☐ No☐

Is raw water pumped? ☒ **Or gravity fed?** ☐
Number of raw water mains 2
Is raw water flow measured? Yes ☒ No ☐
If so when was the meter last calibrated: November 2003
List any chemicals fed at the source: Copper Sulfate

If source is a reservoir is it aerated? Yes ☐ No ☒
List depths of intake levels (normal pool): Not known precisely; approximatelyl 25 ft in Lower Thomas
Are screens stationary? ☒ **Or mechanical?** ☐
Is screen clogging a problem? Yes ☒ No ☐
Are Zebra mussels a problem? Yes ☐ No ☒
If yes list actions taken:
Are emergency power generators available? Yes ☒ No ☐
Are emergency interconnections with other supplies available? Yes ☐ No ☒
If yes list supplies and PWSID numbers:

Observations: At the time of the inspection the pool level in Lower Thomas Lake was noticeably low. The operators report that it was checked by divers a few years ago, and they estimate that the intake is at 25 feet below the normal pool level of the lake. The facility adds copper sulfate in small amounts to the raw water in Lower Thomas Lake for algae control. At the time of the inspection, the facility reported that they had not employed the use of copper sulfate since late July, 2004.

The Owenton facility does have emergency generators available through the city so that in the event of an emergency one could be put into service within 1 hour.

There are presently no other public water systems with interconnections to the Owenton facility. There is a possibility that in the future an interconnection could be made between Owenton and City of Georgetown in Scott County, however the Georgetown water system employs the use of chloramines for disinfection. Finished waters disinfected with chloramines are not compatible with finished waters disinfected with gas chlorine.

Pre-sedimentation Not Applicable

Capacity (gallons)	Flexibility to Bypass	Chemical Feed Capability	List Chemicals Fed
	Yes☒ No☐	Yes☐ No☐	Copper Sulfate
	Yes☐ No☐	Yes☐ No☐	

Is alga growth a problem? Yes☒ No☐
Observations: Lower Thomas Lake could be used as presedimentation, however the amount of demand is such that more water is withdrawn directly from Severn Creek and delivered directly to the treatment plant than is withdrawn from Lower Thomas Lake. The conditions of the impoundment structure are currently such that the water accumulated in Lower Thomas and that pumped from Severn Creek to Lower Thomas is somewhat degraded by being placed in this impoundment structure prior to being routed to the water treatment plant. Essentially, the Owenton facility does not have a Pre-sedimentation basin.

Aeration Inspected

Type	Capacity (gallons)	Reason for Aeration
Cascad		Taste Odor

Observations: Water pumped from the raw water pumps is brought up to the water treatment plant and is cascaded into the rapid mix at the raw water flume. The structure is more of a weir type structure, but it does appear to provide some aeration of the raw water prior to chemical treatment.

Rapid Mix Inspected

Type	Number	Volume (gallons)	Physical Condition
Mecha	1		Good

List chemicals fed in order they are fed: Chlorine, Lime (as needed - not currently in use) carbon (as needed, not fed since late July - early August), Ferric Chloride, Caustic Soda. Polymer 1849A is added after the rapid mix at the bottom of the claricone. The system is designed to add polymer at the rapid mix, reportedly this does not work in the Owenton application, they have found that adding the polymer at the bottom of the claricone does work.
Is adequate mixing of chemicals taking place? Yes ☒ No ☐
Are there flow splits after the quick mix? Yes ☐ No ☒
If so is the flow distribution even? Yes ☐ No ☐
Observations: The use of ferric chloride is certainly indicated for this facility, however the iron staining associated with its use makes the equipment appear to be in worse condition than it actually is. The facility operators appear to take a great deal of care in the overall treatment and care of the equipment they have available, and the iron staining not withstanding the rapid mix and associated equipment appeared to be in good working order and condition.

The facility also feeds caustic soda (sodium hydroxide). While this is a necessary chemical in most water treatment plants, this chemical presents certain maintenance challenges to the upkeep and condition of some of the equipment, especially the chemical feedlines and storage facilities. Additionally the recrystallization of the sodium hydroxide on many surfaces in the area of the rapid mix room presents safety concerns for the operators. The room in which the caustic soda is stored is clearly marked "caustic soda"; in addition to this labeling we would also recommend that the facility place an additional sign on the entrance door and inside the room that states that eye protection is required. The facility needs to look into ways to increase the safety in the handling, use and storage of this chemical.

Flocculation Basins Inspected

Type	# of Trains	Stages	Variable Speed Drive	Volume (gallons)	Physical Condition
Hydra	1		Yes ☐ No ☐	71,769	Good
			Yes ☐ No ☐		
			Yes ☐ No ☐		
			Yes ☐ No ☐		
			Yes ☐ No ☐		
			Yes ☐ No ☐		

What is the size OK **and appearance of the floc?** OK
How often are floc basins cleaned?

The facility tries to clean the claricone at least once per year. The last time the claricone was cleaned was reportedly in the spring of 2003
Are the floc speeds tapered (decreased) through the floc stages? Yes ☐ No ☒
Are there flow splits after flocculation? Yes ☐ No ☒
Is flow distribution even? Yes ☐ No ☒
Observations: The facility essentially operates one treatment train until the flow is split just before the two filters. This makes some maintenance issues very difficult because the claricone would have to be taken out of service, drained and the sludge removed. The system can not produce water while this maintenance is being done. This process takes at least one entire day. The amount of demand for water production has been such that it has not been possible for the facility to take the claricone out of service, and essentially stop water production for one day. Given the increase in demand for production, and the necessity for being able to perform required routine maintenance on the claricone, it would be advantageous for the Owenton Water District to be able to expand their facility at some point in the future, to include a second claricone.

The subject claricone is situated out of doors and open to the elements. The facility operators report that the efficiency and degree of function of the claricone is almost weather dependent. At the time of the inspection the weather was cloudy, overcast with periods of light rain. The surface or top water of the claricone appeared to be clear, and the lighting was such that no floc could be observed. we werenot able to observe the level of the sludge blanket in the claricone either. Observation of the overflows on the claricone indicated that the settled water was clear and there was no indication of floc carryover.

Sedimentation Basins

Type	Number of Trains/ Stages	Volume (gallons)	% with tube settlers	Physical Condition
Claric	1	same as claricone	0	Good

How often are the basins cleaned? Historically, the facility drains and cleans the claricone yearly. Due to the demand for water production this year the facility has not been able to clean the claricone in 2004.

How often is sludge removed from the basins?

Is sludge removal mechanical? ☐ **Or manual?** ☒

What is the sludge depth at the time of the inspection? Could not observe

What is the settled water turbidity at the time of the inspection? 1.8 NTU

Is there evidence of short circuiting (Flow or density currents)? Yes ☐ No ☐

Is baffling present in the basins? Yes ☐ No ☐

If (yes) describe the baffling.

Is there evidence of floc carryover to the filters? Yes ☐ No ☒

Observations: The claricone functions as both flocculation basin and sedimentation basin.

Filters

Number of Filters 2

Type	Media Type	Filter Rate (at inspection)	Filter control	Surface Wash Type	Filter to Waste	Filter Area	Physical Condition
Conve	Mixed Me	700 gal/min	Rate of Flo	Rotary	Yes☒ no☐	196 sqft	good
		= 3.6 gpm/sqft			Yes☐ no ☐		
Conve	Mixed Me	700 gal/min	Rate of Flo	Rotary	Yes☒ no☐	196 sqft	good
					Yes☐ no☐		
					Yes☐ no☐		
					Yes☐ no☐		
					Yes☐ no☐		
					Yes☐ no☐		
					Yes☐ no☐		
					Yes☐ no☐		

What Criteria are used for filter backwash? The Owenton facility uses head loss as the primary criteria for taken a filter out of service for backwash. The operators report that due to the nature of the system and the chemicals fed, they experience head loss before they show an increase in turbidity.

What is the backwash rate in gallons per minute? 2,500 - 3,800
Is filter backwash rate ramped up and down? Yes ☒ No ☐
Is backwash flow rate measured? Yes ☒ No ☐
Are filters ever bumped? Yes ☐ No ☒
Is air scouring used? Yes ☐ No ☒
Record the CFE turbidity at time of inspection .17 NTU
Are individual filters monitored for turbidity? Yes ☒ No ☐
Is this turbidity continuously recorded? Yes ☒ N o☐
Is filter to waste (rewash) present? Yes ☒ N o ☐ **Is it used?** Yes ☐ No ☒
Can turbidity be measured while filtering to waste? Yes ☒ No ☐
Are flows adjusted on remaining filters during a backwash? Yes ☐ No ☒
Is the spent backwash holding tank/lagoon volume adequate? Yes ☐ No ☐
Does the plant discharge water from this tank/lagoon back to a body of water? Yes ☒ No ☐
Does the plant have a KPDES discharge permit? Yes ☒ No ☐
Permit Number KYG640069
Meeting permit requirements? Yes ☐ No ☐
Is spent backwash water recycled? Yes ☐ No ☒
Is it recycled as a "slug"? ☐ Or as a constant flow? ☐
What % of the flow is recycled?
Are chemical feed rates adjusted during recycle? Yes ☐ No ☐
Are raw water flows adjusted during recycle? Yes ☐ No ☐

Observations: The Owenton facility routes the filter backwash water to the old water treatment plant for settling before discharge to the stream. At the time of the inspection, the second day, 09/09/2004, the inspector observed the area of the old water treatment plant, settling basins for the filter backwash and the receiving stream.
The Owenton Water facility routes the filter backwash water from the wter treatment plant the old treatment plant located down gradient from the newer plant. The system utilized the series of old clearwells for settling prior to discharge to the unnamed tributary of North Severn Creek.

Owenton Water District operators/personnel report that they still have periodic problems with the amount of sludge that is generated by the filter backwash as well as the handling and timely disposal of the sludge. The operators report that since they have been using the clearwells at the old treatment plant as sediment basins for the filter backwash discharge, they have noted an overall improvement, however the capacity still is not adequate for the volume of water treated at the facility and the amount of backwash generated at the plant. If they can allow sufficient time between backwashing filters, there is enough time to allow for adequate settling. The problem is the demand for producing water and the subsequent necessity for more frequent backwashing of the filters. Reportedly the old clearwell configuration handles the volume from the backwashing of two filters, once this capacity has been reached the system basically discharges the same volume as that coming into it without time for adequate settling. Under ideal conditions the settling takes place in the old clearwells, and the topwater or decant is discharged to the receiving stream.

Under optimal conditions the final effluent is clear and there are no problems with deposition of sludge in the downstream area. When the demand for production is great and the filters are being more frequently backwashed the effluent from the old clearwell/settling basins is visually discolored and higher in concentration of settleable and suspended solids. The further complicate matters, the flow in this unnamed tributary of North Severn Creek is fed soley by the flow from Lower Thomas Lake. During periods of high demand, especially during the summer of 2004, there is no discharge from Lower Thomas as the water level is well below the normal pool. In this situation the flow in the UT of North Severn Creek is soley comprized of the discharge from the filter backwash basins.

The conclusion for the situation with the filter backwash is similar to that for the claricone, and intakes, the facility is in need of expanding the capacity of several areas of the treatment system and associated activities.

Chemical Feed Equipment

Chemical Name	Purpose	Feeder Type	Feed Point	Number &Condition
KMnO4	Taste Od	Volumetric	Intake	1 Good
Ferric	Coagulati	Volumetric	Quick/Flash	1 Good
Caustic	pH Adjus	Volumetric	Quick/Flash	1 Good
Powdered Activat	Taste Od	Volumetric	Quick/Flash	1 Not in operation
Lime	Alkalinity	Volumetric	Quick/Flash	1 Not in operation
Polymer	Filter Aid	Volumetric	Pre Floccula	1 Good
Hydrofluosilicic A	Dental He	Volumetric	Clearwell	1 Good
Copper Sulfate	Taste Od		Source Wate	

How are chemical feeders calibrated?

How often are chemical feeders calibrated? daily

Are Chemical dosages calculated? Yes ☒ **No** ☐

Are chemicals NSF approved? Yes ☒ **No** ☐

Do the bulk liquid feed systems have day tanks? Yes ☒ **No** ☐

Are at least two feeders provided for essential processes (such as coagulation, disinfection)?

Yes ☒ No ☐

Are spare parts available? Yes ☒ No ☐
Is there enough storage for at least 30 days supply of chemicals used? Yes ☒ No ☐
Are there containment areas around the chemicals in case of spills or leaks? Yes ☐ No ☒
Are in plant water supplies protected from back-flow? (Cross connections): Yes ☒ No ☐
Are backflow prevention devices tested? Yes ☐ No ☒
What is the testing frequency? The faility is not sure when the backflow pevention system was last tested. **Last Tested**

Observations: The hydrofluosilicic acid and chlorine are stored in separate rooms from each other and from the rest of the chemicals fed at the subject facility. The facility operators report that the system is equipped with backflow prevention, however they do not have a progam for testing the backflow devices and the frequency is sporadic and the date last tested was not known.

The storage area for all chemicals except the hydrofluosilicic and chlorine is in close proximity to the rapid mix. The area is in rather cramped quarters, however the storage area and day tanks appear to be reasonably well maintained. The only chemical that posed a concern from the standpoint of leaks and spills is the caustic soda. Although it is not presently feasible or convenient to store this chemical in a curbed or diked area, the corrosive nature of this chemical and the safety precautions for its handling and storage would indicate that it is adviseable for the facility to consider a safer handling and storage plan for this chemical.

Disinfection

Type	Application Point	Redundancy Available
Chlori	Quick/Flash Mix	Yes ☒ No ☐
Chlori	Pre Filter	Yes ☒ No ☐
		Yes ☐ No ☐
		Yes ☐ No ☐

Are scales provided? Yes ☒ No ☐
Are the scales operational? Yes ☒ No ☐
Is automatic switchover of chlorine cylinders provided? Yes ☒ No ☐
C-T Profiling Data Yes ☒ No ☐
Observations: The facility appears to have the flexibility to feed chlorine at several places, if necessary. The facility has experienced problems with Disinfection ByProducts, and the addition of chlorine at the above given locations appears to give them adequate CT as well as some control over the DBPs. The relocation of the raw water intake to the free flowing portion of the Kentucky River as opposed to the backwater in Severns Creek or the shallow pools of Lower Thomas should appreciable help in alleviating the TOC concentrations in the raw water and this should be refected in the TTHMs and HAA concnetrations.

Clearwell

Volume (gallons)	Baffling Type	Disinfectant Residual
Basement 50,000		1.78mg/l
Round 225,000		1.77 mg/l

Are hatches secured? Yes ☒ No ☐
Are vents screened? Yes ☒ No ☐
List the plant tap: Chlorine residual: free1.78 **total**2.13**pH:**7.81
List any chemicals added to the clear well: Hydrofluosilic Acid
How often are clear wells cleaned? The chief operator reports that they have not cleaned the clearwell since it has been in operation (10 years)
Observations:

Pumps

(Low service/raw water, high service/finished water and backwash)

Flow Stream	Location	Number of Pumps	Capacity (gpm)	Pump Type	Flow Control Method
Raw Water	Severn Creek	2	600	centrifical	Manual
Raw Water	Raw Water	2	600	centrifical	Automatic
Finished Wat	Low Service basement clearwell	2	1,000	multi stage turbine	Automatic
Finished Wat	High Service basement	2	1,000	multio stage turbine	Automatic

Observations: The operators report that they can only operate one of the raw water pumps on automatic at a time, if they need to use both pumps they must run them on manual.

During the end of June 2004, the facility experienced problems with the two low service pumps that pump water from the basement clearwell up to the elevated round clearwell.

Both pumps "froze up" due to a heavy encrustation or coating of a lime type precipitate that covered the pumps and their internal mechanisms.
Both pumps were taken out of service and a sent off for cleaning and rehabilitation. An auxilliary pump was brought in from Georgetown, Ky. until one of the pumps could be sent off and repaired. The first pump was placed placed back into service within 48 hours of the incident, and the auxilliary pump was left at site as a standby in the event the problem reoccurred while the second pump was off being serviced. The operators report that the second pump had just been returned and placed back into service the week before the date of the inspection/sanitary survey. At the time of the inspection, Kentucky American Water was on-site to remove the auxilliary pump back to Georgetown.

As a result of the late June incident with the low service pumps, the facility has agreed to remove the high service pumps, one at a time, and evaluate their condition. The amount of precipitate observed to be present in the water in both the clearwells during the June incident was such that there is concern for a similar problem to occurr with the high service pumps as well. As of the date of the field portion of the sanitary survey/inspection, the high service pumps were still scheduled for evaluation. The facility is waiting for the contractor with M & M Electric to clear his schedule to perform this evaluation.

On-line Instrumentation

Type	Flow Stream (Location)	Manufacturer	Last Calibration Date
Flow	Raw Water	Allen Bradley	11/ /03
Flow	Settled Water	Allen Bradley	11/ /03
Flow	Individual Filt	Allen Bradley	11/ /03
Level	Clearwell	Allen Bradley	11/ /03
Pressu	EPTDS	Allen Bradley	11/ /03
Loss o	Individual Filt	Allen Bradley	11/ /03
Level	Clearwell	Allen Bradley	11/ 03
Turbid	Settled Water	Hach	
Turbid	Individual Filt	Hach	
Turbid	EPTDS	Hach	
Chlori	Individual Filt	Hach	
Chlori	Tap	Hach	
pH	Tap	Hach	

Observations: The facility does have telemetry to the two tanks in the distribution system, however it has been out of service for about 2 years. They are able to determine the elevation of the water in the above ground clearwell/storage tank at the plant site as well as the pressure being pumped to town. At the time of the inspection/sanitary survey the water pressure leaving the facility via the high service pumps was 110 psi.

Distribution Storage Facilities

Location	Volume (gal)	Tank Type	Overflow Screen/ Flapper	>10' From tank	Last Cleaned/ Inspected	Telemetry
Down-town	100,000	Eleva	Yes ☒ No ☐	Yes ☒ No ☐		Yes ☐ No ☒
Fair-ground	400,000	Eleva	Yes ☒ No ☐	Yes ☒ No ☐		Yes ☐ No ☒
			Yes ☐ No ☐	Yes ☒ No ☐		Yes ☐ No ☐
			Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐
			Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐
			Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐
			Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐
			Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐
			Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐
			Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐
			Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐
			Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐
			Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐
			Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐
			Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐
			Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐
			Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐
			Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐
			Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐

Observations:The facility reports that both tanks were inspected by divers who videotaped the inspection/observations in 2002. As stated above the telemetry system to the two tanks has been out of service for a couple of years.

<u>Distribution Booster Pumps and or Booster Disinfection Facilities</u> Not Applicable

Location	Pump = P Disinfection = D	Number & Capacity of pumps (gpm)	Disinfection Type	Auxiliary Power
	P ☐ D ☐	@		Yes☐ No☐
	P ☐ D ☐	@		Yes☐ No☐
	P ☐ D ☐	@		Yes☐ No☐
	P ☐ D ☐	@		Yes☐ No☐
	P ☐ D ☐	@		Yes☐ No☐
	P ☐ D ☐	@		Yes☐ No☐
	P ☐ D ☐	@		Yes☐ No☐
	P ☐ D ☐	@		Yes☐ No☐
	P ☐ D ☐	@		Yes☐ No☐
	P ☐ D ☐	@		Yes☐ No☐
	P ☐ D ☐	@		Yes☐ No☐
	P ☐ D ☐	@		Yes☐ No☐
	P ☐ D ☐	@		Yes☐ No☐
	P ☐ D ☐	@		Yes☐ No☐

Does a certified distribution operator oversee distribution activities? Yes☒ No ☐
What piping materials are included in the distribution system (in general)? The facility operators report that there is a wide variety of piping material present in the distribution system. They do not believe that there is any lead pipe, however there is transite, steel, galvanized, PVC
Is there a formal flushing schedule? Yes☐ No☐ **Written Procedure?** Yes☐ No☒
Are there maintenance schedules and procedures? Yes ☐ No ☒
Is there a valve exercise/replacement program? Yes☐ No ☒
Is water loss tracked? Yes ☒ No ☐

If so what is the percentage of water lost? The operators report that they track water loss as best as possible, however they did not have a "hard number" on the percentage lost.

Is there a water meter replacement program? Yes☐ No☒
Is there a cross-connection control inspection program? Yes☒ No☐
Does the utility have distribution maps? Yes☒ No☐
Are there Main break notification procedures? Yes☐ No
Observations:The facility reports that they do have a cross connection program in-place for the hospital, school and what little industry exists in town. They do replace water meters on an as needed basis, and the new water meters being used on new installations and replacements are equipped with a back flow preventer.

The facility is in the process of having the distribution map updated.

The facility does not have a formal line break notification procedure, and this was discussed during the course of the inspection. We would recommend that the water district develop a formal line break notification procedure and follow the procedures. We would also recommend that they begin keeping a maintenance and complaint log.

