



Technical Memorandum

To: John Tzimirangas, HMLP

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Date: January 29, 2009

Subject: Evaluation of the Acquisition of Aquarion Water Company

Executive Summary

This memorandum describes CDM's evaluation of the feasibility and impact of the Hingham Municipal Light Plant ("HMLP") acquiring the assets of The Aquarion Water Company of Massachusetts ("Aquarion"). This memorandum provides the HMLP with an overall background of the three main issues that need to be taken into consideration in this case:

- The likely acquisition costs of the Aquarion Assets in Hingham, Hull and North Cohasset,
- The potential impact of the financing of such acquisition and repayment of the debt via water rate revenues, and
- The legal ramifications and issues associated with the acquisition.

In this memo, we provide an order of magnitude estimate of the acquisition price and rate impact as well as the legal issues. However, in reality, these issues depend on the outcome of the negotiations between HMLP and Aquarion or any legal steps that might be taken.

Acquisition Costs

The value of a municipal water system can be estimated by taking the gross asset values less accumulated depreciation of its infrastructure. Conceptually, one can differentiate between a net asset value based on original investment amounts [i.e. what did it cost the owner to design and build the system initially] and the replacement costs [i.e. what is the value if the current system needed to be rebuilt at today's costs]. Generally, a fair purchase price for a water utility may fall somewhere in-between these two estimates. Aquarion services two

distinct regions: Hingham/Hull/North Cohasset (referred to as "the Hingham service area") and Oxford/Millbury. Because the Aquarion's budget and account descriptions encompass both regions, it was necessary to determine the percent of assets belonging to the Hingham service area in order to identify the value of the assets servicing this area.

CDM defined a number of allocation factors to most appropriately designate asset percentages belonging to each region. These allocation factors were applied to the breakdown of Aquarion's accounts to determine net asset value and replacement value of the Hingham service area as well as Aquarion's entire plant. Table 1 shows these net asset values and replacement values for respective portions of the water system. The assets in the Hingham service area were valued at between \$41,722,307 in original cost and \$71,779,050 in replacement cost terms, net of depreciation. The total plant, including their Oxford/Millbury service area is currently worth \$51,309,415 in original costs. Total plant replacement would be \$89,755,636. Our analysis assumes that HMLP would not be acquiring the assets in Oxford/Millbury.

Table 1 - Net Asset Value and Replacement Value

| | <i>Hingham</i> | <i>Total Plant</i> |
|--------------------------|----------------|--------------------|
| Net Asset Value | \$41,722,307 | \$51,309,415 |
| Replacement Value | \$71,779,050 | \$89,755,636 |

Acquisition Impacts to Existing Water Customers

A simple rate study was performed to demonstrate the potential impact of financing the acquisition of Aquarion and repayment of the debt via water rate revenues given the likely cost described above. We have assumed that the purchase price would be financed by the issuance of general obligation debt over a 20 year term and at a 6% interest rate. If recovery of the acquisition were to be solely allocated to water rate revenues and the total purchase price was the net asset value of the Hingham service area, the HMLP would have to increase rates 41% in 2009 to recover the debt service payment. The projections are based on Aquarion's current rate revenue stream, and a \$41,722,307 G.O. bond issuance in 2009. Table 2 shows the HMLP's annual rate revenue, debt service payment, and annual rate increase for FY 2009.

Table 2 - Acquisition of Hingham Service Area - Rate Impact using Net Asset Value

| 2009 | |
|--|-------------|
| Annual Rate Revenues | \$9,023,765 |
| Debt Service Payment | \$3,728,479 |
| Annual Rate Increase | 41% |
| <small>Note: Rate Revenues based on FY2006 rate filings assuming 3% growth and 81% allocation to Hingham Service area.</small> | |

If the Hingham service area were to be purchased at the net replacement value of \$71,779,050, rates would have to increase by 57% in 2009. Table 3 shows the annual rate revenues, debt service payment, and resulting annual rate increase.

Table 3 - Acquisition of Hingham Service Area - Rate Impact based on Replacement Value

| 2009 | |
|--|-------------|
| Annual Revenue Requirement | \$9,023,765 |
| Debt Service Payment | \$5,170,371 |
| Annual Rate Increase | 57% |
| <small>Note: Rate Revenues based on FY2006 rate filings assuming 3% growth and 81% allocation to Hingham Service area.</small> | |

In addition to these short term water rate impacts, we have also assessed the financial implications of acquiring the treatment facility and distribution system in light of their condition. Based on our research, it appears that the treatment facility is in good condition and does not require significant capital improvements in the near future. However, it operates near capacity at peak demand days. The distribution system is likely to be a more significant financial and investment burden as a result of its age and condition, although limited information exists to assess the potential investment.

The District would need to operate the system and would likely need to hire a new operating staff. It is unlikely that HMLP would be able to realize large cost savings from the current operations and there are very few economies with the electric system staff and operations. Line crews are not easily substitutable between electric and water service and except for the management, accounting, billing and other overhead functions, which could possibly be combined, there did not appear to be many synergies resulting in sizeable cost savings.

Legal Implications

The HMLP's potential acquisition of Aquarion is unique because of the nature of the HMLP's services and that it would be assuming water services to a number of towns, not just the Town of Hingham.

CDM consulted with *Rubin and Rudman LLP*, as well as the Grafton Water District and the Dedham/Westwood Water District regarding the potential legal processes involved in the HMLP's acquisition of Aquarion. According to *Rubin and Rudman LLP*, the special legislation process would be the only feasible approach for the HMLP to acquire, manage, and operate a water system which serves customers at retail outside of the Town of Hingham. The special legislation could specify the terms of any such arrangement, including the authorization for financing and other issues.

In particular, the following additional conclusions have been drawn:

- HMLP does not possess the statutory authority to acquire or operate a water utility directly because of its status as an electric utility.
- A Town Water Department could acquire the Aquarion assets and serve the customer base. But it is unlikely that the law would extend the authority to serve customers in Hull and North Cohasset. The creation of a Water District might be a possibility in this case.
- The town could also create a Board of Public Works which would then oversee both water and electricity. HMLP would not be in control of this entity.
- A Water Commission could be established which could possibly extend service across the three towns in questions.
- A regional water department or commission might address these questions but such creation would also require a long and drawn out process and would not provide HMLP with any or all oversight.

Two case studies were examined involving the Town of Grafton (Worcester County, MA) and the Towns of Dedham and Westwood (Norfolk County, MA). In 1988, the Town of Grafton formed its own water district by legislative right and proceeded to take The Massachusetts American Water Company through eminent domain law. The Towns of Dedham and Westwood jointly formed a water district in 1985 and negotiated a sale of the Dedham Water Company that same year. In the case of Dedham/Westwood, the acquisition was quite simple because the district and the private water company were able to agree upon a sale price. The Grafton Water District had a much more difficult time because they could not

settle on a sale price, took the company for under fair market value, and as a result were taken to court by The Massachusetts American Water Company.

It is important for the HMLP to determine which legal process they wish to pursue in forming a water district. Once the water district has been formed, it is necessary to assess the current condition of all of Aquarion's assets to determine an accurate fair market value price. Ideally, the HMLP and Aquarion would agree on a sale price and the acquisition would be made final. However, if the two parties cannot agree on a fair market value price for the water system, the newly formed Hingham Water District would have the right to take Aquarion through eminent domain law.

Acquisition Costs

In order to conduct this portion of the analysis, CDM obtained data from the Massachusetts Department of Public Utilities (DPU), including Aquarion's recent rate filing documents and Annual Returns for the years 2004 through 2007. This assessment is based on available records and not any inspection of the current system, evaluation of its condition and/or discussions with representatives of Aquarion.

Aquarion services two distinct regions, the Hingham service area and Oxford/Millbury. The company's budget and account descriptions encompass both regions so it was necessary to determine the percent of assets belonging to the Hingham region in order to identify the value of the assets servicing this area.

CDM has defined a number of allocation factors to most appropriately designate asset percentages belonging to each region. Allocation factors consist of the following:

- Flow (MGD)
- Distribution
- Meters
- Hydrants
- Customers

Table 4 illustrates the allocation factors as applied to the Hingham and Oxford/Millbury service areas.

Table 4 - Allocation Factor Designation

| Account Description | Account Allocation |
|--|--------------------|
| <i>Source of Supply Plant</i> | |
| Organization | Flow |
| Land & Land Rights (Supply) | Flow |
| Structures & Improvements | Flow |
| Collecting & Impounding Reservoirs | Flow |
| Lake, river and other intakes | Flow |
| Wells & Springs | Flow |
| Supply Mains | Flow |
| Other Water Source Plant | Flow |
| <i>Pumping Plant</i> | |
| Land & Land Rights (Pumping) | Flow |
| Structures & Improvements | Flow |
| Electric Pumping Equipment, Booster | Flow |
| Other Pumping Equipment | Flow |
| <i>Water Treatment Plant</i> | |
| Land & Land Rights (Treatment) | Plant - Hingham |
| Structures & Improvements | Plant - Hingham |
| Water Treatment Equipment | Plant - Hingham |
| <i>Transmission & Distribution Plant</i> | |
| Land & Land Rights (T & D) | Distribution |
| Structures & Improvements | Distribution |
| Distribution Reservoirs & Standpipes | Distribution |
| Transmission & Distribution Mains | Distribution |
| Services | Distribution |
| Meters | Meters |
| Meter Installation | Meters |
| Hydrants | Hydrants |
| Other T & D Plant | Distribution |
| <i>General Plant</i> | |
| Land & Land Rights (General) | Customers |
| Structures & Improvements | Customers |
| Office Furniture & Equipment | Customers |
| Computer Hardware | Customers |
| Computer Software | Customers |
| Transportation Equipment | Customers |
| Stores Equipment | Customers |
| Tools, Shop & Garage Equipment | Customers |
| Laboratory Equipment | Customers |
| Power Operated Equipment | Customers |
| Communications Equipment (non-telephone) | Customers |
| Miscellaneous Equipment | Customers |