Laboratory (Plant)

Parameters Tested For	Frequency	Equipment Used	Calibration Method
Hardness	daily	Hach digital titrimeter	standards
Alkalinity	daily	titration	standards
Iron	daily	Hach Test Kit	
Manganese		Hach Test Kit	
Chlorine - Free & Total	every 4 hours	Hach Test Kit-- DR/2000	
Fluorine	daily	Hach Test Kit	
Turbidity	every 4 hours	Hach turbidity meter -- 2100A	manufacturer's tech. annually standards at least weekly.
pH	every 4 hours	pH meter - Orion 420A	manufacturer's tech. annually 3 point standards calibration daily & end run
Jar Testing			

Is space adequate? Yes☒ No ☐
Is lighting adequate? Yes ☒ **No** ☐
Are analyses conducted according to Standard Methods? Yes ☒ **No** ☐
Observations:The reagents, buffer solutions and calibrations standards used were all well within the expiration dates specified on the bottles. The lab equipment appears to be well maintained.

In-Plant Sampling
(for example, top and bottom of filters)

Site #1	Cl. Free:	Total:	pH:	Turbidity: 0.21	Other:
Site #2	Cl. Free:	Total:	pH:	Turbidity: 0.2	Other:
Site CFE	Cl. Free:1.79	Total: 2.13	pH: 7.79	Turbidity: 0.21	Other:
Site Top	Cl. Free:	Total:	pH:	Turbidity: 1.8	Other:
Site	Cl. Free:	Total:	pH:	Turbidity:	Other:
Site	Cl. Free:	Total:	pH:	Turbidity:	Other:
Site	Cl. Free:	Total:	pH:	Turbidity:	Other:
Site	Cl. Free:	Total:	pH:	Turbidity:	Other:
Site	Cl. Free:	Total:	pH:	Turbidity:	Other:

Observations:

Distribution Sampling

Site #1	Cl. Free:0.47	Total: 0.70	pH: 7.95	Turbidity:	Other:
Site #2	Cl. Free:0.68	Total: 1.08	pH: 7.80	Turbidity:	Other:
Site #3	Cl. Free:0.98	Total: 1.26	pH: 7.84	Turbidity:	Other:
Site #4	Cl. Free:1.01	Total: 1.32	pH: 7.73	Turbidity:	Other:
Site #5	Cl. Free:0.31	Total: 0.38	pH: 7.75	Turbidity:	Other:
Site #6	Cl. Free:1.34	Total: 2.2+	pH: 7.81	Turbidity:	Other:
Site #7	Cl. Free:0.43	Total: 0.60	pH: 7.66	Turbidity:	Other:
Site	Cl. Free:	Total:	pH:	Turbidity:	Other:
Site	Cl. Free:	Total:	pH:	Turbidity:	Other:

Observations:Site #1 = Medical Center; Site #2 = 1105 Highway 127N; #3 = Dairy Queen; #4 = Highway 22W Hydrant; #5 = Green Acres Hydrant; #6 = 104 Robin Drive Hydrant; #7 = EMS Station. The distribution sample sites reflect North, South, East and Western portions of the distrubution system as well as dead end lines.

Chlorine Safety:

Is the chlorine room enclosed and separate from other operating areas? Yes ☒ No ☐
Is there a working exhaust fan in the chlorine room? Yes ☒ No ☐
Does it provide one complete air change per minute? Yes ☒ No ☐
Does it exhaust from floor level? Yes ☒ No ☐
Is intake air near the ceiling? Yes ☒ No ☐
Are switches located outside the chlorine room? Yes ☒ No ☐
Are chlorine tanks secured? Yes ☒ No ☐
Is there a shatterproof viewing window in chlorine room? Yes ☒ No ☐
Is there a crash bar on the door of the chlorine room? Yes ☒ No ☐
Does it open out and to the exterior of the building? Yes ☒ No ☐
Is there a SCBA unit meeting NIOSH standards out side the chlorine room? Yes ☒ No ☐
Are personnel trained to use the SCBA? Yes ☒ No ☐
Is leak detection provided? Yes ☒ No ☐
If so is there an external audible and visual alarm? Yes ☒ No ☐
Is there a chlorine tank repair kit? Yes ☒ No ☐
Are personnel trained and certified to use the kits? Yes ☒ No ☐
Is ammonia available for chlorine leak detection? Yes ☒ No ☐
Is a lockout tag-out system used for electrical repairs? Yes ☒ No ☐
Observations:the chlorine room is equipped with two (2); one intake, one exhaust. The intake is located up on the wall near the ceiling, the exhause is near the floor.

Chlorine Dioxide Safety: Not Applicable

Is sodium chlorite stored in a separate room? Yes ☐ No ☐
Is it stored away from organic material? Yes ☐ No ☐
Many materials will catch fire and burn violently when in contact with chlorite.
Observations:

Ammonia Safety: Not Applicable

Is the ammonia room enclosed and separate from other operating areas? Yes ☐ No ☐
Is there a working exhaust fan in the ammonia room? Yes ☐ No ☐
Does it provide one complete air change per minute? Yes ☐ No ☐
Does it exhaust from ceiling level? Yes ☐ No ☐
Is intake air near the floor? Yes ☐ No ☐
Are switches located outside the ammonia room? Yes ☐ No ☐
Are ammonia tanks secured? Yes ☐ No ☐
Is there a shatterproof viewing window in ammonia room? Yes ☐ No ☐
Is there a crash bar on the door of the ammonia room? Yes ☐ No ☐
Does it open out and to the exterior of the building? Yes ☐ No ☐
Is there a SCBA unit meeting NIOSH standards out side the ammonia room? Yes ☐ No ☐
Are personnel trained to use the SCBA? Yes ☐ No ☐
Is leak detection provided? Yes ☐ No ☐
If so is there an external audible and visual alarm? Yes ☐ No ☐
How are ammonia leaks detected?
Is a lockout tag-out system used for electrical repairs? Yes ☐ No ☐
Observations:

Maintenance:

Is housekeeping adequate? Yes ☒ No ☐
Are adequate supplies of spare parts kept on hand? Yes ☒ No ☐
Are needed tools available? Yes ☒ No ☐
What is the general condition of operating equipment? Although most of the operating equipment is stained from the use of ferric chloride, it appears to be well maintained and in good operating order. The facility maintains a reasonably adequate source of spare parts and back up equipment or can arrange to borrow the necessary equipment and materials in the event of an emergency. One concern for maintenance as well as safety is the negative impact that the sodium hydroxide (caustic soda) has on the solution pump equipment, low and high service pumps and other equipment with which it comes in contact.

Greater attention needs to be paid to the condition of the pumps that are vital to move the water from the basement clearwell to the above ground clearwell and from this final storage site to the distribution. The condition of the low service pumps that were the subject of the incident that occurred in June of 2004 needs to be evaluated on a routine basis to avoid a reoccurrenc. The facility has indicated that they will be having the high service pumps evaluated in the near future, and we encourage them to make this a priority item. It would be advisable for the facility to make the necessary repairs so that the telemetry system could be recommissioned.

Is there a written preventive maintenance program? Yes ☐ No ☒
If not, is preventive maintenance performed? Yes ☒ No ☐
Observations: The housekeeping in the area of the basement clearwell could use some improvement, however given the amount of production required of the plant, the facility staff available, and the demands made on the personnel, the personnel are doing a very admirable job.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2012-00096
ATTORNEY GENERAL STAFF'S FIRST REQUEST FOR INFORMATION

Witness: Lance Williams

10. Reference: Feasibility Report, Section II: Statement of the Problem. KAW states that they recognized shortcomings of the Owenton WTP prior to purchasing it in 2005.

A. Explain and provide documentation as to which issues were identified prior to the acquisition.

B. Explain whether the cost to correct these issues was taken into account during the acquisition (including the determination of the purchase price).

Response:

A) KAW recognized the issues in the single treatment process train and raw water intake as described in the reports attached to the Responses to PSC Data Request Nos. 2 and 4. Also, KAW had access to the Division of Water 2004 Sanitary Survey, a copy of which is attached to the Response to AG Data Request No. 9.

B) KAW did anticipate $1.5 million in capital expenditures over the 5-year period following the purchase of the system during which KAW completed a chemical feed improvement project at the treatment plant, tank maintenance projects, and SCADA installation at remote tank sites.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2012-00096
THE ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

Witness: Lance Williams / Keith Cartier

11. Reference: Feasibility Study, Section II: Statement of the Problem. KAW states that in the "portions of the system can be served from Purchase Agreements that KAW maintains with adjacent water districts."

    A. Please provide a photocopy of each water purchase agreement or contract that KAW maintains with a supplier of the Northern Division.
    B. Has KAW explored the feasibility of entering into a purchase agreement or agreements that would allow it to continue to serve Owenton without having to construct the main from KRS II?
    C. Has KAW explored the feasibility of entering into a purchase agreement or agreements that would allow it to (i) reduce the size and/or scope of a KRS II interconnection project and/or (ii) reduce the size and/or scope of a rehabilitation of the Owenton WTP?
    D. If yes, describe the providers contacted, the dates contact was made, and the content of the negotiations.
    E. If no, explain why this option was not discussed in the Application.
    F. Provide any necessary documentation used to determine operating under a purchase agreement is not a viable option. This includes, but is not limited to, an explanation as to why the current system cannot be modified in conjunction with a purchase agreement to meet the needs of Owenton.

Response:

A. Please see the attached Water Agreements for the Georgetown Municipal Water and Sewer, Gallatin County Water District, and Carroll County Water District agreements.

B. KAW has examined the possibility of increasing or commencing water purchases from neighboring water systems. These systems include Carroll County Water District #1, Gallatin County Water District, Georgetown Municipal Water and Sewer Service, and Bullock Pen Water District. All of these systems have limited infrastructure in place at the existing or potential connection points to the Northern Division system. Significant infrastructure improvements would be necessary on both sides of the connection point before even considering relying on purchase agreements through these systems to serve the Northern Division. Below are additional concerns for the potential connections:

- Bullock Pen: The Bullock Pen WTP only has a 1 MG design capacity and the Bullock Pen Water District is expected to need an additional water source by 2020. See attached Bullock Pen WRIS System Data Report.
- Georgetown Municipal Water & Sewer Service: The system utilizes an underground aquifer as its source water and relies on purchase

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2012-00096
THE ATTORNEY GENERAL'S FIRST REQUEST FOR INFORMATION

agreements to supply approximately one-third of its annual usage. See attached GMWSS WRIS System Data Report.

- Carroll County Water District #1: The system only has a 1.06 MG design capacity and the system is in need of distribution system upgrades. See attached Carroll County WD WRIS System Data Report.

C. Refer to the response to part B of this question.

D. KAW has not contacted the providers to enter into negotiations for the purposes outlined in this question because none of these systems presents a viable option.

E. Not applicable.

F. Supplying the Northern Division through purchase agreements is not a viable option as documented in part B of this question. Significant infrastructure improvements would be required on both sides of the connection and the existing available service capacity from potential providers is very limited.

November 21, 2008

Mr. Keith Cartier
Kentucky American Water Company
2300 Richmond Road
Lexington, KY 40502

Re: Emergency Interconnection Agreement

Dear Mr. Cartier:

As you are aware, in May of 1999 Georgetown Municipal Water & Sewer Service (GMWSS) and Kentucky-American Water Company entered into an Agreement to connect facilities in order to supply water to one another in the event of a drought, emergency condition, service interruption or other unexpected condition. The term of the Agreement was for a period of ten (10) years from the original date of the Agreement. Therefore, the Agreement was scheduled to automatically renew in May of 2009, unless otherwise notified.

The GMWSS Board of Commissioners at their regularly scheduled meeting on November 18, 2008, approved a renewal of the Agreement for an additional ten (10) years from the automatic renewal date of May 2009.

If you have any questions, or need additional information, please feel free to contact our office at (502) 863-7816.

Sincerely,

GEORGETOWN MUNICIPAL WATER &
SEWER SERVICE

Billy Jenkins
General Manager

BJ:jbt

MAR - 9 2006

March 7, 2006

Ms. Linda Bridwell
Kentucky American Water Company
2300 Richmond Road
Lexington, KY 40502

Dear Linda:

Per your request, attached please find a copy of the proposed contract water rate study for Georgetown Municipal Water & Sewer Service (GMWSS) to wholesale water to Kentucky-American.

Also enclosed are copies of the February 20, 2001, and March 20, 2001, GMWSS Board of Commissioners Meeting Minutes showing where the Board approved the transportation rate of $0.70/1000 gallons of water.

If you have any questions, or need additional information, please feel free to contact our office at (502) 863-7816.

Sincerely,

GEORGETOWN MUNICIPAL WATER &
SEWER SERVICE

Robert L. Riddle, P.E.
General Manager

RLR:jbt

Enclosures

March 19, 2001

R·W·BECK

Mr. Bob Riddle
Georgetown Municipal Water & Sewer Service
P. O. Box 640
125 West Clinton
Georgetown, Kentucky 40324

FILE

Subject: **Contract Wholesale Water Rate for Kentucky American**

Dear Mr. Riddle:

As requested by Georgetown Municipal Water and Sewer Service (GMWSS), we have reviewed bulk water costs and have developed a wholesale rate for the sale of water to Kentucky American (KA). This rate was developed in response to KA's desire to purchase water from GMWSS for resale to customers in the Owen County area. The following is a brief summary of our analyses and findings.

PROPOSED CONTRACT WATER RATE

The recommended rate for water sold by GMWSS to KA for resale to customers in the Owen County area is $2.65 per 1,000 gallons. This rate is based on a review of GMWSS's costs to provide water at the volumes specified by KA and should be reviewed on a periodic basis to reflect future changes.

Exhibit 1 (attached) summarizes the major cost components used in the determination of this rate. Other considerations and assumptions are discussed below.

PRINCIPAL CONSIDERATIONS AND ASSUMPTIONS

The following considerations and assumptions were used in establishing the recommended contract wholesale water rate for KA:

- The 1998 cost-of-service study was used as a basis for examining GMWSS's cost of water production, water purchases, transportation, and distribution.
- The KA contact rate includes: (a) bulk water transportation costs and (b) water commodity costs.
- The determination of bulk water transportation costs included an examination of GMWSS's direct investment in mains (8" and above) and an allocation of operations and maintenance, administrative and general, and replacement costs. Costs relating to smaller distribution mains were not included in the determination of bulk water transportation costs.
- The determination of water commodity costs included a review of rates at which GMWSS purchases water from Frankfort and KA and an examination of raw water treatment and other production-related expenses. The KA wholesale rate of $1.93 per 1,000 gallons was used as a basis for the purposes of establishing GMWSS's incremental water commodity costs.
- Two interconnections with KA will be provided. One at Caney Church Road and one at Leaning Oak Road.
- Construction costs for existing interconnections at Leaning Oak Road and Caney Church Road were estimated based on average construction costs and pipeline length

400 Professional Park Drive, Suite 100 Goodlettsville, TN 37072-2100 Phone (615) 859-3900 Fax (615) 851-6066

R·W·BECK

- Based on information provided by KA, the total wholesale water requirements under this contract rate are anticipated to be 50,000 gallons per day for approximately 375 customers. No significant growth is expected.
- Water will be sold to KA pursuant to a contract between GMWSS and KA and will not be subject to regulation by the Kentucky Public Service Commission. No other customers will purchase water under the KA contract rates.

We appreciate the opportunity to provide these services to Georgetown Municipal Water and Sewer Service. Should you have any questions or need clarification of any issue discussed above, please call me at 615/851-5820.

Sincerely,

R. W. BECK, INC.

Brown Thornton
Principal Consultant

BDT:cw
Attachment

GEORGETOWN MUNICIPAL WATER AND SEWER SYSTEM
Contract Wholesale Water Rate for Kentucky American
EXHIBIT 1 - Summary Analysis

Line No.	Item	Amount	Comment
1	**Estimated Cost of Mains**		
2	8" and above	$ 4,714,365	(1)
3	**Estimated Transportation Cost as a % of Plant**		
4	Total Expenses and Margin	$ 2,699,977	(1)
5	Less: Other Income	(258,971)	(1)
6	Revenue Requirement from Rates	$ 2,441,006	Line 4 minus Line 5
7	Less: Water Filtration	(803,850)	(1)
8	Estimated Transportation Cost	$ 1,637,156	Line 6 minus Line 7
9	Divided by: Total Utility Plant (OIC)	$ 19,324,521	(1)
10	Transportation Cost Factor (Costs as a % of Plant)	8.5%	Line 8 / Line 9
11	**Annual Revenue Requirement for Mains**		
12	Investment in Mains	$ 4,714,365	From Line 2
13	Transportation Cost Factor	8.5%	From Line 10
14	Annual Revenue Requirement for Mains	$ 399,397	Line 12 X Line 13
15	**Transportation Rate**		
16	Annual Revenue Requirement for Mains	$ 399,397	From Line 14
17	Annual System Gallons (000's)	572,894	(1)
18	Transportation Rate ($/000 gal)	$ 0.70	Line 16 / Line 17
19	**Water Commodity Costs**		
20	Average GMWSS Production Costs ($/000 gal)	$ 1.10	
21	Frankfort Contract Rate ($/000 gal)	$ 1.30	
22	Kentucky American Contract Rate ($/000 gal)	$ 1.93	
23	**Total Calculated Contract Rate (2)**	$ 2.63	Line 18 + Line 22

Note: (1) Based on 1998 GMWSS Cost of Service Study.
(2) Recommend a contract rate of $2.65 per 1,000 gallons

GEORGETOWN MUNICIPAL WATER AND SEWER SERVICE

BOARD MEETING

FEBRUARY 20, 2001

The regular meeting of the Georgetown Municipal Water & Sewer Service Board of Commissioners was held at the Water Company at the hour of 4:00 p.m.

Those present were:

Wil James	Bob Riddle	Bob Wilhite
Greg Johnson	Reggie Greenup	Vickie Dunn
Gervis Showalter	Bryan Lovan	Paul Combs
Maurice Alsop	Bill Jenkins	

Chairman Wil James called the meeting to order at 4:05 p.m.

The minutes of January 16, 2001, were not available for review.

Motion by Showalter, Second by Alsop to approve water availability for the Donald Thompson Farm property of approximately 10 tracts ranging from 5 acres to 7 acres on 54.27 acres located at the corner of Graves Road and Locust Fork Road, subject to the usual contingencies and the receipt of plans showing the acres involved. The motion passed, with Greg Johnson abstaining.

Motion by Johnson, Seconded by Alsop to approve the monthly bills for payment after review. The motion passed.

Bob Wilhite presented the monthly financial reports. Board accepted report.

A purchase order to CEI Engineering Associates for $8,250 was presented. This represents 50% of the design and inspection fees for sanitary sewer upgrades to Georgetown Community hospital; which would pay the other 50%. This upgrade will allow GMWSS to eliminate one of GMWSS's pump station and two privately owned pump stations. The cost will be shared 50/50 due to the benefit to GMWSS of eliminating three pump stations. Moved by Alsop, Seconded by Showalter. The motion passed.

Brian Lovan of PDR Engineers presented the status report of projects to the board. The Board accepted the report.

Paul Combs presented a report updating the Board on the progress so far of expanding class series and upgrading job descriptions. He is also preparing a market survey on employee compensation. A meeting will be scheduled with the Personnel Committee of the Board within three to four weeks, and the final report will then be submitted to the Board.

Bill Jenkins presented the Operations Report. Board accepted the report.

Bill Jenkins presented the Loss & Unaccounted for Water Report. Due to an unexpected increase in water production at the plant, a recalibration of the meters at the WTP will be scheduled. The Board requested a follow-up report after the re-calibration of the meters.

Bob Riddle presented the Engineering Report. Board accepted the report.

Bill Jenkins presented a proposal from KAWC to give assistance in disconnection of water service to GMWSS sewer customers in the area served by KAWC. The Board requested that some further details be worked out & the final proposal be presented at the next meeting.

Motion by Johnson, Seconded by Showalter to accept the low bid of 8.9% from Quest Engineering for design and construction fees for the Boston/Military Street Water Line Upgrades. The motion passed.

Bob Wilhite presented a report on the water transportation rate for water transported through GMWSS's system and sold in Owen County. The transportation rate was calculated to be $.70 per thousand gallons, which would be added to the current wholesale rate of $1.93 from KAWC. The board accepted the rate of $2.63.

Motion by Johnson, Seconded by Alsop to go into executive session.

Motion by Alsop, Seconded by Johnson to come out of executive session.

There being no further business, Motion by Showalter, Second by Alsop to adjourn the meeting at 6:00 p.m. The motion passed.

Will James, Chairman

Robert Wilhite, Acting Secretary

GEORGETOWN MUNICIPAL WATER AND SEWER SERVICE BOARD MEETING MARCH 20, 2001

The regular meeting of the Georgetown Municipal Water and Sewer Service Board was held at the Water Company at the hour of 4:00 p.m. Those present:

Gervis Showalter
Maurice Alsop
Greg Johnson
Walter Barkley
Brian Lovan
Billy Jenkins
Bob Riddle
Mr. Bill Howard
Les Jarvis
Will James
Bruce Lankford
Glenn Williams
Brown Thornton
Vickie Dunn
Bob Wilhite

The meeting was called to order by Chairman James.

Motion by Johnson, Second by Alsop, to approve the minutes of meetings on December 19, 2000, January 16, 2001 and February 20, 2001 after review. Motion approved.