A total percent for each allocation factor was determined using data from Aquarion's 2006 and 2007 Annual Reports. From these percentages, a total asset value was calculated

separately for each region (Hingham and Oxford/Millbury). The following data was used to derive a percent for each allocation factor:

- Total flow (MGD)
- Number of distribution mains in use at close of year
- Number of meters in use at close of year
- Total public fire hydrants
- Total number of customers

Table 5 illustrates the allocation factor percentages as applied to the Hingham and Oxford/Millbury service areas.

Table 5 - Allocation Factor Percentages

| Account Description | Account Allocation | % Hingham | % Oxford/Millbury |
|--|--------------------|-----------|-------------------|
| <i>Source of Supply Plant</i> | | | |
| Organization | Flow | 58.5% | 41.5% |
| Land & Land Rights (Supply) | Flow | 58.5% | 41.5% |
| Structures & Improvements | Flow | 58.5% | 41.5% |
| Collecting & Impounding Reservoirs | Flow | 58.5% | 41.5% |
| Lake, river and other intakes | Flow | 58.5% | 41.5% |
| Wells & Springs | Flow | 58.5% | 41.5% |
| Supply Mains | Flow | 58.5% | 41.5% |
| Other Water Source Plant | Flow | 58.5% | 41.5% |
| <i>Pumping Plant</i> | | | |
| Land & Land Rights (Pumping) | Flow | 58.5% | 41.5% |
| Structures & Improvements | Flow | 58.5% | 41.5% |
| Electric Pumping Equipment, Booster | Flow | 58.5% | 41.5% |
| Other Pumping Equipment | Flow | 58.5% | 41.5% |
| <i>Water Treatment Plant</i> | | | |
| Land & Land Rights (Treatment) | Plant - Hingham | 100.0% | 0% |
| Structures & Improvements | Plant - Hingham | 100.0% | 0% |
| Water Treatment Equipment | Plant - Hingham | 100.0% | 0% |
| <i>Transmission & Distribution Plant</i> | | | |
| Land & Land Rights (T & D) | Distribution | 87.8% | 12.2% |
| Structures & Improvements | Distribution | 87.8% | 12.2% |
| Distribution Reservoirs & Standpipes | Distribution | 87.8% | 12.2% |
| Transmission & Distribution Mains | Distribution | 87.8% | 12.2% |
| Services | Distribution | 87.8% | 32.6% |
| Meters | Meters | 65.8% | 34.2% |
| Meter Installation | Meters | 65.8% | 34.2% |
| Hydrants | Hydrants | 72.9% | 27.1% |
| Other T & D Plant | Distribution | 87.8% | 12.2% |
| <i>General Plant</i> | | | |
| Land & Land Rights (General) | Customers | 67.4% | 32.6% |
| Structures & Improvements | Customers | 67.4% | 32.6% |
| Office Furniture & Equipment | Customers | 67.4% | 32.6% |
| Computer Hardware | Customers | 67.4% | 32.6% |
| Computer Software | Customers | 67.4% | 32.6% |
| Transportation Equipment | Customers | 67.4% | 32.6% |
| Stores Equipment | Customers | 67.4% | 32.6% |
| Tools, Shop & Garage Equipment | Customers | 67.4% | 32.6% |
| Laboratory Equipment | Customers | 67.4% | 32.6% |
| Power Operated Equipment | Customers | 67.4% | 32.6% |
| Communications Equipment (non-telephone) | Customers | 67.4% | 32.6% |
| Miscellaneous Equipment | Customers | 67.4% | 32.6% |

Tables 6 through 10 show a detailed breakdown of each allocation factor, percentage and total asset value. Total percentages of flow, distribution, meters, hydrants and customers for

each region were multiplied by their respective total plant balance allocation, yielding total asset value for each region.