Mr. Glenn Williams on behalf of Walter Barkley owner of the Dairy Freeze property addressed the Board concerning sewer charges now being received that previously had not been charged since the early 1960's. Mr. Williams indicated that when the property was purchased it was indicated that sewer would never be billed, however there appears to be no documentation to this effect. Staff will review further with Mr. Williams to resolve the matter.

Bob Wilhite next reviewed the monthly financial reports with the Board, which accepted the report as presented.

Motion by Jarvis, Second by Alsop, to approve the monthly bills payable after review. Motion approved.

Mr. Bill Howard next reviewed the plans for the sewer service on privilege fee #5 on Cherry Blossom Way and Connector Road. Mr. Howard is having trouble gaining permission to access the easement from Mr. Brent Rice at the Chevron Station. There appears to be an alternative route if necessary to avoid conflict. Presently Mr. Howard will begin digging along the other end of the project until ameniable approvals can be obtained. Bruce Lankford will discuss further with Mr. Rice to obtain approval.

Motion by Showalter, Second by Johnson, to approve purchase order to Hamilton Hinkle and Ruth in the amount of $5998.00 to install concrete binder and DGA at WWTP #1. Motion approved.

Motion by Showalter, Second by Jarvis, to approve purchase order to Reynolds in the amount of $6145.00 to replace and install new pump at water treatment plant. Motion approved.

Motion by Johnson, Second by Showalter, to approve purchase order to Ball Homes in the amount of $ 5875.00 for upsizing of eight-inch water line to 12-inch water line at Bradford Unit #2. Motion approved.

Bob Wilhite reviewed bids on the replacement of the handheld meter reading devices, which will not have support effective 12-31-02. The low bids to replace are

$12,060.00 from Sensus not including maintenance costs. Motion by James, Second by Showalter to approve. Motion approved.

Brian Lovan reviewed the PDR Engineers project report. Board accepted report.

Billy Jenkins reviewed the Operational report. Board accepted report.

Bob Riddle reviewed the Engineering report. Board accepted report.

Billy Jenkins reviewed the bids for the replacement of two 1991 Chevrolets in accordance with our vehicle replacement policy and the budget. The low bidder on both vehicles was Dan Cummins in the amounts of $16,379.88 and $14,379.88. Motion by Jarvis, Second by Showalter to accept both bids as presented. Motion approved.

Motion by Alsop, Second by Johnson to approve the low bidder of NAC Heavy Highway, Inc. in the amount of $126,000.00 for the Plant Drainage pump station improvement project. This project is included within the fiscal year budget. Motion approved.

Brown Thornton next reviewed the report on developing rates for the Kentucky American Water for wholesale water sales. The recommendation to GMWSS is to sell at $2.65 per 1000 gallons of water. The contract would not be subject to the Public Service Commission. Motion by Johnson, Second by Showalter, to approve the rate of $2.65 per 1000 gallons of water. Motion approved.

Mr. Thornton next reviewed the feasibility of evaluating the feasibility of acquiring water from the Scott County reservoir as a water source. The Board will review and discuss at a later date.

Bob Wilhite next reviewed the miscellaneous fee schedule with recommended changes from staff. After review by the Board, staff will restructure the report for next months meeting.

Bob Riddle informed the Board that the Kentucky Division for Air Quality has received several odor complaints from residents living in the area near the Toyota Plant. They are going to locate a monitoring site at WWTP #2 on Cherry Blossom Way. Board accepted report.

There being no further business the meeting was adjourned.

Will James, Chairman

Les Jarvis, Secretary-Treasurer

WATER PURCHASE AGREEMENT

This Contract, made and entered into this 10 day of October 2000, by and between the Gallatin County Water District, a special district formed pursuant to KRS Chapter 74, acting by and through its duly authorized officer and Chairman of its Board of Commissioners, Denny French, party of the first part, Seller, and the Tri-Village Water District, a special district formed pursuant to KRS Chapter 74, acting by and through its duly authorized officer and Chairman of its Board of Commissioners, Charles F. Noel, party of the second part, Buyer.

WITNESSETH

Whereas, the parties hereto are each special districts formed under KRS Chapter 74 for the purposes of constructing and operating water supply distribution systems serving water users within their respective areas of jurisdiction, and

Whereas, Buyer requires additional supplies of potable treated water in order to adequately fulfill its obligations to its users in the City of Glencoe and has requested that same be supplied to it by Sellers, and

Whereas, Seller owns and operates a water supply distribution system capable of serving its present customers and the estimated number of Buyer's users to be served by the gallonage proposed to be sold to Buyer hereunder (currently being 266), and

Whereas, Seller deems it in the best interests of itself and its users that it profitably dispose of its excess capacity as herein proposed, and

Whereas, both parties hereto have approved the sale and purchase of water in accordance with the terms and conditions contained herein by Resolutions duly adopted by their respective commissioners

Now Therefore, for and in consideration of the foregoing premises and the mutual agreements and undertakings hereinafter set forth, the parties promises and agrees as follows

1. Seller agrees to furnish and supply to Buyer, at the point of delivery hereinafter specified, during the term of this agreement or any renewal or extension thereof, potable treated water meeting applicable state and federal purity and quality standards in such quantity as may be required by the Purchaser not to exceed 1.5 million gallons per month

2. Said water will be furnished at a reasonably constant pressure calculated at 30 or greater PSI from a 6 inch main supply at a point located at west side of U.S. Hwy 127 just south of Clarence Sullivan property at city limits of Glencoe, Kentucky. If a greater pressure than that normally available at the point of delivery is required by the

Purchaser the cost of providing such greater pressure shall be borne by the Purchaser. Emergency failures of pressure or supply due to main supply line breaks, power failure, flood, fire and use of water to fight fire, earthquake or other catastrophe shall excuse the Seller from this provision for such reasonable period of time as may be necessary to restore service.

3. Seller agrees to furnish, install, operate, and maintain at its own expense at point of delivery, the necessary metering equipment, including a meter house or pit, and required devices of standard type for properly measuring the quantity of water delivered to the Purchaser and to calibrate such metering equipment whenever requested by the Purchaser but no more frequently than once every twelve (12) months. A meter registering not more than two percent (2%) above or below the test result shall be deemed to be accurate. The previous readings of any meter disclosed by test to be inaccurate shall be corrected for the 3 months previous to such test in accordance with the percentage of inaccuracy found by such tests. If any meter fails to register for any period, the amount of water furnished during such period shall be deemed to be the amount of water delivered in the corresponding period immediately prior to the failure, unless Seller and Purchaser shall agree upon a different amount. The metering equipment shall be read on First Working day of Month. An appropriate official of the Purchaser at all reasonable times shall have access to the meter for the purpose of verifying its readings.

4. Seller agrees to furnish the Purchaser not later than the fifteenth day of each month, with an itemized statement of the amount of water furnished the Purchaser during the preceding month.

PUBLIC SERVICE COMMISSION
OF KENTUCKY
EFFECTIVE
JAN 01 2001
PURSUANT TO 807 KAR 5:011,
SECTION 9 (1)
BY Stephanie Bell
SECRETARY OF THE COMMISSION

5. Purchaser agrees to pay the Seller, not later than the tenth day of each month, for water delivered in accordance with the following schedule of rates:

One Dollar and forty cents ($1.40) per thousand gallons, unless and until modified by mutual agreement of the parties or by order of the Public Service Commission or any successor agency thereof.

6. Purchaser agrees to pay as an agreed cost, a connection fee to connect the Seller's system with the system of the Purchaser in a sum equal to one-half (1/2) the cost of installation and acquisition of the metering equipment, not to exceed the sum of $2,000.00.

7. It is further mutually agreed between the Seller and the Purchaser as follows:

A. (Term of Contract) That this contract shall extend for a term of 20 years from the date of initial delivery of any water as shown by the first bill submitted by the Seller to the Purchaser and, thereafter shall be extended or renewed for successive one year terms, unless terminated by either party upon written notice delivered not less than 120 days next preceding the expiration of the term of the contract or any extension or renewal thereof. Upon breach of this

contract by failure to perform, misrepresentation or other cause, the non-breaching party may terminate this contract upon thirty (30) days prior written notice to the breaching party, unless the breaching party wholly cures its breach within that 30 day notice period.

B. (Delivery of Water) That 30 days prior to the estimated date of initial delivery of water, the Purchaser will notify the Seller in writing the date for the initial delivery of water.

C. Purchaser shall have the right, at all reasonable times, to conduct testing of Seller's water quality at the master meter.

D. (Failure to Deliver) That the Seller will, at all times, operate and maintain its system in an efficient manner and will take such action as may be necessary to furnish the Purchaser with quantities and quality of water required by the Purchaser. Temporary or Partial failure to deliver water shall be remedied with all possible dispatch. In the event of an extended shortage of water or the supply of water available to the Seller is otherwise diminished over an extended period of time, the supply of water to Purchaser's consumers shall be reduced or diminished in the same ratio or proportion as the supply to Seller's consumers is reduced or diminished.

E. (Modification of Contract) That the provisions of this contract pertaining to the schedule of rates to be paid by the Purchaser for water delivered are subject to modification at any time upon mutual agreement of the parties, or upon application to and approval of the Public Service Commission, or any agency successor thereto. No rate increase shall become effective prior to the date 180 days subsequent to the date Seller gives notice to Purchaser of its intent to raise the rate charged to Purchaser.

In the event that compliance with action by regulatory authority causes Seller to increase its rate to its customers in order to meet resulting increased costs, the rates charged to Purchaser shall be subject to increase in the same percentage as that borne by Seller's other users, the Seller's rate structure being based solely upon quantity of use. In the event that rate classifications are subsequently developed by Seller, Purchaser shall be given the wholesale rate, or its equivalent.

Provisions of this contract may be modified or altered by mutual agreement.

PUBLIC SERVICE COMMISSION OF KENTUCKY EFFECTIVE

JAN 01 2001

PURSUANT TO 807 KAR 5:011 SECTION 9 (1)

BY: [signature] SECRETARY OF THE COMMISSION

F. (Regulatory Agencies) That this contract is subject to such rules, regulations, or laws as may be applicable to similar agreements in this State, including those promulgated, implemented and enforced by the Public Service Commission and the Seller and Purchaser will collaborate in obtaining such permits, certificates, or the like, as may be required to comply therewith.

COMMONWEALTH OF KENTUCKY)
COUNTY OF Gallatin)

Signed and acknowledged before me by Denny French and Charles F. Noel on this the 10th day of October, 2000.

My commission expires: 8-4-2001

Notary Public, State at Large, Ky

PUBLIC SERVICE COMMISSION
OF KENTUCKY
EFFECTIVE

JAN 01 2001

PURSUANT TO 807 KAR 5:011,
SECTION 9 (1)
BY Stephanie Bell
SECRETARY OF THE COMMISSION

WATER PURCHASE AGREEMENT

This Contract, made and entered into this 14th day of September, 2000, by and between the Carroll County Water District #1, a special district formed pursuant to KRS Chapter 74, acting by and through its duly authorized officer and Chairman of its Board of Commissioners, Dennis Crawford, party of the first part, Seller, and the Tri-Village Water District, a special district formed pursuant to KRS Chapter 74, acting by and through its duly authorized officer and Chairman of its Board of Commissioners, Charles F. Noel, party of the second part, Buyer.

WITNESSETH:

Whereas, the parties hereto are each special districts formed under KRS chapter 74 for the purposes of constructing and operating water supply distribution systems serving water users within their respective areas of jurisdiction, and

Whereas, Buyer requires additional supplies of potable treated water in order to adequately fulfill its obligations to its users in the Wheatley area and has requested that same be supplied to it by Sellers, and

Whereas, Seller owns and operates a water supply distribution system capable of serving its present customers and the estimated number of Buyer's users to be served by the gallonage purposed to be sold to buyer hereunder, and

Whereas, Seller deems it in the best interests of itself and its users that it profitably dispose of its excess capacity as herein proposed, and

Whereas, both parties hereto have approved the sale and purchase of water in accordance with the terms and conditions contained herein by Resolutions duly adopted by their respective commissioners.

Now Therefore, for and in consideration of the foregoing premises and the mutual agreements and undertakings hereinafter set forth, the parties promise and agree as follows:

1. Seller agrees to furnish and supply to Buyer, at the point of delivery hereinafter specified, during the term of this agreement or any renewal or extension thereof, potable treated water meeting applicable state and federal purity and quality standards in such quantity as may be required by the Purchaser.

2. Said water in the amount of 75000 gallons per day will be furnished at a reasonably constant pressure calculated at 30 or greater PSI from a master meter installed in a 6" water main located on Highway 227 between the water tank and

Wheatley. If a greater pressure than the normally available at the point of delivery is required by the Purchaser, the cost of providing such greater pressure shall be borne by the Purchaser. Emergency failures of pressure of supply due to main supply line breaks, power failure, flood, fire and use of water to fight fire, earthquake or other catastrophe shall excuse the Seller from this provision for such reasonable period of time as may be necessary to restore service.

3. Seller agrees to furnish, install, operate, and maintain at its own expense at point of delivery, the necessary metering equipment, including a meter house or pit, and required devices of standard type of properly measuring the quantity of water delivered to the Purchaser and to calibrate such metering equipment whenever requested by the Purchaser but no more frequently than once every twelve (12) months. A meter registering not more than two percent (2%) above or below the test result shall be deemed to be accurate. The previous readings of any meter disclosed by test to be inaccurate shall be corrected for the 3 months previous to such test in accordance with the percentage of inaccuracy found by such tests. If any meter fails to register for any period, the amount of water furnished during such period shall be deemed to be the amount of water delivered in the corresponding period immediately prior to the failure, unless Seller and Purchaser shall agree upon a different amount. The metering equipment shall normally be read on the 20th day of the month. An appropriate official of the Purchaser at all reasonable times shall have access to the meter for the purpose of verifying its readings.

4. Seller agrees to furnish the Purchaser not later than the 5th day of each month, with an itemized statement of the amount of water furnished the purchaser during the preceding month.

5. Purchaser agrees to pay the Seller, not later than the 20th day of each month, for water delivered in accordance with the following schedule of rates:

$1.66 per thousand gallons

6. It is further mutually agreed between the Seller and the Purchaser as follows:

A. (Term of Contract) That this contract shall extend for a term of 20 years from the date of initial delivery of any water as shown by the first bill submitted by the Seller to the Purchaser and, thereafter shall be extended or renewed for successive one year terms, unless terminated by either party, upon one year's written notice delivered, except where the Seller is unable to comply with its obligations under Sections 1 and 2 or any breach of representations in this contract in which case Purchaser may terminate this contract upon 30 days' written notice.

B. (Delivery of Water) That 30 days prior to the estimated date of initial delivery of water, the Purchaser will notify the Seller in writing the date for initial delivery of water.

C. Purchaser shall have the right, at all reasonable times, to conduct such testing of Seller's water quality at such locations in Seller's system as is reasonable.

D. (Failure to Deliver) That the Seller will, at all times, operate and maintain its system in an efficient manner and will take such action as may be necessary to furnish the Purchaser with the quality and quantities of water required by the Purchaser. Temporary or partial failure to deliver water shall be remedied with all possible dispatch. In the event of an extended shortage of water, or the supply of water available to the Seller is otherwise diminished over an extended period of time, the supply of water to Purchaser's consumers shall be reduced or diminished in the same ratio or proportion as the supply to Seller's consumers is reduced or diminished.

E. (Modification of Contract) That the provisions of this contract pertaining to the schedule of rates to be paid by the Purchaser for water delivered are subject to modification at any time upon mutual agreement of the parties provided that Purchaser shall be provided with 120 days' notice prior to any modification of rates.

In the event that compliance with action by regulatory or governmental authority causes Seller to increase its rate to its customers in order to meet resulting increased costs, the rates charged to Purchaser shall be subject to increase based upon approval by the Public Service Commission.

Provisions of this contract may be modified or altered by mutual written agreement.

F. (Regulatory Agencies) That this contract is subject to such rules, regulations, or laws as may be applicable to similar agreements in this State, including the Kentucky Public Service Commission, and the Seller and Purchaser will collaborate in obtaining such permits, certificates, or the like, as may be required to comply therewith.

The parties' respective rights and duties hereunder are contingent upon all necessary approvals from the Kentucky Public Service Commission, or its successor agency.

CARROLL COUNTY WATER DISTRICT

RESOLUTION

A Resolution related to contracting for the Sale of Water to Tri-Village Water District, approving same and authorizing the Chairman of the Board of Commissioners to execute and deliver a contract evidencing same.

Be it resolved by the Commissioners of the Carroll County Water district, as follows:

That Dennis Crawford, Chairman, of the Board of Commissioners and is hereby authorized, empowered and directed to execute and deliver, on behalf of the district, thereby binding the District to, a contract for the sale of water to the Tri-village Water district at the rate of $1.66 per thousand gallons, to a point of delivery at metering station near Wheatley, Kentucky, for a term of 20 years with automatic one-year extensions terminable by either party upon one year's prior notice, and containing other customary and prudent terms and provisions, which contract is hereby approved.

Adopted this 14th day of SEPT., 2000.

Chairman, Board of Commissioners of
Carroll County Water District #1

ATTEST

Secretary, Carroll County Water District #1

TRI-VILLAGE WATER DISTRICT

RESOLUTION

A Resolution related to contracting for the Sale of Water to Tri-Village Water District, approving same and authorizing the Chairman of the Board of Commissioners to execute and deliver a contract evidencing same.

Be it resolved by the Commissioners of the Tri-Village Water District, as follows:

That Charles Noel, Chairman of the Board of Commissioners and is hereby authorized, empowered and directed to execute and deliver, on behalf of the District, thereby binding the District to, a contract for the sale of water to the Tri-Village Water District at the rate of (INSERT RATE)per thousand gallons, to a point of delivery at (INSERT LOCATION), Kentucky, for a term of 20 years with automatic one-year extensions terminable by either party upon one year's prior notice, and containing other customary and prudent terms and provisions, which contract is hereby approved.

Adopted this ____ day of _____, 2000.

Charles F. Noel
Chairman, Board of Commissioners of
Tri-Village Water District

A True Copy: ATTEST

Secretary, Tri-Village Water District

TRI-VILLAGE WATER DISTRICT

RESOLUTION

A resolution related to contracting for the sale of water to Tri-Village Water District, approving same and authorizing the Chairman of the Board of Commissioners to execute and deliver a contract evidencing the same.

Be it resolved by the Commissioners of the Tri-Village Water District, as follows:

That Charles Noel, Chairman of the Board of Commissioners is hereby authorized, empowered and directed to execute and deliver, on behalf of the District thereby binding the District to, a contract for the sale of water to the Tri-Village Water District at the rate of $1.66 per 1000 gallons, to a point of delivery at Wheatley, Kentucky, Highway 227 , for a term of 20 years with automatic one-year extensions terminable by either party upon one year's prior notice, and containing other customary and prudent terms and provisions, which contract is hereby approved.

Adopted this 13th day of September, 2000

Charles F. Noel
Chairman, Board of Commissioners of
Tri-Village Water District

A True Copy: ATTEST

Amey Gillins
Secretary, Tri-Village Water District

WRIS System Data Report

KY0410047 - Bullock Pen Water District

DOW Permit ID: **KY0410047** — Link: EPA SDWIS Report

DOW Permit Type: **DRINKING WATER (PWSID)** — Link: DOW SDWIS Report

DOW Permit Name: **Bullock Pen Water District**

WRIS System Name: **Bullock Pen Water District**

System Type: **Community** Water Source Type: **Surface Water**

ADD ID: **NKADD** Primary County: **Grant** Dow Field Office: **Florence**

Permit Dates: Issued: **01.01.1973** Expired: Inactivated:

SYSTEM CONTACT INFORMATION

Contact: **William Catlett**

Title: **Superintedant**

Address Line 1: **PO Box 188**

Address Line 2:

City **Crittenden** State: **KY** Zip: **41030**

Phone: **859-428-2112** EMail: **bullockpen@fuse.net**

Data Source: **KENTUCKY INFRASTRUCTURE AUTHORITY**

Date Last Modified: **03.28.2012**

OWNER ENTITY INFORMATION

Entity Type: **Water District (KRS 74)** PSC Group ID: **19200**

Entity Name: **Bullock Pen Water District**

Web URL:

Office EMail: **bullockpen@fuse.net**

Office Phone: **859-428-2112** Toll Free: Fax: **859-428-1293**

Mail Address Line 1:	**PO Box 188**	Phys Address Line 1:	
Mail Address Line 2:		Phys Address Line 2:	
Mail City, State Zip:	**Crittenden, KY 41030**	Phys City, State Zip:	
Contact:	**Bobby Burgess**	Manager:	**Bobby Burgess**
Contact Title:		Manager Title:	
Contact EMail:	**bullockpen@fuse.net**	Manager EMail:	**bullockpen@fuse.net**
Contact Phone:	**859-428-2112**	Manager Phone:	**859-428-2112**
Contact Cell:		Manager Cell:	

Authorized Official: **Bobby Burgess**

Auth. Official Title:

Auth. Official EMail: **bullockpen@fuse.net**

Auth. Official Phone: **859-428-2112** Auth. Official Cell:

Data Source: **KENTUCKY INFRASTRUCTURE AUTHORITY** Date Last Modified: **01.05.2011**

DEMOGRAPHIC INFORMATION

Counties Directly Served: **6**

Directly Serviceable Population: **19,544**

Indirectly Serviceable Population:

Total Serviceable Population: **19,544**

Note: Population counts are based on KIA census block overlay with WRIS mapped features.