Table 6 - Flow (MGD)

| | <i>Hingham</i> | <i>Oxford</i> | <i>Millbury</i> | <i>TOTAL</i> |
|--------------------|----------------|---------------|-----------------|--------------|
| Total System (MGD) | 1,261,000 | 298,950 | 594,296 | 2,154,246 |
| Total Percentage | 58.5% | 13.9% | 27.6% | |
| Total Asset Worth | \$6,143,813 | \$1,456,537 | \$2,895,514 | \$10,495,864 |

Table 7 - Distribution Mains (Equivalent)

| | <i>Hingham</i> | <i>Oxford</i> | <i>Millbury</i> | <i>TOTAL</i> |
|------------------------------------|----------------|---------------|-----------------|--------------|
| Total Distribution Main Equivalent | 30,987,330.4 | 4,297,590.6 | 5,639.6 | 35,290,560.6 |
| Total Percentage | 87.81% | 12.18% | 0.02% | |
| Total Asset Worth | \$25,299,530 | \$3,508,757 | \$4,604 | \$28,812,892 |

Table 8 - Meters (Equivalent)

| | <i>Hingham</i> | <i>Oxford</i> | <i>Millbury</i> | <i>TOTAL</i> |
|------------------------|----------------|---------------|-----------------|--------------|
| Total Meter Equivalent | 12,446.2 | 2,694.0 | 3,772.9 | 18,913.1 |
| Total Percentage | 65.81% | 14.24% | 19.95% | |
| Total Asset Worth | \$1,697,456 | \$367,417 | \$514,561 | \$2,579,434 |

Table 9 - Hydrants

| | <i>Hingham</i> | <i>Oxford</i> | <i>Millbury</i> | <i>TOTAL</i> |
|-------------------|----------------|---------------|-----------------|--------------|
| Total Equivalent | 1,147.2 | 184.3 | 242.1 | 1,573.6 |
| Total Percentage | 72.90% | 11.71% | 15.39% | |
| Total Asset Worth | \$277,367 | \$44,548 | \$58,541 | \$380,455 |

Table 10 - Customers

| | <i>Hingham</i> | <i>Oxford</i> | <i>Millbury (2006)</i> | <i>TOTAL</i> |
|--------------------------|----------------|---------------|------------------------|--------------|
| Total Customers | 12,471 | 2,546 | 3,492 | 18,509 |
| Total Percentage | 67.38% | 13.76% | 18.87% | |
| Total Asset Worth | \$1,517,021 | \$309,705 | \$424,781 | \$2,251,508 |

A breakdown of percent and dollar distribution of Aquarion assets for the Hingham and Oxford/Millbury service areas is shown in Table 11.