County Served	Connection Count	Serviceable Population
Boone	1,060	3,253
Gallatin	35	134
Grant	5,481	14,755
Kenton	386	986
Owen		8
Pendleton	118	408
Totals	**7,080**	**19,544**

WRIS System Data Report
KY0410047 - Bullock Pen Water District

System Respondent | ADD WMP | Date

FISCAL ATTRIBUTES

Date Established: **01.01.1957**

Employees: **15**

Does this system:

(a) Produce Water? **Yes**

(b) Have wholesale customers? **No**

(c) Purchase water? **Yes**

If this is a municipal system, what is the cost per 4,000 gallons of finished water for customers:

(a) inside your municipality:

(b) outside your municipality:

If this is a non-municipal system, what is the customer cost per 4,000 gallons of finished water? **$44.19**

Comments:

Date Last Modified: **03.20.2012**

Providers that sell water to this system:

Seller DOW Permit ID	Seller Name	Water Type	Ann. Vol. (MG)	Cost		Interconnects		
				Raw	Fin	Perm	Seas	Emer
KY0080034	Boone County Water & Sewer District	F			$3.53	1	0	0
KY0080442	Walton Waterworks Department	F	38.341		$3.93	1	0	0
KY0390130	Gallatin County Water District	F			$3.53	0	0	1
KY0410472	Williamstown Municipal Water Department	F	47.943		$2.75	1	0	0
KY0590220	Northern Kentucky Water District	F	164.037		$3.13	1	0	0
	Totals and Averages		**250.321**		**$3.37**	**4**	**0**	**1**

- MG = Million Gallons
- Water Types: R = Raw Water, F = Finished Water, B = Both Raw and Finished Water
- Cost Categories: Raw = Raw Untreated Water, Fin = Finished Treated Water
- Raw and Finished costs are per 1,000 gallons.
- Interconnect Types: Perm = Permanent, Seas = Seasonal, Emer = Emergency

WRIS System Data Report

KY0410047 - Bullock Pen Water District

DOW Permit ID: **KY0410047** — Link: EPA SDWIS Report

DOW Permit Type: **DRINKING WATER (PWSID)** — Link: DOW SDWIS Report

DOW Permit Name: **Bullock Pen Water District**

WRIS System Name: **Bullock Pen Water District**

System Type: **Community** Water Source Type: **Surface Water**

ADD ID: **NKADD** Primary County: **Grant** Dow Field Office: **Florence**

Permit Dates: Issued: **01.01.1973** Expired: Inactivated:

SYSTEM PLANNING

Water Treatment Plants:

Facility Name	Design Capacity (MGD)	Ave. Daily Prod. (MGD)	High. Daily Prod. (MGD)
BULLOCK PEN WTP	1.000	0.460	0.920
Totals	**1.000**	**0.460**	**0.920**

Operational Statistics:

Total Annual Vol. Produced (MG):

Total Annual Vol. Purchased (MG): **250.321**

Total Annual Vol. Provided (MG): **250.321**

Estimated Annual Water Loss: **(1.0)%**

Wholesale Customers:	**0**	Wholesale Usage (MG):	
Residential Customers:	**6,659**	Residential Usage (MG):	**278.112**
Commercial Customers:	**428**	Commercial Usage (MG):	**16.164**
Institutional Customers:	**7**	Institutional Usage (MG):	**18.720**
Industrial Customers:	**5**	Industrial Usage (MG):	**1.512**
Other Customers:	**5**	Other Cust. Usage (MG):	**0.252**
Total Customers:	**7,104**		
		Flushing, Maintenance and Fire Protection Usage (MG):	
		Total Annual Water Usage (MG):	**314.760**

Projected water supply inadequacies through 2020 during normal operating conditions:

Bullock pen water district will need additional water source

Projected water supply inadequacies through 2020 during drought operating conditions:

Conservative may be needed especially in the summer

Comments:

Date Last Modified: **03.28.2012**

WMP Site Visit - Survey Information:

Site Visit / Survey Date: **03.20.2012**

Survey Administrator: **Jeff Burt**

Principal Respondent: **Billy Catlett**

Other Respondent(s):

Comments:

Date Last Modified: **03.28.2012**

WRIS System Data Report

KY0410047 - Bullock Pen Water District

DOW Permit ID: **KY0410047** — Link: EPA SDWIS Report

DOW Permit Type: **DRINKING WATER (PWSID)** — Link: DOW SDWIS Report

DOW Permit Name: **Bullock Pen Water District**

WRIS System Name: **Bullock Pen Water District**

System Type: **Community** Water Source Type: **Surface Water**

ADD ID: **NKADD** Primary County: **Grant** Dow Field Office: **Florence**

Permit Dates: Issued: **01.01.1973** Expired: Inactivated:

SYSTEM MAINTENANCE

This system has a policy manual in place containing the following items:

- ✓ Personnel Policies
- ✓ Line Maintenance Program
- ✓ Routine Pressure Checks
- ✓ Emergency Operation Procedures
- ✓ A Water Shortage Plan
- ✓ Standard Operating Procedures
- ✓ Meter Testing Program
- ✓ Pump Station Maintenance Schedule
- ✓ Backup Sources
- ✓ A Water Conservation Plan

- ✓ The management of this system participates in an area water management planning council.
- ✓ The management of this system participates in regular training activities.
- ✓ System operator(s) participate in regular training activities.
- ○ This system has periodic service outages.

  Cause(s):
- ○ This system has periodic pump failures.

  Cause(s):
- ✓ This system has periodic line breaks.

  The following components are associated with periodic line breaks:

  Typical line size: **6.00**

  Typical line location(s): **Various areas**

  Typical cause(s): **Aging lines, weather**

  Other cause(s): **No**

  Est. Water Loss Percentage: **5.0 %**
- ○ This system has localized problems.

  The following components are associated with locaized problems:

  Problem location(s):

  Problem diameter(s):

  Problem pressure(s);

  Problem cause(s):

  Other problem characteristics:
- ✓ This system has as-built plans (record drawings).

  Est. degree of accuracy for as-built plans (%): **85%**
- ○ This system uses an on-staff inspector(s) for construction projects.

Maintenance notes for this system:

Date Last Modified: **09.29.2004**

WRIS System Data Report

KY0410047 - Bullock Pen Water District

The following projects are associated with this system:

PNUM	Applicant	Project Status	Funding Status	Schedule	Project Title	Profile Modified	GIS Modified
WX21015002	Bullock Pen Water District	Approved	Not Funded	0-2 Years	BPWD McCoy Fork / Poole Road WL Connector	05.14.2012	03.12.2012
WX21015003	Bullock Pen Water District	Approved	Not Funded	0-2 Years	BPWD I-71 Water Line Bore	05.14.2012	03.12.2012
WX21015006	Bullock Pen Water District	Approved	Not Funded	0-2 Years	Bullock Pen Water District - Boone County Master Meter and Improvements	02.13.2012	11.14.2011
WX21037313	Northern Kentucky Water District	Under Construction	Partially Funded	0-2 Years	NKWD - Advance Treatment Project	04.11.2012	10.31.2011
WX21081003	Bullock Pen Water District	Approved	Not Funded	0-2 Years	Bullock Pen Improvements Phase 13	02.13.2012	02.13.2012
WX21081303	Bullock Pen Water District	Approved	Not Funded	3-5 Years	Bullock Pen - Dry Ridge-Mt. Zion Rd. Water Line Replacement	02.10.2012	09.30.2010
WX21081304	Bullock Pen Water District	Approved	Not Funded	0-2 Years	Bullock Pen Water District - Grant County Improvement Project	03.28.2012	02.14.2011
WX21081305	Bullock Pen Water District	Approved	Not Funded	0-2 Years	Bullock Pen - Raw Water Intake	02.10.2012	01.25.2011
WX21081306	Bullock Pen Water District	Approved	Not Funded	3-5 Years	Bullock Pen - Phase II Water System Improvements	02.10.2012	02.14.2011
WX21081310	Grant County Fiscal Court	Under Construction	Partially Funded	0-2 Years	Grant County Waterline Extension; Phase - Closeout	03.28.2012	09.30.2010
WX21081311	Bullock Pen Water District	Constructed	Not Funded	0-2 Years	Pumpstation At NKWD Master Meter	02.10.2012	08.05.2010
WX21081312	Bullock Pen Water District	Approved	Not Funded	6-10 Years	Bullock Pen - Southwest Water Storage Tank	03.28.2012	08.05.2010
WX21081313	Bullock Pen Water District	Under Construction	Not Funded	0-2 Years	Bullock Pen Water District - Highway 25 Water Line Replacement	02.10.2012	10.01.2010
WX21081314	Bullock Pen Water District	Approved	Not Funded	3-5 Years	Bullock Pen Water District - Sherman Mt. Zion Water Line Replacement	02.10.2012	09.30.2010
WX21081315	Bullock Pen Water District	Approved	Not Funded	3-5 Years	Bullock Pen Water District - Gardnersville Tank	02.10.2012	08.05.2010
WX21081316	Bullock Pen Water District	Approved	Not Funded	0-2 Years	Bullock Pen - Golds Valley Water Line - Owen County	02.10.2012	09.30.2010
WX21117012	Bullock Pen Water District	Constructed	Fully Funded	3-5 Years	Bullock Pen Water Line Extension, Phase 6	02.10.2012	09.30.2010
WX21117013	Bullock Pen Water District	Approved	Not Funded	3-5 Years	Bullock Pen Water Line Extension, Phase 9	02.10.2012	09.30.2010

WRIS System Data Report

KY1050157 - Georgetown Municipal Water & Sewer Service

DOW Permit ID: **KY1050157** — **Link: EPA SDWIS Report**

DOW Permit Type: **DRINKING WATER (PWSID)** — **Link: DOW SDWIS Report**

DOW Permit Name: **Georgetown Municipal Water Service**

WRIS System Name: **Georgetown Municipal Water & Sewer Service**

System Type: **Community** Water Source Type: **Surface Water**

ADD ID: **BGADD** Primary County: **Scott** Dow Field Office: **Frankfort**

Permit Dates: Issued: **01.01.1973** Expired: Inactivated:

SYSTEM CONTACT INFORMATION

Contact: **Robert Wilhite**

Title: **General Manager**

Address Line 1: **PO Box 640**

Address Line 2:

City **Georgetown** State: **KY** Zip: **40324**

Phone: **502-863-7816** EMail: **rwilhite@gmwss.com**

Data Source: **KENTUCKY INFRASTRUCTURE AUTHORITY**

Date Last Modified: **03.28.2012**

OWNER ENTITY INFORMATION

Entity Type: **City / Municipal Utility** PSC Group ID:

Entity Name: **Georgetown Municipal Water and Sewer Service**

Web URL: **http://www.gmwss.com**

Office EMail: **bjenkins@gmwss.com**

Office Phone: **502-863-7816** Toll Free: Fax: **502-863-3575**

Mail Address Line 1:	**PO Box 640**	Phys Address Line 1:	**125 West Clinton Street**
Mail Address Line 2:		Phys Address Line 2:	
Mail City, State Zip:	**Georgetown, KY 40324**	Phys City, State Zip:	**Georgetown, KY 40324**
Contact:	**Robert Wilhite**	Manager:	**daryl mulder**
Contact Title:	**General Manager**	Manager Title:	**engineering tech**
Contact EMail:	**rwilhite@gmwss.com**	Manager EMail:	**dmulder@gmwss.com**
Contact Phone:	**502-863-7816**	Manager Phone:	**502-863-7816**
Contact Cell:		Manager Cell:	**859-509-4493**

Authorized Official: **everett Varney**

Auth. Official Title: **Mayor**

Auth. Official EMail:

Auth. Official Phone: **502-863-9800** Auth. Official Cell:

Data Source: **KENTUCKY INFRASTRUCTURE AUTHORITY** Date Last Modified: **03.28.2012**

DEMOGRAPHIC INFORMATION

Counties Directly Served: **5**

Directly Serviceable Population: **33,052**

Indirectly Serviceable Population:

Total Serviceable Population: **33,052**

Note: Population counts are based on KIA census block overlay with WRIS mapped features.

County Served	Connection Count	Serviceable Population
Fayette	4	24
Franklin	1	6
Owen	1	17
Scott	12,086	32,951
Woodford	18	54
Totals	**12,110**	**33,052**

WRIS System Data Report

KY1050157 - Georgetown Municipal Water & Sewer Service

System Respondent | ADD WMP | Date

FISCAL ATTRIBUTES

Date Established: **01.01.1973**

Employees: **50**

Does this system:

(a) Produce Water?	**Yes**
(b) Have wholesale customers?	**No**
(c) Purchase water?	**Yes**

If this is a municipal system, what is the cost per 4,000 gallons of finished water for customers:

(a) inside your municipality:	**$18.14**
(b) outside your municipality:	**$18.14**

If this is a non-municipal system, what is the customer cost per 4,000 gallons of finished water?

Comments:

Date Last Modified: **03.28.2012**

Providers that sell water to this system:

Seller DOW Permit ID	Seller Name	Water Type	Ann. Vol. (MG)	Cost		Interconnects		
				Raw	Fin	Perm	Seas	Emer
KY0340250	Kentucky-American Water Company	F	4.491		$3.27	0	0	0
KY0370143	Frankfort Plant Board	F	266.200		$2.46	1	0	0
	Totals and Averages		**270.691**		**$2.87**	**1**	**0**	**0**

- MG = Million Gallons
- Water Types: R = Raw Water, F = Finished Water, B = Both Raw and Finished Water
- Cost Categories: Raw = Raw Untreated Water, Fin = Finished Treated Water
- Raw and Finished costs are per 1,000 gallons.
- Interconnect Types: Perm = Permanent, Seas = Seasonal, Emer = Emergency

WRIS System Data Report

KY1050157 - Georgetown Municipal Water & Sewer Service

DOW Permit ID: **KY1050157** — Link: EPA SDWIS Report

DOW Permit Type: **DRINKING WATER (PWSID)** — Link: DOW SDWIS Report

DOW Permit Name: **Georgetown Municipal Water Service**

WRIS System Name: **Georgetown Municipal Water & Sewer Service**

System Type: **Community** Water Source Type: **Surface Water**

ADD ID: **BGADD** Primary County: **Scott** Dow Field Office: **Frankfort**

Permit Dates: Issued: **01.01.1973** Expired: Inactivated:

SYSTEM PLANNING

Water Treatment Plants:

Facility Name	Design Capacity (MGD)	Ave. Daily Prod. (MGD)	High. Daily Prod. (MGD)
ROYAL SPRING WTP	4.000	2.190	3.420
Totals	**4.000**	**2.190**	**3.420**

Operational Statistics:

Total Annual Vol. Produced (MG): **919.124**

Total Annual Vol. Purchased (MG): **270.691**

Total Annual Vol. Provided (MG): **1,189.815**

Estimated Annual Water Loss: **28.8%**

Wholesale Customers:	**0**	Wholesale Usage (MG):	
Residential Customers:	**10,913**	Residential Usage (MG):	**579.247**
Commercial Customers:	**1,213**	Commercial Usage (MG):	**235.167**
Institutional Customers:		Institutional Usage (MG):	
Industrial Customers:	**12**	Industrial Usage (MG):	**33.353**
Other Customers:		Other Cust. Usage (MG):	
Total Customers:	**12,138**		

Flushing, Maintenance and Fire Protection Usage (MG):

Total Annual Water Usage (MG): **847.767**

Projected water supply inadequacies through 2020 during normal operating conditions:

Projected water supply inadequacies through 2020 during drought operating conditions:

Comments:

Date Last Modified: **03.28.2012**

WMP Site Visit - Survey Information:

Site Visit / Survey Date: **03.28.2012**

Survey Administrator: **Samantha**

Principal Respondent: **Robert Wilhite**

Other Respondent(s):

Comments:

Date Last Modified: **03.28.2012**

WRIS System Data Report

KY1050157 - Georgetown Municipal Water & Sewer Service

DOW Permit ID: **KY1050157** — Link: EPA SDWIS Report

DOW Permit Type: **DRINKING WATER (PWSID)** — Link: DOW SDWIS Report

DOW Permit Name: **Georgetown Municipal Water Service**

WRIS System Name: **Georgetown Municipal Water & Sewer Service**

System Type: **Community** Water Source Type: **Surface Water**

ADD ID: **BGADD** Primary County: **Scott** Dow Field Office: **Frankfort**

Permit Dates: Issued: **01.01.1973** Expired: Inactivated:

SYSTEM MAINTENANCE

This system has a policy manual in place containing the following items:

- ✓ Personnel Policies
- ✓ Line Maintenance Program
- ✓ Routine Pressure Checks
- ✓ Emergency Operation Procedures
- ✓ A Water Shortage Plan
- ✓ Standard Operating Procedures
- ✓ Meter Testing Program
- ✓ Pump Station Maintenance Schedule
- ✓ Backup Sources
- ✓ A Water Conservation Plan

- ✓ The management of this system participates in an area water management planning council.
- ✓ The management of this system participates in regular training activities.
- ✓ System operator(s) participate in regular training activities.
- ○ This system has periodic service outages.

  Cause(s):
- ○ This system has periodic pump failures.

  Cause(s):
- ○ This system has periodic line breaks.

  The following components are associated with periodic line breaks:

  Typical line size:

  Typical line location(s):

  Typical cause(s):

  Other cause(s):

  Est. Water Loss Percentage: **12.0 %**
- ○ This system has localized problems.

  The following components are associated with locaized problems:

  Problem location(s):

  Problem diameter(s):

  Problem pressure(s);

  Problem cause(s):

  Other problem characteristics:
- ✓ This system has as-built plans (record drawings).

  Est. degree of accuracy for as-built plans (%): **90%**
- ○ This system uses an on-staff inspector(s) for construction projects.

Maintenance notes for this system:

Date Last Modified: **03.28.2012**

WRIS System Data Report

KY1050157 - Georgetown Municipal Water & Sewer Service

The following projects are associated with this system:

PNUM	Applicant	Project Status	Funding Status	Schedule	Project Title	Profile Modified	GIS Modified
WX21187400	Owen County Fiscal Court	Approved	Not Funded	3-5 Years	2003 Owen County Fiscal Court - Waterline Extensions	02.15.2012	10.01.2010
WX21209003	Scott County Fiscal Court	Withdrawn	Not Funded	3-5 Years	SCOTT COUNTY RESERVOIR	10.28.2011	
WX21209004	City of Georgetown	Withdrawn	Not Funded	3-5 Years	SCOTT COUNTY RESERVOIR RAW WATER TRANSMISSION LINE	12.16.2011	
WX21209005	City of Georgetown	Approved	Not Funded	3-5 Years	CHAMPION WAY 16" WATER MAIN EXTENSION	12.16.2011	08.02.2010
WX21209007	Scott County Fiscal Court	Withdrawn	Not Funded	3-5 Years	IRONWORKS ESTATES WATER LINE REPLACEMENT	10.28.2011	
WX21209008	City of Georgetown	Constructed	Fully Funded	0-2 Years	OAK STREET AND SHARPS TRAILER PARK WATER LINE REPLACEMENT	12.07.2010	08.02.2010

WRIS System Data Report

KY0210066 - Carroll County Water District #1

DOW Permit ID: **KY0210066** — Link: EPA SDWIS Report

DOW Permit Type: **DRINKING WATER (PWSID)** — Link: DOW SDWIS Report

DOW Permit Name: **Carroll Co Water District #1**

WRIS System Name: **Carroll County Water District #1**

System Type: **Community** Water Source Type: **Groundwater**

ADD ID: **NKADD** Primary County: **Carroll** Dow Field Office: **Florence**

Permit Dates: Issued: **02.01.1973** Expired: Inactivated:

SYSTEM CONTACT INFORMATION

Contact: **James Smith**

Title:

Address Line 1: **PO Box 350**

Address Line 2:

City **Ghent** State: **KY** Zip: **41045**

Phone: **502-347-9500** EMail: **carrollcountywat@bellsouth.net**

Data Source: **KENTUCKY DIVISION OF WATER**

Date Last Modified: **06.03.2010**

OWNER ENTITY INFORMATION

Entity Type: **Water District (KRS 74)** PSC Group ID: **19600**

Entity Name: **Carroll County Water District #1**

Web URL:

Office EMail: **carrollcountywat@bellsouth.net**

Office Phone: **502-347-9500** Toll Free: Fax: **502-347-9333**

Mail Address Line 1:	**205 Main Cross St**	Phys Address Line 1:	
Mail Address Line 2:		Phys Address Line 2:	
Mail City, State Zip:	**Ghent, KY 41045**	Phys City, State Zip:	
Contact:	**Jim Smith**	Manager:	**Jim Smith**
Contact Title:		Manager Title:	
Contact EMail:	**carrollcountywat@bellsouth.net**	Manager EMail:	**carrollcountywat@bellsouth.net**
Contact Phone:	**502-347-9500**	Manager Phone:	**502-347-9500**
Contact Cell:		Manager Cell:	

Authorized Official: **Jim Smith**

Auth. Official Title:

Auth. Official EMail: **carrollcountywat@bellsouth.net**

Auth. Official Phone: **502-347-9500** Auth. Official Cell:

Data Source: **KENTUCKY INFRASTRUCTURE AUTHORITY**

Date Last Modified: **01.05.2011**

DEMOGRAPHIC INFORMATION

Counties Directly Served: **3**

Directly Serviceable Population: **6,129**

Indirectly Serviceable Population: **9,187**

Total Serviceable Population: **15,316**

Note: Population counts are based on KIA census block overlay with WRIS mapped features.

County Served	Connection Count	Serviceable Population
Carroll	1,797	3,781
Gallatin	464	943
Owen	815	1,405
Totals	**3,076**	**6,129**

System Respondent ADD WMP Date

WRIS System Data Report

KY0210066 - Carroll County Water District #1

DOW Permit ID: **KY0210066**
Link: EPA SDWIS Report
DOW Permit Type: **DRINKING WATER (PWSID)**
Link: DOW SDWIS Report
DOW Permit Name: **Carroll Co Water District #1**
WRIS System Name: **Carroll County Water District #1**
System Type: **Community** Water Source Type: **Groundwater**
ADD ID: **NKADD** Primary County: **Carroll** Dow Field Office: **Florence**
Permit Dates: Issued: **02.01.1973** Expired: Inactivated:

FISCAL ATTRIBUTES

Date Established: **01.09.1961** Employees: **8**

Does this system:

(a) Produce Water? **Yes**
(b) Have wholesale customers? **Yes**
(c) Purchase water? **Yes**

If this is a municipal system, what is the cost per 4,000 gallons of finished water for customers:

(a) inside your municipality:
(b) outside your municipality:

If this is a non-municipal system, what is the customer cost per 4,000 gallons of finished water? **$27.75**

Comments:

Date Last Modified: **12.03.2008**

Providers that sell water to this system:

Seller DOW Permit ID	Seller Name	Water Type	Ann. Vol. (MG)	Cost		Interconnects		
				Raw	Fin	Perm	Seas	Emer
KY0210067	Carrollton Utilities	F			$7.88	0	0	1
	Totals and Averages				**$7.88**	**0**	**0**	**1**

Providers that purchase water from this system:

Purchaser DOW Permit ID	Purchaser Name	Water Type	Ann. Vol. (MG)	Cost		Interconnects			Serviceable Population
				Raw	Fin	Perm	Seas	Emer	
KY0940430	Kentucky-American Water Company - Northern Division	F			$1.66	1	0	0	9,187
	Totals and Averages				**$1.66**	**1**	**0**	**0**	**9,187**

- MG = Million Gallons
- Water Types: R = Raw Water, F = Finished Water, B = Both Raw and Finished Water
- Cost Categories: Raw = Raw Untreated Water, Fin = Finished Treated Water
- Raw and Finished costs are per 1,000 gallons.
- Interconnect Types: Perm = Permanent, Seas = Seasonal, Emer = Emergency

WRIS System Data Report

KY0210066 - Carroll County Water District #1

DOW Permit ID: **KY0210066** — Link: EPA SDWIS Report

DOW Permit Type: **DRINKING WATER (PWSID)** — Link: DOW SDWIS Report

DOW Permit Name: **Carroll Co Water District #1**

WRIS System Name: **Carroll County Water District #1**

System Type: **Community** Water Source Type: **Groundwater**

ADD ID: **NKADD** Primary County: **Carroll** Dow Field Office: **Florence**

Permit Dates: Issued: **02.01.1973** Expired: Inactivated:

SYSTEM PLANNING

Water Treatment Plants:

Facility Name	Design Capacity (MGD)	Ave. Daily Prod. (MGD)	High. Daily Prod. (MGD)
GALLATIN WTP	0.300	0.250	0.300
GHENT WTP	0.760	0.210	0.420
Totals	**1.060**	**0.460**	**0.720**

Operational Statistics:

Total Annual Vol. Produced (MG):

Total Annual Vol. Purchased (MG): **0.000**

Total Annual Vol. Provided (MG): **0.000**

Estimated Annual Water Loss: **%**

Wholesale Customers:	**1**	Wholesale Usage (MG):	**0.000**
Residential Customers:	**2,870**	Residential Usage (MG):	**133.540**
Commercial Customers:	**163**	Commercial Usage (MG):	**46.386**
Institutional Customers:		Institutional Usage (MG):	
Industrial Customers:	**31**	Industrial Usage (MG):	**123.903**
Other Customers:		Other Cust. Usage (MG):	
Total Customers:	**3,065**		

Flushing, Maintenance and Fire Protection Usage (MG):

Total Annual Water Usage (MG): **303.829**

Projected water supply inadequacies through 2020 during normal operating conditions:

Lack of distribution system and need for distribution system upgrades

Projected water supply inadequacies through 2020 during drought operating conditions:

Not substantually affected by drought

Comments:

Date Last Modified: **12.03.2008**

WMP Site Visit - Survey Information:

Site Visit / Survey Date: **03.14.2012**

Survey Administrator: **Jeff Burt**

Principal Respondent: **Jim Smith**

Other Respondent(s): **Obie Cox**

Comments: **Ccwd does have an agreement to purchase water from carrollton utilities for emergencies. depending on the nature of the construction project, an on-Staff inspector is sometimes used.**

Date Last Modified: **03.28.2012**

WRIS System Data Report

KY0210066 - Carroll County Water District #1

DOW Permit ID: **KY0210066**
Link: EPA SDWIS Report
DOW Permit Type: **DRINKING WATER (PWSID)**
Link: DOW SDWIS Report
DOW Permit Name: **Carroll Co Water District #1**
WRIS System Name: **Carroll County Water District #1**
System Type: **Community** Water Source Type: **Groundwater**
ADD ID: **NKADD** Primary County: **Carroll** Dow Field Office: **Florence**
Permit Dates: Issued: **02.01.1973** Expired: Inactivated:

SYSTEM MAINTENANCE

This system has a policy manual in place containing the following items:

- ✓ Personnel Policies
- ✓ Line Maintenance Program
- ✓ Routine Pressure Checks
- ✓ Emergency Operation Procedures
- ✓ A Water Shortage Plan
- ✓ Standard Operating Procedures
- ✓ Meter Testing Program
- ✓ Pump Station Maintenance Schedule
- ✓ Backup Sources
- ✓ A Water Conservation Plan

- ✓ The management of this system participates in an area water management planning council.
- ✓ The management of this system participates in regular training activities.
- ✓ System operator(s) participate in regular training activities.
- ○ This system has periodic service outages.

Cause(s):

- ○ This system has periodic pump failures.

Cause(s):

- ✓ This system has periodic line breaks.

The following components are associated with periodic line breaks:

Typical line size: **4.00**
Typical line location(s): **System wide**
Typical cause(s): **Natural stress (rocks, branches, etc.)**
Other cause(s): **Contractor hits due to construction**
Est. Water Loss Percentage: **10.0 %**

- ✓ This system has localized problems.

The following components are associated with locaized problems:

Problem location(s):
Problem diameter(s): **24,000 ft of 2" pvc**
Problem pressure(s);
Problem cause(s):
Other problem characteristics:

- ✓ This system has as-built plans (record drawings).

Est. degree of accuracy for as-built plans (%): **95%**

- ○ This system uses an on-staff inspector(s) for construction projects.

Maintenance notes for this system:

Date Last Modified: **09.27.2010**

WRIS System Data Report

KY0210066 - Carroll County Water District #1

The following projects are associated with this system:

PNUM	Applicant	Project Status	Funding Status	Schedule	Project Title	Profile Modified	GIS Modified
WX21041001	Carrollton Utilities	Approved	Not Funded	0-2 Years	Carroll County Interconnect Project	05.14.2012	02.14.2012
WX21041302	Carroll County Water District #1	Approved	Not Funded	3-5 Years	Carroll County Water District 2006 System Improvements	02.09.2012	04.13.2011
WX21041303	Carroll County Water District #1	Under Construction	Partially Funded	0-2 Years	Carroll County Water District - Capacity Upgrade 2007	03.15.2012	04.06.2012
WX21041701	Carroll County Water District #1	Approved	Not Funded	0-2 Years	Carroll County Water Meter Setter Replacement	02.09.2012	12.09.2010
WX21041706	Carroll County Water District #1	Approved	Not Funded	0-2 Years	Carroll County Water District - Emergency Generators	02.09.2012	10.26.2011
WX21077401	Carroll County Water District #1	Approved	Not Funded	0-2 Years	Carroll County Water District - KY 1039 Tank and Main	02.09.2012	02.14.2012
WX21187311	Carroll County Water District #1	Approved	Not Funded	0-2 Years	Carroll County Water District - Brown Bottom Water Line Extension Phase I	02.15.2012	10.01.2010
WX21187400	Owen County Fiscal Court	Approved	Not Funded	3-5 Years	2003 Owen County Fiscal Court - Waterline Extensions	02.15.2012	10.01.2010

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2012-00096
ATTORNEY GENERAL STAFF'S FIRST REQUEST FOR INFORMATION

Witness: Lance Williams

12. Reference: Feasibility Study. Describe the projected implementation timeline noting the start date and anticipated end date of each individual Phase in KAW's proposed KRS II WTP Supply plan.

Response:

KAW anticipates that all three phases of the project will commence by October 15, 2012 or immediately following the issuance of the Certificate of Public Convenience and Necessity. All three phases are scheduled to be substantially complete within 335 days after project start and fully complete within 365 days after project start.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2012-00096
ATTORNEY GENERAL STAFF'S FIRST REQUEST FOR INFORMATION

Witness: Lance Williams

13. Reference: Application. Did the Kentucky-American Water Company submit its proposal either formally or informally (including in response to a request by the Kentucky River Authority for information) to the Kentucky River Authority? If yes, then please provide all pertinent details and supporting documentation. If no, then please explain why not.

Response:

No, because KAW is not required to formally or informally submit the proposal to the Kentucky River Authority.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2012-00096
ATTORNEY GENERAL STAFF'S FIRST REQUEST FOR INFORMATION

Witness: Lance Williams

14. Reference: Application. Did the Kentucky-American Water Company submit its proposal either formally or informally (including in response to a request by the LFUCG for information) to the Lexington-Fayette Urban County Government? If yes, then please provide all pertinent details and supporting documentation. If no, then please explain why not.

Response:

No, because KAW was not required to formally or informally submit the proposal to the Lexington-Fayette Urban County Government.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2012-00096
ATTORNEY GENERAL STAFF'S FIRST REQUEST FOR INFORMATION

Witness: Lance Williams

15. Reference: Feasibility Study. Explain the current servicing method for the residents of Monterey and how that method is projected to change as a result of the new infrastructure.

Response:

- Current service method
  - Monterey is served entirely by the Monterey Tank.
  - The Monterey Tank is served and filled through 6-inch main along US 127, which is part of the Owenton Water Treatment Plant service area.
  - A valve upstream of the Monterey Tank inlet is manually opened by field personnel, as needed, to fill the tank.

- Projected changes
  - The existing Monterey Tank will be decommissioned.
  - Monterey will be split into two smaller service areas:
    - North of Cedar Creek in Monterey – The new Monterey Tank 6-inch bypass main with a pressure reducing valve will be utilized to serve residents in Monterey north of Cedar Creek.
    - South of Cedar Creek in Monterey – A 6-inch main with a pressure reducing valve off of the 16-inch transmission main will be utilized to serve residents in Monterey south of Cedar Creek.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2012-00096
ATTORNEY GENERAL STAFF'S FIRST REQUEST FOR INFORMATION

Witness: Lance Williams

16. Reference: Feasibility Study, Appendix D and Appendix E. Please explain the difference between the labor costs estimated for the Owenton WTP O&M Costs and the $0.00 of labor costs associated with Additional KRS II WTP Supply O&M Costs.

A. In the Application, the Owenton labor is attributed in footnote 2 to KAW's Budget Plan. Are there no similar increases in the budget for KRS II WTP? If yes, then please identify the increases. If no, then please explain why not.d

B. Provide documentation to include the relevant portions of the referenced budget plan to support your answer.

Response:

A. There will be no increase in labor costs for the KRS II WTP if the Northern Division connection is completed because KAW will not need to employ additional employees at the KRS II WTP.

B. No increases in labor costs are necessary.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2012-00096
ATTORNEY GENERAL STAFF'S FIRST REQUEST FOR INFORMATION

Witness: Lance Williams

17. Reference: Application and Feasibility Study. KAW asserts that one of the arguments against further operation of Owenton WTP is the lack of redundancy. Considering the proposed use of a single 16-inch main, explain the redundancy measures to be taken into account as they pertain to KRS II:

    A. Between KRS II and the water tanks.

    B. Between the water tanks the remaining transmission and distribution system.

Response:

A) In addition to the proposed 16-inch transmission main from KRS II to the Northern Division, a new 300,000 gallon elevated storage tank will be constructed north of Monterey, and a new 600,000 gallon elevated storage tank will be constructed outside of Owenton. All three of these components, in addition to KRS II and the existing distribution system storage tanks, will provide redundancy to the Northern Division. In the event that a main break occurs in the 16-inch transmission main, KRS II will supply points south of the main break while the storage tanks will provide temporary supply to the remaining parts of the system. The 16-inch main is a readily replaceable component which can easily be repaired and/or replaced.

B) In addition to the redundancy measures outlined in part A), KAW is capable of utilizing existing connections with Georgetown Municipal, Carroll County, and Gallatin County to supply many areas outside of Owenton as needed. Given the built-in reliability and redundancy of KRS II, the available storage volume of the new storage tanks, and the readily replaceable capability of 16-inch main, KAW is confident that, if the Northern Division Connection made, service can be maintained to all of our customers in the Northern Division during a disruption.

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Witness: Keith Cartier / Lance Williams

18. Reference: Application and Feasibility Study, specifically references to a lack of redundancy. Since 1 January 2005, what disruptions in service or other disturbances to the Northern Division system have occurred that may be directly related to a lack of redundancy?

    A. For each identified incident, please provide what actions KAW has taken to resolve the matter?

    B. How has KAW managed the Northern Division to date without built-in redundancies?

Response:

a. The Northern Division has not experienced any disruptions or service degradations as a result of a lack of redundancy in its treatment process.

b. Although, to date, current storage capacity and operator interventions have been adequate to prevent service disruptions for treatment upsets, the lack of redundancy results in KAW being unable to remove the claricone or filters from service to perform normal maintenance, such as painting or media replacement. To date, KAW has not experienced a significant performance issue as a result of this situation, but, at some point, it will as maintenance cannot be deferred indefinitely.

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ATTORNEY GENERAL STAFF'S FIRST REQUEST FOR INFORMATION

Witness: Lance Williams/Linda C. Bridwell

19. Reference: Application, Direct Testimony of Williams, pages 8 through 10. With regard to the cost estimates for each option, please answer the following.

A. If the Commission authorizes the KRS II option, explain what KAW will do with the current intake facility on Severn Creek. (Include in the explanation whether KAW will leave the facility in place "as is," remove all or part of the facility, or modify the facility or grounds. (The Engineering Feasibility Study Report does state that "the intake is a frequent site for vandalism" and that it "appears to be a late night congregating area for young people who are willing to scale the locked gate." Please fully explain the risk management considerations for the facility.) Please identify the corresponding cost estimates for any plan.

B. If the Commission authorizes the KRS II option, explain what KAW will do with (i) the current WTP and property and (ii) the previous water treatment plant and the adjacent property. (Include in the explanation whether KAW will leave each facility in place "as is," removes all or part of the each facility, or modify the facility or grounds. Please identify the corresponding cost estimates for any plan.)

C. In the overview of the Northern Division Connection Project (pages 9 and 10), there is no discussion of KAW's plans for the current intake facility on Severn Creek, the current WTP and property, and the previous water treatment plant and property. Please explain why the discussion does not include the disposition of these KAW assets.

D. Explain why the KRS II option does not include decommissioning, removal, and/or modification costs corresponding to the existing facilities that will no longer be in service in the Total Project Cost Estimate of $14,104,868

E. If the Commission authorizes the KRS II option, fully explain the rate-making impact consequent to the intake facility on Severn Creek being taken out of service. (For example, will the facility be removed from rate base; will there be a corresponding impact on depreciation or amortization; will KAW seek the cost recovery of any removal or modification of the facility or grounds; etc.?)

F. If the Commission authorizes the KRS II option, fully explain the rate-making impact consequent to the current WTP being taken out of service. (For example, will the facility be removed from rate base; will there be a corresponding impact on depreciation or amortization, will KAW seek the

KENTUCKY-AMERICAN WATER COMPANY
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cost recovery of any removal or modification of the facility or grounds; etc.? With regard to this question, also include in the explanation a discussion of the rate-making impact consequent to the plan for the previous water treatment plant and adjacent property.)

G. Please supply all documentation, including reports, studies, memoranda, that discuss the future of the (i) intake facility, (ii) current WTP and property, and (iii) previous water treatment plant and adjacent property under a scenario in which KAW obtains approval of the KRS II option.

H. Supply all correspondence with the KY Division of Water pertaining to the current and future use of the Owenton WTP as well as any other KAW owned or managed infrastructure associated with this application.

Response:

A. The intake is owned by the City of Owenton and the future use of the intake is undetermined.

B. KAW has not yet determined how the current Owenton Water Treatment Plant site will be utilized going forward, if at all, if the Northern Division connection is completed.

C. KAW has not yet determined how the current Owenton Water Treatment Plant and intake site will be utilized going forward, if at all, if the Northern Division connection is completed.

D. KAW has not yet determined how the current Owenton Water Treatment Plant site will be utilized going forward, if at all, if the Northern Division connection is completed. Therefore, the KRS II option does not include decommissioning, removal and/or modification costs corresponding to the existing Owenton Water Treatment Plant facilities.

E. KAW does not own the Severn Creek intake, and is therefore unable to make a determination of any ratemaking impact.

F. The following is a list of ratemaking impacts that could occur if the Owenton Water Treatment Plant is retired as a part of the KRS II option:

1) Presuming normal accounting treatment, the rate base impact of the retirement would be equal to the net salvage value. The two transactions would generally be:
    a. The book cost of the Owenton Water Treatment Plant assets would be credited to Utility Plant in Service (estimated $3.3 million).

KENTUCKY-AMERICAN WATER COMPANY
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b. The book cost of the Owenton Water Treatment Plant, less the net salvage value, would be debited from Accumulated Depreciation (estimated $3.3 million less the net salvage value, which is equal to any salvage revenue less the cost of physically removing the assets).

2) Depreciation Expense:

Presuming normal accounting treatment, depreciation expense for the retired assets would cease.

G. No studies, reports, or memoranda have been issued at this time.

H. There is no correspondence with the KY Division of Water concerning this issue.

KENTUCKY-AMERICAN WATER COMPANY
CASE NO. 2012-00096
ATTORNEY GENERAL STAFF'S FIRST REQUEST FOR INFORMATION

Witness: Lance Williams

20. Reference: Feasibility Study. Explain and provide documentation:

A. Supporting the use and placement of the proposed booster

B. For any projected future operation of the new infrastructure being placed in or near Monterey, KY as a result of the KRS II proposal.

Response:

A) Based on hydraulic analysis and modeling, the Northern Division service area cannot be completely serviced by KRS II without the use of a booster station. The placement of the booster station was determined by locating the new Monterey Tank at the most elevated point possible that could be supported by the Hydraulic Grade Line from the KRS II WTP. This maximizes the use of the high service pumping at the KRS II WTP and minimizes the size and costs of the booster station.

B) High elevated areas south of Monterey can be fed from a main located at KY 607 and Cedar Creek. Lower elevated areas could be fed directly by the new transmission main. Also, high elevated areas northwest of Monterey could be served by extending a new main a short distance back from the discharge side of the new Monterey pump station.

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ATTORNEY GENERAL STAFF'S FIRST REQUEST FOR INFORMATION

Witness: Linda Bridwell

21. Reference: Application. Describe and provide documentation for any projected rate increases that will be sought by KAW as a result of:

A. The proposed KRS II scenario. (Include projected increases on Monterey customers as well as Owenton customers.)

B. The continuation of Owenton WTP.

C. Any other explored option not described in the application.

D. Provide an estimate of the amount of capital investment, if any, KAW is going to assign to shareholders and which will be excluded from rate base for rate-making purposes under each scenario.

Response:

Because KAW has the same tariffs for its Northern and Central Division customers, addressing the issues at the Owenton WTP will have an equal rate impact on all customers, regardless of which option is pursued. Single-tariff pricing also means that the rate impact of constructing KRS II affected Northern and Central Division customers equally.

A. Please refer to the attached file. The additional revenue requirement for the proposed KRS II scenario is an additional $1,242,110.

B. Please refer to the attached file. The additional revenue requirement for the continuation of the Owenton WTP is $1,543,169.