Table 11 - Allocation of Net Assets

| Account Description | Account Allocation | % Hingham | Hingham Assets | % Oxford/Millbury | Oxford/Millbury Assets | Net Asset Value |
|--|--------------------|-----------|----------------|-------------------|------------------------|-----------------|
| <i>Source of Supply Plant</i> | | | | | | |
| Organization | Flow | 58.5% | \$48,347 | 41.5% | \$34,247 | \$82,595 |
| Land & Land Rights (Supply) | Flow | 58.5% | \$98,782 | 41.5% | \$69,974 | \$168,756 |
| Structures & Improvements | Flow | 58.5% | \$402,113 | 41.5% | \$284,842 | \$686,956 |
| Collecting & Impounding Reservoirs | Flow | 58.5% | \$54,004 | 41.5% | \$38,255 | \$92,259 |
| Lake, river and other intakes | Flow | 58.5% | \$649 | 41.5% | \$460 | \$1,109 |
| Wells & Springs | Flow | 58.5% | \$2,737,834 | 41.5% | \$1,939,381 | \$4,677,214 |
| Supply Mains | Flow | 58.5% | \$586,824 | 41.5% | \$415,685 | \$1,002,509 |
| Other Water Source Plant | Flow | 58.5% | \$362,569 | 41.5% | \$256,831 | \$619,400 |
| <i>Pumping Plant</i> | | | | | | |
| Land & Land Rights (Pumping) | Flow | 58.5% | \$34,300 | 41.5% | \$24,297 | \$58,597 |
| Structures & Improvements | Flow | 58.5% | \$967,201 | 41.5% | \$685,130 | \$1,652,331 |
| Electric Pumping Equipment Booster | Flow | 58.5% | \$726,864 | 41.5% | \$514,884 | \$1,241,748 |
| Other Pumping Equipment | Flow | 58.5% | \$124,324 | 41.5% | \$88,066 | \$212,390 |
| <i>Water Treatment Plant</i> | | | | | | |
| Land & Land Rights (Treatment) | Plant: Hingham | 100.0% | \$0 | 0% | \$0 | \$0 |
| Structures & Improvements | Plant: Hingham | 100.0% | \$4,843,623 | 0% | \$0 | \$4,843,623 |
| Water Treatment Equipment | Plant: Hingham | 100.0% | \$1,928,070 | 0% | \$0 | \$1,928,070 |
| <i>Transmission & Distribution Plant</i> | | | | | | |
| Land & Land Rights (T & D) | Distribution | 87.8% | \$15,426 | 12.2% | \$2,142 | \$17,568 |
| Structures & Improvements | Distribution | 87.8% | \$120,209 | 12.2% | \$16,693 | \$136,902 |
| Dist. Reservoirs & Standpipes | Distribution | 87.8% | \$497,878 | 12.2% | \$69,141 | \$567,018 |
| Trans & Dist. Mains | Distribution | 87.8% | \$18,851,417 | 12.2% | \$2,617,908 | \$21,469,325 |
| Services | Distribution | 87.8% | \$5,217,638 | 32.6% | \$724,577 | \$5,942,215 |
| Meters | Meters | 65.8% | \$929,113 | 34.2% | \$482,756 | \$1,411,869 |
| Meter Installation | Meters | 65.8% | \$768,343 | 34.2% | \$399,222 | \$1,167,565 |
| Hydrants | Hydrants | 72.9% | \$277,367 | 27.1% | \$103,089 | \$380,455 |
| Other T & D Plant | Distribution | 87.8% | \$612,389 | 12.2% | \$85,043 | \$697,432 |
| <i>General Plant</i> | | | | | | |
| Land & Land Rights (General) | Customers | 67.4% | \$0 | 32.6% | \$0 | \$0 |
| Structures & Improvements | Customers | 67.4% | \$202,924 | 32.6% | \$98,248 | \$301,172 |
| Office Furniture & Equipment | Customers | 67.4% | \$159,156 | 32.6% | \$77,058 | \$236,214 |
| Computer Hardware | Customers | 67.4% | \$238,731 | 32.6% | \$115,585 | \$354,316 |
| Computer Software | Customers | 67.4% | \$65,017 | 32.6% | \$31,479 | \$96,496 |
| Transportation Equipment | Customers | 67.4% | \$389,880 | 32.6% | \$188,766 | \$578,646 |
| Stores Equipment | Customers | 67.4% | \$14,404 | 32.6% | \$6,974 | \$21,378 |
| Tools, Shop & Garage Equip. | Customers | 67.4% | \$204,090 | 32.6% | \$98,813 | \$302,902 |
| Laboratory Equipment | Customers | 67.4% | \$43,718 | 32.6% | \$21,167 | \$64,885 |
| Power Operated Equipment | Customers | 67.4% | \$10,053 | 32.6% | \$4,867 | \$14,921 |
| Comm. Equip. (non-telephone) | Customers | 67.4% | \$102,358 | 32.6% | \$49,558 | \$151,916 |
| Misc. Equipment | Customers | 67.4% | \$86,690 | 32.6% | \$41,972 | \$128,662 |

Table 12 accounts for Aquarion's assets that do not depreciate. Organization and Land & Land Rights assets are added to the depreciated assets in Tables 18 and 19 for all of Aquarion and Tables 21 and 22 for the Hingham service area only.

Table 12 - Non-Depreciating Assets: Organization and Land & Land Rights

| Account Description | Account Allocation | % Hingham | Hingham Assets | % Oxford/ Millbury | Oxford/ Millbury Assets | Net Asset Value |
|--|--------------------|-----------|----------------|--------------------|-------------------------|-----------------|
| <i>Source of Supply Plant</i> | | | | | | |
| Organization | Flow | 58.5% | \$48,347 | 41.5% | \$34,247 | \$82,595 |
| Land & Land Rights (Supply) | Flow | 58.5% | \$98,782 | 41.5% | \$69,974 | \$168,756 |
| <i>Pumping Plant</i> | | | | | | |
| Land & Land Rights (Pumping) | Flow | 58.5% | \$34,300 | 41.5% | \$24,297 | \$58,597 |
| <i>Water Treatment Plant</i> | | | | | | |
| Land & Land Rights (Treatment) | Plant: Hingham | 100.0% | \$0 | 0% | \$0 | \$0 |
| <i>Transmission & Distribution Plant</i> | | | | | | |
| Land & Land Rights (T & D) | Distribution | 87.8% | \$15,426 | 12.2% | \$2,142 | \$17,568 |
| <i>General Plant</i> | | | | | | |
| Land & Land Rights (General) | Customers | 67.4% | \$0 | 32.6% | \$0 | \$0 |

Table 13 shows the total Organization and Land & Land Rights assets belonging to the Hingham and Oxford/Millbury service areas. The net asset value for the entire plant is also shown.

Table 13 - Non-Depreciating Asset Totals

| | Hingham | Oxford/Millbury | Net Asset Value - Total Plant |
|---|-----------|-----------------|-------------------------------|
| Total Organization and Land & Land Rights | \$196,855 | \$130,660 | \$327,515 |

Table 14 summarizes the total depreciable assets belonging to the Hingham and Oxford/Millbury service areas with respect to the assigned allocation factors.

Table 14 - Distribution of Net Assets by Allocation Factor

| Allocation | % Hingham | Hingham | % Oxford/ Millbury | Oxford/Millbury | Net Asset Value |
|-----------------|-----------|---------------------|-----------------------|--------------------|---------------------|
| Flow | 58.5% | \$5,962,383 | 41.5% | \$4,223,533 | \$10,185,916 |
| Plant - Hingham | 100.0% | \$6,771,694 | 0.0% | \$0 | \$6,771,694 |
| Distribution | 87.8% | \$25,299,530 | 12.2% | \$3,513,362 | \$28,812,892 |
| Meters | 65.8% | \$1,697,456 | 34.2% | \$881,978 | \$2,579,434 |
| Hydrants | 72.9% | \$277,367 | 27.1% | \$103,089 | \$380,455 |
| Customers | 67.4% | \$1,517,021 | 32.6% | \$734,486 | \$2,251,508 |
| TOTAL | | \$41,525,451 | | \$9,456,448 | \$50,981,899 |

Table 15 summarizes the total depreciable assets belonging to the Hingham and Oxford/Millbury service areas with respect to account descriptions.

Table 15 - Distribution of Net Assets by Account Description

| Account | Hingham | Oxford/Millbury | Net Asset Value |
|-----------------------------------|---------------------|--------------------|---------------------|
| Source of Supply Plant | \$4,143,994 | \$2,935,453 | \$7,079,448 |
| Pumping Plant | \$1,818,389 | \$1,288,080 | \$3,106,469 |
| Water Treatment Plant | \$6,771,694 | \$0 | \$6,771,694 |
| Transmission & Distribution Plant | \$27,274,353 | \$4,498,429 | \$31,772,782 |
| General Plant | \$1,517,021 | \$734,486 | \$2,251,508 |
| TOTAL | \$41,525,451 | \$9,456,448 | \$50,981,899 |

A number of calculations were performed to derive original costs, accumulated depreciation, net asset values, replacement values and net replacement values. Compound percent changes in construction costs were calculated using ENR's construction cost index history.

Calculations are as follows:

- $\text{Original Cost} = \text{Total Plant Balance} / (1 - (\text{Current Depreciation Rate} * \text{Asset Age}))$
- $\text{Annual Depreciation} = \text{Original Cost} * \text{Current Depreciation Rate}$
- $\text{Accumulated Depreciation} = \text{Annual Depreciation} * \text{Asset Age}$
- $\text{Replacement Value} = \text{Original Cost} + (\text{Original Cost} * \text{Compound Percent Change in Construction Costs} * \text{Asset Age})$
- $\text{Net Replacement Value} = \text{Replacement Value} * (1 - (\text{Current Depreciation Rate} * \text{Asset Age}))$
- $\text{ENR's Construction Cost Compound Percent Change} = ((\text{2007's Average} / \text{Beginning Year Average})^{(1 / \text{Asset Age})}) - 1$

Table 16 shows Aquarion's assets' estimated remaining life years, average life expectancies, ages, dates of acquisition and calculated compound percent changes in construction costs. Estimated remaining lives and average life expectancies were obtained from Aquarion's *Depreciation Report* and The National Association of Regulatory Utility Commissioners' *Depreciation Practices for Small Water Utilities* report.