C. N/A.

D. None.

Ratemaking Impact of Owenton WTP Improvements vs. Proposed KRS II Scenario
AG DR1 21A & AG DR1 21B

Ratemaking Impact: Owenton WTP Option

Investment in Owenton WTP

O&M & Depreciation & Tax - Incremental Due to Capital Investments

Line #	Item	2014	2015	2016	2017	2018
1	O&M*					
2	Labor					
3	Chemical					
4	Fuel & Power					
5	Sludge Disposal					
6						
7	Depreciation (for New Investments)	$ 329,090	$ 329,090	$ 329,090	$ 329,090	$ 329,090
8	General Tax					
9	Income Tax (Effect of Above Items)	$ (128,016)	$ (128,016)	$ (128,016)	$ (128,016)	$ (128,016)
10	Income Tax (Interest Effect)	$ (149,070)	$ (149,070)	$ (149,070)	$ (149,070)	$ (149,070)
11	**Total O&M, Depreciation, Tax (Sum Lines 1-9)**	**$ 52,004**	**$ 52,004**	**$ 52,004**	**$ 52,004**	**$ 52,004**
12						
13						
14	**Capital Investments to Improve Owenton WTP**					
15	**Item**	**2014**	**2015**	**2016**	**2017**	**2018**
16	Additional UPIS	$ 11,400,000	$ 11,400,000	$ 11,400,000	$ 11,400,000	$ 11,400,000
17	Accumulated Depreciation		$ (329,090)	$ (658,180)	$ (987,270)	$ (1,316,360)
18	Net Rate Base	$ 11,400,000	$ 11,070,910	$ 10,741,820	$ 10,412,730	$ 10,083,640
19						
20	Rate of Return **	7.74%	7.74%	7.74%	7.74%	7.74%
21	**Return on Rate Base (Line 17 x Line 19)**	**$ 882,360**	**$ 856,888**	**$ 831,417**	**$ 805,945**	**$ 780,474**
22						
23	**Total Impact Pre-Gross Up (Line 10 + Line 20)**	**$ 934,364**	**$ 908,892**	**$ 883,421**	**$ 857,949**	**$ 832,478**
24						
25	Gross Up**	1.6515716	1.6515716	1.6515716	1.6515716	1.6515716
26						
27	**Ratemaking Impact (Line 22 x Line 24)**	**$ 1,543,169**	**$ 1,501,101**	**$ 1,459,033**	**$ 1,416,965**	**$ 1,374,896**
28						
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Ratemaking Impact: Proposed KRS II Scenario

Investment in Pipeline to KRS II, Shift in Production Cost from Owenton WTP to KRS II

O&M & Depreciation & Tax - Incremental KRS II Costs for Additional Production & for Capital Investments

Item	2014	2015	2016	2017	2018
O&M*					
Labor	$ -	$ -	$ -	$ -	$ -
Chemical	$ 40,292.00	$ 40,292.00	$ 40,292.00	$ 43,113.00	$ 46,113.00
Fuel & Power KRS II	$ 93,612.00	$ 102,973.00	$ 113,270.00	$ 124,597.00	$ 137,057.00
Fuel & Power New Booster Station	$ 16,662.00	$ 18,328.00	$ 20,161.00	$ 22,177.00	$ 24,395.00
Depreciation (for New Investments)	$ 249,913	$ 249,913	$ 249,913	$ 249,913	$ 249,913
General Tax (for New Investments)	$ 103,875	$ 103,875	$ 103,875	$ 103,875	$ 103,875
Income Tax (Effect of Above Items)	$ (196,194)	$ (200,483)	$ (205,202)	$ (211,490)	$ (218,366)
Income Tax (Interest Effect)	$ (184,440)	$ (184,440)	$ (184,440)	$ (184,440)	$ (184,440)
Total O&M, Depreciation, Tax (Sum Lines 1-9)	**$ 123,721**	**$ 130,458**	**$ 137,870**	**$ 147,746**	**$ 158,547**

O&M & Depreciation & Tax - Savings from Elimination of Owenton WTP Production Costs

Item	2014	2015	2016	2017	2018
O&M:					
Labor	$ (362,653)	$ (373,532)	$ (384,738)	$ (396,280)	$ (408,169)
Chemical	$ (222,307)	$ (222,307)	$ (222,307)	$ (237,868)	$ (254,519)
Fuel & Power	$ (141,320)	$ (150,126)	$ (153,529)	$ (168,882)	$ (185,770)
Sludge Disposal	$ (32,083)	$ (33,687)	$ (35,371)	$ (37,140)	$ (38,997)
Depreciation (for New Investments)					
General Tax (for New Investments)	$ -	$ -	$ -	$ -	$ -
Income Tax (Effect of Above Items)	$ 295,003	$ 303,285	$ 309,623	$ 326,826	$ 345,220
Total O&M, Depreciation, Tax (Sum Lines 15-22)	**$ (463,360)**	**$ (476,367)**	**$ (486,322)**	**$ (513,344)**	**$ (542,235)**
Net O&M, Depreciation & Tax (Line 10 + Line 23)	**$ (339,639)**	**$ (345,909)**	**$ (348,453)**	**$ (365,598)**	**$ (383,688)**

Capital Investments to Build Pipeline and Booster

Item	2014	2015	2016	2017	2018
Additional UPIS	$ 14,104,868	$ 14,104,868	$ 14,104,868	$ 14,104,868	$ 14,104,868
Accumulated Depreciation		$ (249,913)	$ (499,826)	$ (749,739)	$ (999,652)
Net Rate Base	$ 14,104,868	$ 13,854,955	$ 13,605,042	$ 13,355,129	$ 13,105,216
Rate of Return **	7.74%	7.74%	7.74%	7.74%	7.74%
Return on Rate Base (Line 31 x Line 33)	**$ 1,091,717**	**$ 1,072,374**	**$ 1,053,030**	**$ 1,033,687**	**$ 1,014,344**
Total Impact Pre-Gross Up	**$ 752,078**	**$ 726,464**	**$ 704,577**	**$ 668,089**	**$ 630,656**
Gross Up**	1.6515716	1.6515716	1.6515716	1.6515716	1.6515716
Ratemaking Impact	**$ 1,242,110**	**$ 1,199,808**	**$ 1,163,660**	**$ 1,103,397**	**$ 1,041,573**
More Expensive or (Less Expensive) Than Owenton WTP	**$ (301,059)**	**$ (301,293)**	**$ (295,373)**	**$ (313,568)**	**$ (333,323)**

* O&M Costs and Capital Investments are Per the Company's original filing in this Case, No. 2012-00096.
** Per Final Order for Cause 2010-0036, p. 72

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Witness: Lance Williams/Linda Bridwell

22. Reference: Application, Engineering Feasibility Study Report (May 2012). Please answer the following.

A. With regard to the Northern District, have demand projections been made through the year 2030? If yes, then please provide, if available, (i) the average daily demand projection(s), (ii) the peak day demand projection(s), and (iii) the demand projection(s) for the system under maximum stress (for example, the maximum day demand projection(s) during a severe drought scenario). Also, supply each corresponding study, projection, analysis, or report serving as the basis or otherwise supporting the projections. If no, then please explain why not.

B. Under the assumption that KAW diverts water from the KRS II facility to the Northern Division, has KAW projected, calculated, or otherwise forecasted the impact of such a diversion or reassignment upon the water available to the Central Division when that portion of KAW's service territory is (i) under maximum stress and/or (ii) one or both of the other WTPs servicing the Central Division fail (and the impact of the diversion or reassignment upon the redundancy of the facilities service the Central Division). If not, then please explain why not.

C. In that KAW identifies the current lack of redundancy for the Northern Division as a significant limitation, please explain whether (and why) a failure of the KRS II facility (under a scenario in which the KRS II diversion is approved) would be less disruptive to the Northern Division than a failure of the current WTP and facilities.

Response:

A) Demand projections have been completed through 2025:
- 2025 Avg. Daily Demand: 1.08mgd
- 2025 Max Day Demand: 2.07mgd

B) KRS II has a rated capacity of 20 mgd and is capable of being safely operated at flows up to 24 mgd. The ability of KRS II to operate at 24 mgd is due to its pumping and filtration capacity. KRS II has five filters and with all filters in service, KRS II could produce 25 mgd. The pumps at KRS II are also sized to reliably produce 24 mgd with one unit out of service.

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C) The KRS II facility is a very robust and fully reliable plant with built-in redundancy, whereas, the Owenton Water Treatment Plant has no redundancy and limited reliability. KRS II does not solely rely on a single treatment process train as the Owenton facility does and, consequently, the KRS II facility can easily handle treatment upsets, whereas, the Owenton facility is nearly shut down with just minor treatment upsets. Therefore, the KRS II facility is well equipped to handle failures and will minimize disruptions to the Northern Division.

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Witness: Lance Williams

23. Reference: Direct Testimony of Williams, page 2. With regard to the current purchases of treated water, please answer the following.

A. If the Commission authorizes the KRS II option, will the interconnection and related facilities allow KAW to serve any of the "small areas of the system that cannot hydraulically be served from the [current] treatment plant"? Please fully explain.

B. In examining the options, did KAW consider using the purchase of additional treated water for meeting all or part of the requirements of its Northern Division customers? Please fully explain.

Response:

A) Yes, the area currently served through purchase agreement with Georgetown Municipal Water and Sewer Service will be reliably served through the KRS II option. The new 600,000 gallon storage tank outside of Owenton is designed so that its overflow elevation matches the overflow elevation of the existing New Columbus tank. The KRS II option will also allow KAW to serve the areas currently served through purchase agreements with Gallatin County and Carroll County, however, a portion of small diameter mains along US 127 and KY 335 would need to be upsized to provide reliable service to these areas.

B) KAW did consider the option of purchasing additional treated water to supply the Northern District. All of these options, however, would require the investment of new infrastructure, replacement and upsizing of existing infrastructure, and none of these options could fully serve the Northern Division.

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Witness: Counsel

24. Reference: Application at p. 3, paragraph 6. On what legal precedent does KAW rely upon for proposing that the new build versus retrofit option is the least-cost option in light of the fact that capital costs of the build option exceed the capital costs of the retrofit option by, at least, nearly $3 million? Please cite specific PSC orders.

Response:

The Commission routinely considers "all relevant factors"[1] in deciding cases involving requests for certificates of public convenience and necessity ("CPCN"). Perhaps the most applicable example of the Commission's consideration of operating costs in addition to capital costs in this case is the Commission's decision in Case No. 2007-00134 in which the Commission granted a CPCN for the construction of KRS II by its April 25, 2008 Order. In that Order, the Commission conducted its own net present value analysis which included many future operating costs for items such as payroll, security, purchased power, chemicals, insurance and property taxes. (Case No. 2007-00134, April 25, 2008 Order, pp. 51-75).

[1] *In the Matter of: The Application of East Kentucky Power Cooperative, Inc. for a Certificate of Public Convenience and Necessity to Construct a 138 KV Transmission Line in Rowan County, Kentucky*, Case No. 2005, 00089, August 19, 2005 Order, p. 6.

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Witness: Linda C. Bridwell

25. Reference: Application at p. 4, paragraph 11 and Direct Testimony of Williams at p. 11, lines 9-12. Please explain whether the funding for the project as proposed will be previously approved financing or short-term bank loans or both.

A. If previously approved financing, identify the PSC Order approving said financing;

B. If short-term bank loans, identify the banking/financing source and anticipated borrowing interest rate.

C. If unknown at this time, would KAW be willing to commit to the lowest possible financing option benefiting its ratepayers.

Response:

This project will not be financed separately, but as part of KAW's capital construction plan. Initially, KAW will utilize its short-term borrowing capacity through American Water Capital Corporation ("AWCC") to meet the periodic needs for its overall construction capital. AWCC provides short-term funding to KAW through its access to the commercial paper markets at the identical rates it receives. Eventually, KAW expects to permanently finance its capital construction funding with 60% long-term debt and 40% common equity.

A. The previously approved financing for long-term debt was approved in the Commission's May 11, 2011 Order in Case No.2011-0115. KAW expects to seek its next financing request in the fall of 2012.

B. Short-term financing is provided by AWCC at market rates.

C. KAW believes that its current plan of initially utilizing short-term borrowing capacity and later permanently financing the costs is the most reasonable low-cost financing option.

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Witness: Lance Williams / Keith Cartier

26. Reference: Application at p. 5, paragraph 12, wherein KAW states that it "does not believe that this facility will compete with any other water purveyor." On what does KAW rely to support this belief? Please provide any studies, documentation or other related materials referenced.

Response:

The project has been designed to accommodate the demands of Northern Division customers now into the future. At different junctures of time, the few areas currently served through water purchase agreements have been served by the existing Owenton Water Treatment Plant. Use of the KRS II facility to supply KAW's Northern Division simply replaces KAW's existing Owenton Water Treatment Plant as the treated water provider to KAW's own Northern Division customers, and reduces the need to purchase water to supply our customers. The entire project lies within the current Northern Division service territory, and does not cross or encroach on areas served by surrounding providers.

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Witness: Lance Williams

27. Reference: Application and Testimony at p. 8. Please identify the names and positions of those individuals at KAW and/or its parent company who made the decision to pursue the build-option connecting the Northern Division to KRS II.

A. Please explain why the individual(s) identified have not filed testimony in this proceeding.

Response:

Name	Title / Company
Cheryl Norton	President / Kentucky American Water
Keith Cartier	Vice President Operations / Kentucky American Water
Lance Williams	Director of Engineering / Kentucky American Water

A. The individuals listed above were all involved in deciding that the construction of the Northern Division Connection is the best and least-cost solution for KAW's customers. The basis and support for that decision are described in Lance William's testimony and KAW's Application and supporting materials. Therefore, KAW did not feel that it was necessary to file additional testimony that would have been repetitive.

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Witness: Lance Williams

28. Reference: Application and Testimony at p. 8-9. Please explain the other alternative routes considered by KAW and why they did not prove viable according to KAW?

A. Please identify the names and positions of those individuals at KAW who considered and rejected these alternatives.

B. Please provide the specific reasons that these alternatives were not viable.

Response:

A) Lance E. Williams, Director of Engineering
Linda C. Bridwell, Central Division Manager Rates & Regulations
Jason M. Hurt, Sr. Project Engineer

B) The alternate routes that were initially studied are illustrated in Appendix B of the Feasibility Report. Alternate A is of similar length to the proposed route and was not considered viable due to the following:

- The existing mains from the treatment plant site to Owenton would need to be upsized.
- The ground elevation of a new storage tank at the treatment plant site is approximately 50' lower than the ground elevation of the proposed tank site, thus, increasing the cost of construction and maintenance of the tank.
- This route would involve more cross-country easements and cause more land disturbances than the proposed route.

Alternate B considered a route along Severn Creek Road from US 127 to the raw water intake and then converting the existing raw water line to finished water. This alternate was not considered viable due to the following:

- The capacity within the existing 12-inch raw water line and the 6-inch and 8-inch mains extending from the treatment plant into Owenton is insufficient to adequately serve the Northern District. Several miles of these existing mains would need to be replaced and upsized.
- The construction along Severn Creek Road would be extremely difficult and costly.
- The alternative would not support a new storage tank near Owenton.

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Witness: Linda Bridwell

29. Reference: Direct Testimony of Williams, page 7. With regard to the diversion of water from the KRS II facility to the Northern Division, please answer the following.

A. In Kentucky Public Service Commission Case No. 2007-00134, KAW sought Commission approval of a project for addressing the water supply and treatment needs of its Central Division. Through the Direct Testimony of Linda Bridwell in that proceeding (at pages 29 through 31), KAW represented "a raw water supply deficient of 20 mgd in 2010, which grows to 28 mgd in 2030" for its Central Division. Are the foregoing referenced projections still the projections for the raw water supply deficit for KAW's Central Division in the absence of augmentation by the KRS II facility? If not, then please fully explain the change and supply the corresponding documentation.

B. In Case No. 2007-00134, Linda Bridwell's testimony during the evidentiary hearing includes the following (27 November 2007 evidentiary hearing, Vol. II at pages 102 and 103) in response to a request for the description of the personal and economic consequences corresponding to a failure by KAW to meet the demand by 20 million gallons a day: "I do not even want to begin to contemplate that; no." Please explain how the diversion of capacity of KRS II from the needs of the Central Division does not endanger the Central Division.

C. With regard to the capacity of KRS II that will be diverted to the Northern Division, does KAW have a plan to offset or otherwise hold harmless the Central Division? For example, will KAW implement a conservation and/or demand management plan for its Central Division that will reduce its drought risk demand by an amount that corresponds to the capacity being diverted to the Northern Division? Please fully explain.

D. Please explain whether KRS II will need to be expanded to accommodate the incremental requirement of the Northern Division.

Response:

A. The demand projections were updated in 2012. Please refer to the attachment.

B. KAW indicated in 2007-00134 in Ms. Bridwell's direct testimony that it was proposing a 20 MGD treatment plant when the raw water supply deficit is projected as high as 28 mgd through the year 2030 during a drought of record, because KAW believes that it is not unreasonable to ask for moderate, voluntary restrictions on outdoor water usage during a drought of record, which generally reduces KAW

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customer demands in the Central Division by as much as 10% or more. The addition of the Northern Division customers to KRS II would represent approximately 2% of the demand during a drought of record. In Case No. 2007-00134, it was anticipated that KRS II may need to be expanded by 5 mgd in 2027 based on peak day demand projections. At this time, the addition of the connection of the Northern Division customers to KRS II may require that an expansion of 5 mgd to the KRS II be completed in 2025, or two years earlier than anticipated in Case No. 2007-00134. However, recent declining per capita usage trends may offset that if they continue over the next thirteen years. KRS II has a rated capacity of 20 mgd and is capable of being safely operated at flows up to 24 mgd. The ability of KRS II to operate at 24 mgd is due to its pumping and filtration capacity. KRS II has five filters and with all filters in service, KRS II could produce 25 mgd. The pumps at KRS II are also sized to reliably produce 24 mgd with one unit out of service. Please also see KAW's response to AG Item No. 7.

C. KAW believes that the current demand management plan, which is under revision and will be submitted to the PSC later this year, adequately provides the necessary plan for managing demands within the available capacity for both the Northern and Central Division. There is not a specific plan to offset the demands that will be delivered to the Northern Division.

D. No.

Kentucky American Water Demand Projections

Updated Demand Projections with 2010 Population Projections:

Normal Weather	**2000 Actual**	**2005 Actual**	**2010 Actual**	**2015**	**2020**	**2025**	**2030**
Residential	20.13	22.31	20.73	20.75	21.71	22.81	23.91
Commercial/Industrial	10.70	12.20	11.49	10.34	10.99	10.94	10.92
Public/Unaccounted for	7.20	6.77	5.60	7.12	7.41	7.74	8.08
Other	2.99	3.02	3.05	3.10	3.21	3.33	3.43
Average Day Demand	41.02	44.30	40.87	41.30	43.31	44.82	46.34
Total Maximum Day Demand	66.37	69.65	61.36	73.46	76.23	79.39	82.68
Hot, Dry Scenario							
Average Day Demand w/ Conservation				44.39	46.15	48.15	50.23
Maximum Day Demand w/ Conservation				77.98	80.87	84.17	87.60
Drought Average Day				58	61	63	66

KENTUCKY AMERICAN WATER COMPANY
WATER DEMAND MODEL
U of L PROJECTIONS & UNACCOUNTED-FOR of 13%

2011 Usage with 2010 Census and Kentucky State Data Center 2010 Population Projections

MODEL UPDATE MARCH, 1992
RUN DATE 07/16/12
DIRECTORY: \Engineering\Demand Projections
FILENAME: 12DEMFOR.xls
SHEET: 12updtuI10

Assumed Inflation Rate for the Year (CPI)					5.4%	4.21%	3.01%	2.99%	3.60%	2.50%	3.20%	2.29%	1.56%	3.45%	2.21%	2.80%	1.60%	2.30%	2.70%
Projected Water/Sewer Rate Increase for the Year					4.04%	5.51%	51.80%	0.00%	3.32%	6.65%	6.19%	3.10%	0.00%	0.00%	0.00%	7.79%	20.10%	0.00%	0.00%
Losses and Non-Revenue Uses for Year						13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%
% GROWTH FOR YEAR - REFERENCE CASE			1.1%	1.1%	1.0%	1.0%	0.9%	0.8%	0.8%	0.7%	0.7%	0.6%	0.6%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
			1.1%	0.0%	1.1%	1.6%	1.5%	1.5%	1.5%	1.5%	1.4%	1.4%	1.4%	1.4%	1.4%	0.6%	0.2%	1.1%	0.4%
Calendar Year	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Total Population (Fayette County)	217701	220526	222912	222904	225366	228881	232395.2	235910	239424	242939	246454	249968	253483	256997	260512	262185	262648	265478	266451
Apartment Population	70546	71462	72235	72232	75741	76922	78103	79285	80466	81647	82828	84009	85190	86372	95127	95932.7	96738.1	97543.5	98348.9
U of K Full Time Residents	8153	8200	8200	8200	8200	8200	8200	8200	8200	8200	8200	8200	8200	8200	8200	8200	8200	8200	8200
Inmates of Institutions	3793	4116	4439	4761	5084	5163	5243	5322	5401	5480	5560	5639	5718	5798	6385	6439.34	6493.4	6547.46	6601.52
Remaining Population Served (SFR, Fayette Co)	135,209	136,748	138,039	137,710	136,341	138,595	140,849	143,103	145,358	147,612	149,866	152,120	154,374	156,628	150,799	152,146	153,492	154,838	156,184
Outside County Population Served	4720	4979	5256	5436	5557	5721	5899	6050	6288	6584	6926	7529	8187	8791	9511	9959	10536	11113	11691
New Residents											2597	5454	8366	11224	6115	7909	9832	11756	13680
Actual Number of Total Customers	69437	71500	73348	74653	76274	77871	79600	81301	83382	85180	87403	89491	93391	96477	99199	101580	103659	105332	107424
Usage Per Customer (gpd)	515	535	500	453	453	477	460	486	486	470	483	469	457	411	413	415	371	355	395
											80.81	82.20	83.47	84.63	83.05	82.96	81.99	80.69	78.63
											80.42	82.09	83.68	85.09	83.35	82.30	79.56	80.98	78.97
											0.08	0.02	-0.04	-0.09	-0.06	0.13	0.49	-0.06	-0.07
Single Family Residential Per Capita Use (gpd)	85.54	89.11	85.17	76.13	79.55	80.38	75.73	80.74	84.51	82.69	87.32	82.09	86.52	76.65	82.24	82.45	75.57	76.25	78.59
New Resident SFR Per Capita Use (gpd)											78.59	73.88	77.87	68.98	74.01	74.20	68.02	68.62	70.73
Single Family Residential	11.97	12.63	12.21	10.90	11.29	11.60	11.11	12.04	12.82	12.75	13.69	13.11	14.06	12.68	13.18	13.37	12.40	12.65	13.19
Fayette Co. Residential use (in mgd).....	11.57	12.19	11.76	10.48	10.85	11.14	10.67	11.55	12.28	12.21	13.09	12.50	13.13	11.80	12.18	12.33	11.41	11.61	12.08
Apartment Population	70546	71462	72235	72232	75741	76922	78103	79285	80466	81647	82828	84009	85190	86372	95127	95933	96738	97544	98349
New Residents											1181	2362	3544	4725	13480	14286	15091	15897	16702
Number of Customers																			
Usage Per Customer																			
											75.81	81.90	85.09	87.84	87.21	86.40	79.70	74.23	69.92
											75.58	81.84	85.22	88.14	87.40	85.97	78.22	74.40	70.11
											0.05	0.01	-0.03	-0.06	-0.04	0.09	0.29	-0.03	-0.04
Existing Apart. Resident Per Capita Use (gpd)	79.66	83.04	78.91	80.71	75.56	74.57	74.17	76.04	77.23	77.03	105.05	90.11	89.77	74.08	73.00	71.53	62.79	68.22	61.60
New Resident MFR Per Capita Use (gpd)																			
Multi-Family Residential	1.37	1.41	1.39	1.33	1.40	1.40	1.42	1.49	1.57	1.45	1.71	1.49	1.53	0.96	1.21	1.18	0.88	1.19	1.36
Garden Apartments	4.20	4.47	4.26	4.45	4.27	4.28	4.32	4.49	4.58	4.82	5.89	5.08	5.01	4.38	4.78	4.77	4.18	4.55	4.68
High Rise Apartments	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.06	0.06	0.02	1.10	1.00	1.11	1.05	0.96	0.91	1.02	0.91	0.02
Apartment use (in mgd).....	5.62	5.93	5.70	5.83	5.72	5.74	5.79	6.03	6.21	6.29	8.70	7.57	7.65	6.40	6.94	6.86	6.07	6.65	6.06
Outside Counties (see "Counties" pages)																			
Individual Cust. Use (in mgd)....	0.40	0.44	0.45	0.41	0.44	0.46	0.45	0.49	0.53	0.54	0.60	0.61	0.93	0.88	1.00	1.04	0.99	1.04	1.11
Bulk Sales Use (in mgd).....	0.53	0.77	0.73	0.61	0.58	0.64	0.63	0.78	0.75	0.71	0.80	0.85	1.08	1.46	1.39	1.38	1.37	1.17	1.22
										8.33	7.81	8.11	8.19	8.43	8.39	8.00	7.91	7.84	7.23
										0.03	0.02	0.01	-0.01	-0.03	-0.02	0.04	0.15	-0.02	-0.02
Commercial Use (mgd)	7.75	8.10	7.74	7.18	7.48	7.79	7.53	7.93	8.37	7.84	8.12	8.18	8.40	8.37	8.04	8.06	7.83	7.21	8.98
Toyota Usage (mgd)			0.41	0.74	0.89	0.94	1.09	1.05	1.25	1.40	1.37	1.61	1.70	1.62	1.48	1.39	1.48	1.27	1.20
Industrial Use (mgd,non-Toyota)	1.64	1.58	1.49	1.36	1.44	1.39	1.23	1.24	1.23	1.23	1.31	1.38	1.43	1.30	1.18	1.07	0.96	0.97	0.93

University of Kentucky																			
U of K Base Demand including residences (Main Campus only)	1.20	1.31	1.30	1.50	1.46	1.55	1.47	1.57	1.73	1.63	1.45								
U of K Student Population	23696	22461	22879	23297	23081	24132	24197	24288	24217	24378	24200								
U of K per student use (g/d)	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00								
U of K student usage on campus (mgd).....	0.24	0.22	0.23	0.23	0.23	0.24	0.24	0.24	0.24	0.24	0.24								
Total U of K Main Campus Usage (mgd)	1.44	1.53	1.53	1.73	1.69	1.79	1.71	1.81	1.97	1.88	1.69	1.67	1.80	1.77	1.60	1.57	1.60	1.79	1.74

Calendar Year	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Other Public Use (in mgd).....	0.76	1.00	1.40	1.32	1.48	1.50	1.64	1.67	1.60	1.52	1.35	1.37	1.32	1.52	2.32	2.64	0.86	0.75	1.30
Total System Usage (mgd).....	29.70	31.55	31.20	29.67	30.57	31.40	30.73	32.56	34.19	33.61	37.03	35.73	37.44	35.13	36.14	36.34	32.57	32.46	34.62
Losses and Non-Revenue Use (%)	16.90%	17.60%	15.00%	12.30%	11.60%	15.40%	16.10%	17.64%	15.69%	16.01%	12.25%	14.90%	12.30%	11.50%	11.90%	13.70%	15.20%	13.30%	18.50%
Losses and Non-Revenue Use (mgd).....	6.04	6.74	5.51	4.16	4.01	5.71	5.90	6.97	6.36	6.41	5.17	6.25	5.25	4.56	4.88	5.77	5.84	4.98	7.86
Calculated Average Day Demand (mgd)	35.74	38.28	36.71	33.84	34.59	37.11	36.63	39.53	40.55	40.02	42.20	41.98	42.69	39.69	41.02	42.11	38.41	37.44	42.48
Average Day Demand w/out Conservation (mgd)	35.74	38.28	36.71	33.84	34.59	37.11	36.63	39.53	40.56	41.98	42.51	43.65	43.24	39.99	41.54	42.59	38.31	38.19	40.64
Maximum Day w/out Conservation (mgd)	60.32	64.09	62.33	58.36	59.76	62.86	61.95	66.08	68.43	70.86	72.70	73.88	73.79	68.55	71.15	72.31	64.87	65.31	67.46
Actual Maximum Day (mgd)	57.47	54.89	63.91	47.72	58.52	56.42	47.22	59.49	58.36	63.77	53.7	60.7	64.67	61.18	66.37	56.04	71.82	61.37	56.89
Conservation Impacts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	-1.95	-0.31	-1.67	-0.55	-0.30	-0.53	-1.39	-1.96	-1.12	-3.71
Total Average Day Demand (mgd).....																			
Max Day: 95% Exceedance (mgd).....	57.62	61.52	59.70	55.69	57.11	60.24	59.26	63.51	65.74	64.78	69.47	68.30	70.27	65.56	67.63	68.87	62.40	61.35	67.98
In Plant Usage (mgd)	1.617	2.37	1.91	1.77	1.36	1.40	1.42	1.55	1.59	1.64	1.66	1.71	1.69	1.56	1.62	1.37	1.40	1.34	1.38
Total Max Day Production (mgd)[95%excd]	59.087	57.26	65.82	49.49	59.88	57.82	48.64	61.04	67.33	66.42	71.13	70.01	71.96	67.13	69.26	70.24	63.80	62.69	69.36
previous forecast (1992 CPS)	59.087	57.26	65.82	49.49	59.88	57.82	63.53	63.87	64.67	65.44	65.71	65.79	65.88	65.97	65.81				

* NOTE: Revised to reflect actual 1986-1998 year-end billed usage.

FOR SAME CONDITIONS UNDER HOT,DRY SCENARIO:

TOTAL SYSTEM USAGE (mgd).....	31.48	33.44	33.08	31.45	32.41	33.28	32.58	34.51	36.24	35.63	39.25	37.87	39.69	37.23	38.30	38.52	34.52	34.41	36.70
LOSSES AND NON-REVENUE USE (%)	16.90%	17.60%	15.00%	12.30%	11.60%	15.40%	16.10%	17.64%	15.69%	16.01%	12.25%	14.90%	12.30%	11.50%	11.90%	13.70%	15.20%	13.30%	18.50%
LOSSES AND NON-REVENUE USE (mgd).....	6.40	7.14	5.84	4.41	4.25	6.06	6.25	7.39	6.74	6.79	5.48	6.63	5.57	4.84	5.17	6.11	6.19	5.28	8.33
Average Day Demand w/out Conservation (mgd)	37.89	40.58	38.91	35.87	36.66	39.34	38.83	41.90	42.99	44.38	45.04	46.17	45.80	42.37	44.00	45.11	40.62	40.44	43.19
Maximum Day w/out Conservation (mgd)	64.08	68.08	66.21	62.01	63.48	66.78	65.80	70.19	72.67	75.05	77.17	78.27	78.31	72.79	75.51	76.74	68.91	69.29	71.84
ACTUAL MAXIMUM DAY (mgd)	57.47	54.89	63.91	47.72	58.52	56.42	47.22	59.49	58.36	63.77	53.70	60.70	64.67	61.18	66.37	56.04	71.82	61.37	56.89
CONSERVATION IMPACTS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	-1.95	-0.31	-1.67	-0.55	-0.30	-0.53	-1.39	-1.96	-1.12	-3.71
Projected Average Day Demand (mgd)	37.89	40.58	38.91	35.87	36.66	39.34	38.83	41.90	42.99	42.42	44.73	44.50	45.26	42.07	43.48	43.72	38.66	39.32	39.48
6-mo Summer Avg. Day Dem.: 95% C. I. (mgd) w/out cons.		54	52	48	49	52	52	55	57	58	59	61	60	56	58	59	54	54	57
6-mo Summer Avg. Day Dem.: 99% C. I. (mgd) w/out cons.		55	53	49	50	54	53	57	59	60	61	63	62	58	60	61	55	55	59
6-mo Summer Avg. Day Dem.: 95% C. I. (mgd) w/ cons.		54	52	48	49	52	52	55	57	56	59	59	59	55	57	57	51	52	52
6-mo Summer Avg. Day Dem.: 99% C. I. (mgd) w/ cons.		55	53	49	50	54	53	57	59	58	61	60	61	57	59	59	53	54	54
MAX DAY: 95% EXCEEDANCE (mgd).....	61.08	65.21	63.28	59.04	60.53	63.85	62.82	67.32	69.69	70.11	73.86	73.59	74.82	69.61	71.94	72.31	63.87	65.08	67.99
IN PLANT USE(mgd)	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
TOTAL MAX DAY PRODUCTION (mgd)[95%excd]		56.49	65.51	49.32	60.12	58.02	48.82	61.09	71.29	71.71	75.46	75.19	76.42	71.21	73.54	73.91	65.47	66.68	69.59

SURROUNDING COUNTIES--INDIVIDUAL CUSTOMER WATER DEMAND	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
WOODFORD COUNTY																			
Population	18,884	19,076	19,900	19,928	19,955	20,270	20,585	20,934	21,283	21,632	21,988	22,344	22,689	23,033	23,208	23,373	23,523	23,671	23,939
No. of resid. connections	138	137	142	139	141	142	145	149	151	152	153	155	163	171	179	180	184	189	193
Persons per household	2.80	2.80	2.81	2.76	2.71	2.69	2.68	2.66	2.65	2.63	2.62	2.61	2.59	2.58	2.57	2.56	2.56	2.55	2.54
Population Served	386	384	399	384	382	383	388	397	400	400	401	404	423	442	460	461	471	481	491
Existing Customer Per capita use (GPD)	85.54	89.11	85.17	76.13	79.55	80.38	75.73	80.74	84.51	82.69	87.32	82.09	86.52	76.65	82.24	82.45	75.57	76.25	78.59
New Customer Per Capita Use (GPD)											78.59	73.88	77.87	68.98	74.01	74.20	68.02	68.62	70.73
WOODFORD CO. WATER DEMAND (in MGD).....	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.03	0.04	0.04	0.04	0.04	0.04
SCOTT COUNTY																			
Population	22,689	23,501	22,760	23,314	23,867	24,135	24,403	25,360	26,317	27,274	27,731	29,446	30,423	31,397	33,061	34,478	35,444	36,729	37,901
No. of resid. connections	1055	1149	1287	1373	1446	1507	1571	1628	1716	1799	1926	2142	2362	2560	2770	2920	3114	3307	3501
Persons per household	2.90	2.90	2.77	2.73	2.69	2.68	2.67	2.66	2.65	2.64	2.63	2.63	2.62	2.62	2.61	2.61	2.61	2.62	2.62
Population Served	3060	3332	3565	3748	3890	4039	4195	4330	4547	4749	5073	5629	6193	6697	7230	7627	8139	8652	9166
Existing Customer Per Capita Use (GPD)	85.54	89.11	85.17	76.13	79.55	80.38	75.73	80.74	84.51	82.69	87.32	82.09	86.52	76.65	82.24	82.45	75.57	76.25	78.59
New Customer Per Capita Use (GPD)											78.59	73.88	77.87	68.98	74.01	74.20	68.02	68.62	70.73
SCOTT CO. WATER DEMAND (in MGD).....	0.26	0.30	0.30	0.29	0.31	0.32	0.32	0.35	0.38	0.39	0.44	0.45	0.52	0.50	0.57	0.61	0.59	0.63	0.69
BOURBON COUNTY																			
Population	19,188	19,088	18,978	19,277	19,236	19,248	19,261	19,273	19,286	19,298	19,310	19,323	19,335	19,348	19,360	19,507	19,494	19,563	19,694
No. of resid. connections	394	391	394	407	409	419	427	433	441	477	486	506	538	575	645	663	683	704	724
Persons per household	2.70	2.70	2.73	2.68	2.63	2.62	2.60	2.59	2.57	2.56	2.55	2.53	2.52	2.50	2.49	2.49	2.49	2.49	2.49
Population Served	1064	1056	1076	1091	1076	1096	1111	1121	1135	1221	1237	1281	1355	1440	1606	1650	1700	1750	1800
Existing Customer Per capita use (GPD)	85.54	89.11	85.17	76.13	79.55	80.38	75.73	80.74	84.51	82.69	87.32	82.09	86.52	76.65	82.24	82.45	75.57	76.25	78.59
New Customer Per Capita Use (GPD)											78.59	73.88	77.87	68.98	74.01	74.20	68.02	68.62	70.73
BOURBON CO. WATER DEMAND (in MGD).....	0.09	0.09	0.09	0.08	0.09	0.09	0.08	0.09	0.10	0.10	0.11	0.10	0.12	0.11	0.13	0.13	0.12	0.13	0.14
HARRISON COUNTY																			
Population	15,722	15,907	15,887	16,195	16,248	16,422	16,595	16,769	16,942	17,116	17,289	17,463	17,636	17,810	17,983	18,044	18,100	18,268	18,330
No. of resid. connections	78	77	80	80	80	78	79	78	80	83	84	84	85	84	85	87	89	91	93
Persons per household	2.70	2.70	2.71	2.67	2.62	2.61	2.60	2.59	2.58	2.57	2.56	2.55	2.55	2.54	2.53	2.53	2.53	2.53	2.53
Population Served	211	208	217	213	210	204	205	202	206	213	215	215	216	213	215	220	225	230	235
Existing Customer Per capita use (GPD)	85.54	89.11	85.17	76.13	79.55	80.38	75.73	80.74	84.51	82.69	87.32	82.09	86.52	76.65	82.24	82.45	75.57	76.25	78.59
New Customer Per Capita Use (GPD)											78.59	73.88	77.87	68.98	74.01	74.20	68.02	68.62	70.73
HARRISON CO. WATER DEMAND (in MGD).....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
CLARK COUNTY																			
Population					29,496	29,861	30,226	30,590	30,955	31,320	31,685	32,050	32,414	32,779	33,144	33,433	33,576	33,940	34,408
No. of residential connections										1109	1180	1205	1215	1298	1320	1306	1315	1325	1334
Persons per household										2.58	2.57	2.55	2.54	2.52	2.51	2.51	2.50	2.50	2.49
Population Served											3028	3075	3084	3276	3313	3272	3288	3305	3322
Existing Customer Per capita use (GPD)	85.54	89.11	85.17	76.13	79.55	80.38	75.73	80.74	84.51	82.69	87.32	82.09	86.52	76.65	82.24	82.45	75.57	76.25	78.59
New Customer Per Capita Use (GPD)											78.59	73.88	77.87	68.98	74.01	74.20	68.02	68.62	70.73
CLARK CO. WATER DEMAND (in MGD)													0.24	0.23	0.25	0.24	0.22	0.23	0.23
INDIVIDUAL CUSTOMER TOTAL WATER DEMAND OUTSIDE COUNTIES...	0.40	0.44	0.45	0.41	0.44	0.46	0.45	0.49	0.53	0.54	0.60	0.61	0.93	0.88	1.00	1.04	0.99	1.04	1.11

OUTSIDE COUNTIES--BULK SALES
WATER DEMAND

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
MIDWAY																			
Woodford Co.population projections	18,884	19,076	19,900	19,928	19,955	20,270	20,585	20,934	21,283	21,632	21,988	22,344	22,689	23,033	23,208	23,353	23,497	23,642	23,786
Projected bulk consumption (mgd)	0.16	0.17	0.10	0.10	0.10	0.11	0.12	0.12	0.13	0.13	0.16	0.15	0.13	0.14	0.15	0.19	0.18	0.20	0.19
MIDWAY WATER DEMAND (in MGD).....	0.16	0.17	0.10	0.10	0.10	0.11	0.12	0.12	0.13	0.13	0.16	0.15	0.13	0.14	0.15	0.19	0.18	0.20	0.19
VERSAILLES																			
Woodford Co.population projections	18,884	19,076	19,900	19,928	19,955	20,270	20,585	20,934	21,283	21,632	21,988	22,344	22,689	23,033	23,208	23,353	23,497	23,642	23,786
Versailles projected tot. avg usage													4.00	4.00	3.13				
Versailles production capacity(mgd)	2.50	2.50	2.50	2.50	2.50	2.50	2.50	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Projected bulk consumption (mgd) (supplemental supply)													0.00	0.00	0.13	0.15	0.14	0.09	0.07
VERSAILLES WATER DEMAND (in MGD).....	0.00	0.13	0.07	0.03	0.05	0.07	0.02	0.13	0.02	0.01	0.01	0.02	0.13	0.23	0.10	0.09	0.07	0.04	0.02
(FORMER SPEARS DISTRICT) CITY OF NICHOLASVILLE																			
Jessamine Co.population projections	28,911	29,338	30,610	30,559	30,508	31,361	32,215	33,068	33,921	34,775	35,628	36,481	37,334	38,188	39,041	39,785	40,689	41,444	42,256
Average bulk consumption (mgd)	0.12	0.15	0.15	0.11	0.11	0.12	0.14	0.13	0.11	0.10	0.14	0.15	0.17	0.20	0.26	0.22	0.19	0.07	0.06
SPEARS DISTRICT WATER DEMAND (in MGD).....	0.12	0.15	0.15	0.11	0.11	0.12	0.14	0.13	0.11	0.10	0.14	0.15	0.17	0.20	0.26	0.22	0.19	0.07	0.06
SOUTH ELKHORN DISTRICT																			
Jessamine Co.population projections	28,911	29,338	30,610	30,559	30,508	31,361	32,215	33,068	33,921	34,775	35,628	36,481	37,334	38,188	39,041	39,785	40,689	41,444	42,256
Average bulk consumption (mgd)	0.25	0.33	0.41	0.37	0.32	0.35	0.36	0.40	0.39	0.38	0.40	0.41	0.42	0.51	0.52	0.54	0.64	0.56	0.48
SOUTH ELKHORN WATER DEMAND (in MGD).....	0.25	0.33	0.41	0.37	0.32	0.35	0.36	0.40	0.39	0.38	0.40	0.41	0.42	0.51	0.52	0.54	0.64	0.56	0.48
NORTH MIDDLETOWN																			
Bourbon Co. population projections	19,188	19,088	18,978	19,277	19,236	19,248	19,261	19,273	19,286	19,298	19,310	19,323	19,335	19,348	19,360	19,432	19,504	19,577	19,649
Average bulk consumption (mgd)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.09	0.09	0.10	0.11	0.13	0.14	0.20	0.19	0.21	0.35
NORTH MIDDLETOWN WATER DEMAND (in MGD)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.09	0.09	0.10	0.11	0.13	0.14	0.20	0.19	0.21	0.35
GEORGETOWN MUNICIPAL WATER																			
Scott Co. population projections	22,689	23,501	22,760	23,314	23,867	24,135	24,403	25,360	26,317	27,274	27,731	29,446	30,423	31,397	33,061	34,307	35,554	36,800	38,047
Average bulk consumption (mgd)												0.02	0.12	0.25	0.22	0.06	0.03	0.01	0.04
GEORGETOWN WATER DEMAND (in MGD)												0.02	0.12	0.25	0.22	0.06	0.03	0.01	0.04
Harrison County Water Association																			
Harrison County population projections	15,722	15,907	15,887	16,195	16,248	16,422	16,595	16,769	16,942	17,116	17,289	17,463	17,636	17,810	17,983	18,044	18,100	18,268	18,330
Average bulk consumption (mgd)																0.07	0.08	0.07	0.07
HARRISON COUNTY WATER DEMAND (MGD)																0.07	0.08	0.07	0.07
BULK SALES																			
TOTAL WATER DEMAND OUTSIDE COUNTIES...	0.53	0.77	0.73	0.61	0.58	0.64	0.63	0.78	0.75	0.71	0.80	0.85	1.08	1.46	1.39	1.38	1.37	1.17	1.22