Table 16 - Allocation Factor Designation

| Account Description | Estimated Remaining Life (Years) | Average Life Expectancy (Years) | Age (Years) | Date of Acquisition | Compound Change Rate (ENR) |
|--|----------------------------------|---------------------------------|-------------|---------------------|----------------------------|
| <i>Source of Supply Plant</i> | | | | | |
| Structures & Improvements | 34.54 | 4 | 5.46 | 2001 | 3.3% |
| Collecting & Impounding Reservoirs | 48.32 | 70 | 21.68 | 1985 | 2.8% |
| Lake, river and other intakes | 18.58 | 40 | 21.42 | 1985 | 2.8% |
| Wells & Springs | 53.76 | 65 | 11.24 | 1995 | 2.9% |
| Supply Mains | 84.48 | 90 | 5.52 | 2001 | 3.3% |
| Other Water Source Plant | 28.56 | 35 | 6.44 | 2000 | 3.1% |
| <i>Pumping Plant</i> | | | | | |
| Structures & Improvements | 26.97 | 40 | 13.03 | 1994 | 2.8% |
| Electric Pumping Equipment, Booster | 10.25 | 20 | 9.75 | 1997 | 2.9% |
| Other Pumping Equipment | 20.97 | 25 | 4.03 | 2003 | 3.5% |
| <i>Water Treatment Plant</i> | | | | | |
| Structures & Improvements | 34.94 | 40 | 5.06 | 2001 | 3.3% |
| Water Treatment Equipment | 14.73 | 30 | 15.27 | 1991 | 3.0% |
| <i>Transmission & Distribution Plant</i> | | | | | |
| Structures & Improvements | 36.43 | 40 | 3.57 | 2003 | 3.5% |
| Distribution Reservoirs & Standpipes | 40.89 | 45 | 4.61 | 2002 | 3.3% |
| Transmission & Distribution Mains | 76.29 | 80 | 3.71 | 2003 | 3.5% |
| Services | 33.63 | 40 | 6.37 | 2000 | 3.1% |
| Meters | 6.09 | 10 | 3.91 | 2003 | 3.5% |
| Meter Installation | 26.61 | 50 | 23.39 | 1983 | 2.7% |
| Hydrants | 59.99 | 63 | 3.01 | 2004 | 2.9% |
| Other T & D Plant | 8.31 | 20 | 11.69 | 1995 | 2.9% |
| <i>General Plant</i> | | | | | |
| Structures & Improvements | 20.77 | 40 | 19.23 | 1987 | 2.9% |
| Office Furniture & Equipment | 10.82 | 20 | 9.18 | 1997 | 2.9% |
| Computer Hardware | 1.89 | 5 | 3.11 | 2003 | 3.5% |
| Computer Software | 0.94 | 5 | 4.06 | 2002 | 3.3% |
| Transportation Equipment | 2.81 | 7 | 4.19 | 2002 | 3.3% |
| Stores Equipment | 10.09 | 20 | 9.91 | 1997 | 2.9% |
| Tools, Shop & Garage Equipment | 17.34 | 25 | 7.66 | 1999 | 3.1% |
| Laboratory Equipment | 12.07 | 20 | 7.93 | 1999 | 3.1% |
| Power Operated Equipment | 1.97 | 4 | 2.03 | 2005 | 2.3% |
| Comm. Equipment (non-telephone) | 9.23 | 15 | 5.77 | 2001 | 3.3% |
| Miscellaneous Equipment | 14.27 | 21 | 6.73 | 2000 | 3.1% |

Original cost, accumulated depreciation, net asset values, replacement values and net replacement values for the entire plant are shown in Table 17.

Table 17 - Total Plant: Original Costs, Accumulated Depreciation, Net Asset Value, Replacement Value & Net Replacement Value