CONSERVATION PROGRAM IMPACTS

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
RESIDENTIAL RETROFIT PROGRAM																			
SAVINGS PER HOUSEHOLD (gal/d)									22.40	22.40	22.40	22.40	22.40	22.40					
HOUSEHOLDS PARTICIPATING									300	1500	2000	2500	3000	3500	0	0	0	0	0
ANNUAL SAVINGS (MGD)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.04	0.06	0.07	0.08	0.00	0.00	0.00	0.00	0.00
CUMULATIVE SAVINGS (MGD)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.04	0.09	0.14	0.21	0.29	0.29	0.29	0.29	0.29	0.29
RESIDENTIAL LANDSCAPE/TURF SCHEDULE																			
SAVINGS PER HOUSEHOLD										3.80	3.80	3.80	3.80	3.80	3.80				
HOUSEHOLDS PARTICIPATING										500	3000	10000	12500	12500	12500				
ANNUAL SAVINGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.04	0.05	0.05	0.05	0.00	0.00	0.00	0.00
CUMULATIVE SAVINGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.05	0.10	0.15	0.19	0.19	0.19	0.19	0.19
INTERIOR HOME CONSULTATION																			
SAVINGS PER HOUSEHOLD																			
HOUSEHOLDS PARTICIPATING																			
ANNUAL SAVINGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CUMULATIVE SAVINGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COMMERCIAL/INDUSTRIAL INTERNAL AUDIT																			
SAVINGS PER COMMERCIAL UNIT																			
UNITS PARTICIPATING																			
ANNUAL SAVINGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SAVINGS PER INDUSTRIAL UNIT																			
UNITS PARTICIPATING																			
ANNUAL SAVINGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CUMULATIVE SAVINGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
INDUSTRIAL/UK EXTERIOR AUDIT																			
UNIVERSITY OF KENTUCKY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
SAVINGS PER INDUSTRIAL UNIT																			
UNITS PARTICIPATING																			
ANNUAL SAVINGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CUMULATIVE SAVINGS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
INCREASED LEAK DETECTION	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.91	0.21	1.47	0.24	-0.14	0.05	0.91	1.48	0.64	3.23
TOTAL SAVINGS FROM CONSERVATION	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	1.95	0.31	1.67	0.55	0.30	0.53	1.39	1.96	1.12	3.71

					ELAST.	% OF USE								
		SFR INDOOR			0.1	85.0%								
		SFR OUTDOOR			0.5	15.0%								
		COMMERCIAL			0.1	100.0%								
		INDUSTRIAL			0	100.0%								
		APARTMENT			0.1	100.0%								
2.89%	1.56%	2.84%	4.08%	-0.41%	1.77%	3.57%	3.00%	3.00%	3.00%	4.00%	4.00%	4.00%	4.00%	
8.83%	0.00%	0.00%	58.94%	52.23%	28.23%	1.70%	2.20%	17.00%	5.00%	5.00%	15.00%	15.00%	5.00%	
13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%	
2.2%	0.5%	0.5%	0.5%	0.5%	1.9%	1.9%	1.9%	1.9%	1.9%	1.6%	1.1%	1.1%	1.1%	
4.2%	1.1%	1.0%	1.0%	1.0%	5.3%	5.1%	5.0%	4.9%	4.7%	4.6%	4.4%	4.7%	4.4%	
2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2020	2025	2030	
271540	274,416	277,292	280,169	283,045	285921	288547	291173	293800	296426	299052	312190	326973	341326	
99154	99959.7	100765	101570	102376	104406	105365	106324	107282	108241	109200	113998	119396	124637	
8200	8200	8200	8200	8200	8200	8200	8200	8200	8200	8200	8200	8200	8200	
6656	6709.64	6763.7	6817.76	6871.82	7008	7072	7137	7201	7266	7330	7652	8014	8366	
157,530	158,876	160,222	161,569	162,915	166,307	167,910	169,513	171,116	172,719	174,322	182,340	191,363	200,123	
12531	13355	13785	14216	14648	15081	15456	15825	16187	16544	16894	18898	21441	24377	
15866	18036	19813	21590	23368	27193	29171	31143	33108	35067	37021	47043	58608	70305	
109892	112063													
403	407													
79.02	81.36	82.09	85.28	87.46	87.61	85.39	83.28	80.91	78.91	78.91	78.91	78.91	78.91	
78.27	81.56	82.47	77.79	80.09	83.90	85.64	83.39	79.10	78.65	78.78	77.52	77.52	78.78	
0.15	-0.04	-0.07	1.50	1.47	0.74	-0.05	-0.02	0.36	0.05	0.03	0.28	0.28	0.03	
93.92	86.13	91.50	87.16	79.35	82.79	75.61	79.64	77.14	76.05	76.05	76.05	76.05	76.05	
84.53	77.52	82.35	78.44	71.41	74.51	68.05	71.68	69.42	68.45	68.45	68.45	68.45	68.45	
15.97	14.84	15.92	15.32	14.09	15.02	13.86	14.51	14.19	14.13	14.26	14.95	15.74	16.54	
14.57	13.48	14.44	13.88	12.74	13.58	12.52	13.07	12.77	12.70	12.81	13.35	13.96	14.56	
99154	99960	100765	101570	102376	104406	105365	106324	107282	108241	109200	113998	119396	124637	
17507	18313	19118	19924	20729	22759	23718	24677	25636	26595	27554	32351	37749	42990	
	0	0	0	0										
86.40	65.60	63.60	63.77	62.73	62.68	62.11	61.91	61.23	60.64	60.40	60.22	60.16	60.14	
85.89	65.71	63.78	60.27	59.43	61.02	62.23	61.96	60.37	60.52	60.34	59.56	59.50	60.08	
0.10	-0.02	-0.04	0.70	0.66	0.33	-0.02	-0.01	0.17	0.02	0.01	0.13	0.13	0.01	
63.89	61.50	63.62	63.06	61.33	61.04	60.48	60.25	60.10	60.15	60.15	60.15	60.15	60.15	
1.43	1.40	1.39	1.36	1.33	1.32	1.26								
4.89	4.73	4.77	4.50	4.37	4.37	4.17								
0.02	0.02	0.02	0.02	0.02	0.02	0.03								
6.33	6.15	6.17	5.88	5.73	5.71	5.45	6.33	6.37	6.43	6.49	6.76	7.07	7.37	
1.41	1.36	1.48	1.44	1.35	1.44	1.34	1.44	1.42	1.43	1.45	1.60	1.78	1.98	
1.24	1.06	1.39	1.42	1.28	1.32	1.22	1.29	1.30	1.29	1.45	1.56	1.68	1.79	
8.93	9.99	9.78	9.70	9.62	8.69	9.96	8.83	9.31	9.35	9.93	10.27	10.60	11.09	
0.05	-0.02	-0.03	0.56	0.53	0.24	-0.02	-0.01	0.13	0.02	0.01	0.11	0.12	0.01	
9.98	9.75	10.27	10.15	8.93	9.94	8.82	9.45	9.37	9.31	10.38	10.72	11.11	11.58	
1.26	1.15	1.15	0.89	0.72	0.88	0.79	0.80	0.83	0.81	0.81	0.81	0.81	0.81	
0.96	0.88	0.93	0.79	0.67	0.67	0.50	0.62	0.60	0.58	0.70	0.73	0.77	0.80	

ADVANCED PLUMBING CODE EFFECTS CALCULATION

	1996	2006
UNIT WATER SAVINGS, GDU		
TOILETS	21.12	20.20
SHOWERHEADS	10.03	10.90
FAUCETS	13.73	3.00
ELIGIBLE POPULATION,%		
TOILETS	0.15	0.65
SHOWERHEADS	0.25	0.9
FAUCETS	0.25	0.9
PARTICIPATION RATE		
LOW	0.75	0.75
HIGH	0.90	0.90
NUMBER OF CUSTOMERS CALC.		
WATER USE,MGD		
SINGLE FAMILY		
IN CTY	13.08993	14.5653
OUT CTY	1.405197	2.651375
MULTI	8.701211	6.334521 FROM AM
SFR PER CAP USAGE	87.3244	93.91792 FROM AM
MFR PER CAP USAGE	105.05	63.89
SFR POPULATION	165992	183316
MFR POPULATION	82828	99154
PEOPLE/UNIT	2.64	2.52
EQU.RESID.CUSTOMERS	94250	112091
COMM & IND SAVINGS	0.15	0.44
GOVT AND UK SAVINGS	0.08	0.15
ESTIMATED APC SAVINGS, MGD		
HIGH	1.00	3.18
LOW	0.87	2.75
AVG.	0.94	2.96

1.77	1.61	1.69	1.76	1.63	1.73	1.59	1.65	1.65	1.63	1.64	1.64	1.65	1.65
2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2020	2025	2030
0.35	1.63	1.10	1.04	1.27	1.15	1.16	1.21	1.18	1.19	1.20	1.26	1.31	1.37
37.87	37.07	38.62	37.25	34.31	36.42	33.41	35.86	35.50	35.37	36.94	38.44	40.13	41.91
14.50%	18.70%	14.80%	14.80%	14.80%	10.89%	12.03%	13.80%	13.80%	13.80%	13.80%	13.80%	13.80%	13.80%
6.42	8.53	6.71	6.47	5.96	4.45	4.57	5.74	5.68	5.66	5.91	6.15	6.43	6.71
44.30	45.60	45.33	43.72	40.28	40.87	37.98							
44.33	43.42	45.18	43.62	40.29	42.68	39.27	42.04	41.63	41.49	43.27	44.96	46.89	48.90
74.92	71.82	76.21	73.68	68.28	73.54	67.53	71.48	70.81	70.58	73.47	76.23	79.38	82.66
69.65	67.22	64.3	62.3	52.56	61.36	55.82							
-1.84	-4.05	-2.03	-2.15	-2.22	-0.06	-0.75	-1.78	-1.95	-2.13	-1.45	-1.49	-1.54	-1.58
	39.37	43.15	41.47	38.08	42.62	38.52	40.26	39.68	39.36	41.82	43.47	45.35	47.32
72.19	72.91	74.34	71.69	66.22	73.64	66.93	69.86	69.02	68.61	72.18	74.90	78.00	81.23
1.36	1.28	1.34	1.29	1.19	1.26	1.16	1.24	1.23	1.23	1.28	1.33	1.39	1.45
73.56	74.19	75.68	72.98	67.42	74.91	68.10	71.10	70.25	69.84	73.46	76.23	79.39	82.68
65.91					65.81					66.81	66.64		
40.15	39.30	40.94	39.48	36.37	38.61	35.42	38.01	37.63	37.49	39.16	40.74	42.54	44.42
14.50%	18.70%	14.80%	14.80%	14.80%	10.89%	12.03%	13.80%	13.80%	13.80%	13.80%	13.80%	13.80%	13.80%
6.81	9.04	7.11	6.86	6.32	4.72	4.84	6.08	6.02	6.00	6.27	6.52	6.81	7.11
46.99	46.16	47.90	46.24	42.71	45.14	41.55	44.54	44.10	43.95	45.85	47.64	49.68	51.82
79.55	76.49	80.94	78.25	72.51	77.91	71.59	75.86	75.15	74.91	77.98	80.91	84.24	87.73
69.65	67.22												
-1.84	-4.05	-2.03	-2.15	-2.22	-0.06	-0.75	-1.78	-1.95	-2.13	-1.45	-1.49	-1.54	-1.58
45.15	42.11	45.87	44.09	40.49	45.08	40.79	42.76	42.15	41.83	44.39	46.15	48.15	50.23
62	61	63	61	56	59	55	59	58	58	60	62	65	68
64	63	65	63	58	61	57	61	60	60	62	64	67	70
59	56	60	58	54	59	54	56	56	55	58	61	63	66
61	57	62	60	55	61	56	58	58	57	60	63	65	68
77.57	72.30	78.77	75.96	70.16	77.71	70.69	73.94	73.06	72.64	76.38	79.27	82.57	86.00
1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
79.17	73.90	80.37	77.56	71.76	79.31	72.29	75.54	74.66	74.24	77.98	80.87	84.17	87.60

2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2020	2025	2030
23,931	24,103	24,275	24,446	24,618	24,790	24,920	25,050	25,180	25,310	25,440	25,992	26,405	26,685
196	197	198	200	201	203	204	205	206	207	208	213	216	219
2.54	2.53	2.52	2.51	2.51	2.50	2.49	2.48	2.46	2.45	2.44	2.37	2.33	2.30
497	498	500	502	504	508	507	507	507	507	508	505	504	503
93.92	86.13	91.50	87.16	79.35	82.79	75.61	79.64	77.14	76.05	76.05	76.05	76.05	76.05
84.53	77.52	82.35	78.44	71.41	74.51	68.05	71.68	69.42	68.45	68.45	68.45	68.45	68.45
0.05	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
39,293	40,884	42,475	44,067	45,658	47,249	49,022	50,794	52,567	54,339	56,112	66,411	78,759	92,613
3789	4071	4229	4388	4546	4705	4881	5058	5234	5411	5587	6613	7842	9222
2.62	2.62	2.62	2.63	2.63	2.63	2.61	2.59	2.58	2.56	2.54	2.45	2.39	2.35
9927	10674	11098	11523	11948	12374	12750	13120	13484	13841	14192	16201	18743	21671
93.92	86.13	91.50	87.16	79.35	82.79	75.61	79.64	77.14	76.05	76.05	76.05	76.05	76.05
84.53	77.52	82.35	78.44	71.41	74.51	68.05	71.68	69.42	68.45	68.45	68.45	68.45	68.45
0.88	0.87	0.96	0.95	0.89	0.96	0.90	0.98	0.97	0.98	1.01	1.15	1.32	1.52
19,721	19,758	19,795	19,832	19,869	19,906	19,976	20,047	20,117	20,188	20,258	20,586	20,854	21,039
751	781	782	784	785	787	790	792	795	798	801	814	824	832
2.49	2.48	2.48	2.48	2.48	2.48	2.47	2.46	2.45	2.44	2.43	2.39	2.36	2.35
1866	1940	1943	1946	1949	1951	1950	1949	1948	1947	1946	1945	1945	1954
93.92	86.13	91.50	87.16	79.35	82.79	75.61	79.64	77.14	76.05	76.05	76.05	76.05	76.05
84.53	77.52	82.35	78.44	71.41	74.51	68.05	71.68	69.42	68.45	68.45	68.45	68.45	68.45
0.17	0.16	0.17	0.16	0.15	0.16	0.14	0.15	0.14	0.14	0.14	0.14	0.14	0.14
18,196	18,307	18,418	18,528	18,639	18,750	18,836	18,921	19,007	19,092	19,178	19,590	19,958	20,267
95	96	97	97	98	98	99	99	100	100	101	103	105	106
2.53	2.53	2.53	2.53	2.53	2.53	2.52	2.51	2.49	2.48	2.47	2.41	2.37	2.34
240	243	244	246	247	249	249	249	249	248	248	248	248	249
93.92	86.13	91.50	87.16	79.35	82.79	75.61	79.64	77.14	76.05	76.05	76.05	76.05	76.05
84.53	77.52	82.35	78.44	71.41	74.51	68.05	71.68	69.42	68.45	68.45	68.45	68.45	68.45
0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
34,638	34,983	35,327	35,672	36,016	36,361	36,690	37,020	37,349	37,679	38,008	39,611	41,151	42,487
1359	1376	1390	1403	1417	1427	1443	1456	1469	1482	1491	1554	1615	1667
2.49	2.48	2.48	2.47	2.47	2.46	2.45	2.44	2.43	2.42	2.41	2.37	2.33	2.31
3377	3412	3439	3466	3492	3509	3536	3553	3570	3587	3594	3683	3762	3851
93.92	86.13	91.50	87.16	79.35	82.79	75.61	79.64	77.14	76.05	76.05	76.05	76.05	76.05
84.53	77.52	82.35	78.44	71.41	74.51	68.05	71.68	69.42	68.45	68.45	68.45	68.45	68.45
0.29	0.26	0.28	0.27	0.25	0.26	0.24	0.25	0.25	0.25	0.25	0.25	0.26	0.26
1.41	1.36	1.48	1.44	1.35	1.44	1.34	1.44	1.42	1.43	1.45	1.60	1.78	1.98

2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2020	2025	2030
23,931	24,076	24,220	24,365	24,509	24,790	24,920	25,050	25,180	25,310	25,440	25,992	26,405	26,685
0.19	0.17	0.17	0.16	0.17	0.18	0.16	0.17	0.17	0.17	0.18	0.18	0.19	0.19
0.19	0.17	0.17	0.16	0.17	0.18	0.16	0.17	0.17	0.17	0.18	0.18	0.19	0.19
23,931	24,076	24,220	24,365	24,509	24,790	24,920	25,050	25,180	25,310	25,440	25,992	26,405	26,685
3.56					3.72					4.07	4.16	4.22	4.27
4.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
0.04	0.03	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.02	0.02
0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.02	0.02
43,175	44,263	45,351	46,439	47,527	48,615	49,732	50,850	51,967	53,085	54,202	60,051	66,227	72,347
0.09	0.06	0.09	0.17	0.09	0.10	0.08	0.09	0.09	0.09	0.11	0.12	0.13	0.14
0.09	0.06	0.09	0.17	0.09	0.10	0.08	0.09	0.09	0.09	0.11	0.12	0.13	0.14
43,175	44,263	45,351	46,439	47,527	48,615	49,732	50,850	51,967	53,085	54,202	60,051	66,227	72,347
0.64	0.57	0.78	0.77	0.69	0.73	0.71	0.73	0.74	0.74	0.82	0.90	1.00	1.09
0.64	0.57	0.78	0.77	0.69	0.73	0.71	0.73	0.74	0.74	0.82	0.90	1.00	1.09
19,721	19,793	19,865	19,938	20,010	19,906	19,976	20,047	20,117	20,188	20,258	20,586	20,854	21,039
0.21	0.20	0.24	0.22	0.21	0.22	0.17	0.20	0.20	0.19	0.22	0.22	0.23	0.23
0.21	0.20	0.24	0.22	0.21	0.22	0.17	0.20	0.20	0.19	0.22	0.22	0.23	0.23
39,293	40,539	41,786	43,032	44,279	47,249	49,022	50,794	52,567	54,339	56,112	66,411	78,759	92,613
0.02	0.00	0.02	0.00	0.03	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01
0.02	0.00	0.02	0.00	0.03	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01
18,196	18,307	18,418	18,528	18,639	18,750	18,836	18,921	19,007	19,092	19,774	19,590	20,913	20,267
0.08	0.08	0.09	0.09	0.09	0.10	0.09	0.09	0.10	0.09	0.10	0.10	0.11	0.10
0.08	0.08	0.09	0.09	0.09	0.10	0.09	0.09	0.10	0.09	0.10	0.10	0.11	0.10
1.24	1.06	1.39	1.42	1.28	1.32	1.22	1.29	1.30	1.29	1.45	1.56	1.68	1.79

2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2020	2025	2030
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
0.00	0.00	23.76 200 0.00	23.76 200 0.00	23.76 200 0.00	23.76 200 0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00
0.00	0.00	0.00	523 200 0.10 70824 1 0.07	523 200 0.10 70824 1 0.07	523 200 0.00 70824 1 0.00	523 200 0.10 70824 1 0.07	523 200 0.10 70824 1 0.07	523 200 0.10 70824 1 0.07	523 200 0.10 70824 1 0.07	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.18	0.35	0.00	0.18	0.35	0.53	0.70	0.00	0.00	0.00	0.00
0.00					0.00					0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00					0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.36	3.57	1.54	1.49	1.37	-0.42	0.10	0.94	0.93	0.93	0.97	1.01	1.06	1.10
1.84	4.05	2.03	2.15	2.22	0.06	0.75	1.78	1.95	2.13	1.45	1.49	1.54	1.58