| Account Description | Original Cost | Accumulated Depreciation | Net Asset Value | Replacement Value | Net Replacement Value |
|--|---------------|--------------------------|-----------------|-------------------|-----------------------|
| <i>Source of Supply Plant</i> | | | | | |
| Structures & Improvements | \$800,351 | \$79,047 | \$686,956 | \$944,919 | \$847,409 |
| Collecting & Impounding Reservoirs | \$126,555 | \$34,297 | \$92,259 | \$204,133 | \$148,813 |
| Lake, river and other intakes | \$1,985 | \$876 | \$1,109 | \$3,187 | \$1,780 |
| Wells & Springs | \$5,695,002 | \$1,017,788 | \$4,677,214 | \$7,572,042 | \$6,218,797 |
| Supply Mains | \$1,383,339 | \$80,077 | \$1,002,509 | \$1,635,959 | \$1,514,951 |
| Other Water Source Plant | \$690,060 | \$70,659 | \$619,400 | \$829,552 | \$744,609 |
| <i>Pumping Plant</i> | | | | | |
| Structures & Improvements | \$2,263,503 | \$528,555 | \$1,652,331 | \$3,090,815 | \$2,341,732 |
| Electric Pumping Equipment, Booster | \$1,905,283 | \$415,186 | \$1,241,748 | \$2,441,204 | \$1,829,499 |
| Other Pumping Equipment | \$247,849 | \$35,458 | \$212,390 | \$283,214 | \$242,696 |
| <i>Water Treatment Plant</i> | | | | | |
| Structures & Improvements | \$5,595,008 | \$509,204 | \$4,843,623 | \$6,531,604 | \$5,910,265 |
| Water Treatment Equipment | \$3,578,147 | \$1,650,077 | \$1,928,070 | \$5,206,709 | \$2,805,615 |
| <i>Transmission & Distribution Plant</i> | | | | | |
| Structures & Improvements | \$147,033 | \$10,131 | \$136,902 | \$165,618 | \$154,207 |
| Distribution Reservoirs & Standpipes | \$703,309 | \$79,589 | \$567,018 | \$811,838 | \$711,911 |
| Transmission & Distribution Mains | \$29,121,835 | \$1,211,712 | \$21,469,325 | \$32,947,232 | \$31,187,059 |
| Services | \$7,978,397 | \$847,739 | \$5,942,215 | \$9,573,663 | \$8,378,372 |
| Meters | \$1,440,091 | \$169,409 | \$1,411,869 | \$1,639,456 | \$1,463,815 |
| Meter Installation | \$4,599,267 | \$3,431,701 | \$1,167,565 | \$7,532,458 | \$1,912,182 |
| Hydrants | \$495,833 | \$20,264 | \$380,455 | \$538,587 | \$511,352 |
| Other T & D Plant | \$838,598 | \$141,166 | \$697,432 | \$1,126,060 | \$936,504 |
| <i>General Plant</i> | | | | | |
| Structures & Improvements | \$641,469 | \$325,239 | \$301,172 | \$994,289 | \$478,044 |
| Office Furniture & Equipment | \$992,245 | \$756,031 | \$236,214 | \$1,255,029 | \$298,772 |
| Computer Hardware | \$837,438 | \$483,122 | \$354,316 | \$929,652 | \$393,331 |
| Computer Software | \$569,893 | \$473,396 | \$96,496 | \$647,342 | \$109,610 |
| Transportation Equipment | \$1,044,563 | \$408,052 | \$578,646 | \$1,191,066 | \$698,497 |
| Stores Equipment | \$31,170 | \$9,792 | \$21,378 | \$40,081 | \$27,490 |
| Tools, Shop & Garage Equipment | \$411,703 | \$108,801 | \$302,902 | \$509,060 | \$374,531 |
| Laboratory Equipment | \$118,749 | \$53,864 | \$64,885 | \$147,820 | \$80,769 |
| Power Operated Equipment | \$40,786 | \$25,866 | \$14,921 | \$42,671 | \$15,610 |
| Communications Equipment (non-telephone) | \$324,202 | \$172,286 | \$151,916 | \$386,088 | \$180,914 |
| Miscellaneous Equipment | \$170,711 | \$42,049 | \$128,662 | \$206,773 | \$155,841 |

Table 18 summarizes the totals for original cost, accumulated depreciation, net asset values, replacement values and net replacement values for the total plant with respect to allocation factors. The *SUBTOTAL* accounts for all of the plant's depreciated assets. The *TOTAL* consists of depreciated assets as well as Organization and Land & Land Rights.

Table 18 - Total Plant with Respect to Allocation Factors

| Allocation | Original Cost | Accumulated Depreciation | Net Asset Value | Replacement Value | Net Replacement Value |
|-----------------|---------------------|--------------------------|---------------------|---------------------|-----------------------|
| Flow | \$13,113,926 | \$2,261,943 | \$10,185,916 | \$17,005,025 | \$13,890,286 |
| Plant - Hingham | \$9,173,155 | \$2,159,281 | \$6,771,694 | \$11,738,313 | \$8,715,880 |
| Distribution | \$38,789,172 | \$2,290,337 | \$28,812,892 | \$44,624,412 | \$41,368,053 |
| Meters | \$6,039,357 | \$3,601,110 | \$2,579,434 | \$9,171,914 | \$3,375,997 |
| Hydrants | \$495,833 | \$20,264 | \$380,455 | \$538,587 | \$511,352 |
| Customers | \$5,182,929 | \$2,858,498 | \$2,251,508 | \$6,349,870 | \$2,813,410 |
| SUBTOTAL | \$72,794,372 | \$13,191,432 | \$50,981,899 | \$89,428,121 | \$70,674,978 |
| TOTAL | \$73,121,887 | \$13,191,432 | \$51,309,415 | \$89,755,636 | \$71,002,493 |

Table 19 summarizes the totals for original cost, accumulated depreciation, net asset values, replacement values and net replacement values for the total plant with respect to Aquarion's account titles. The *SUBTOTAL* accounts for all of the plant's depreciated assets. The *TOTAL* consists of depreciated assets as well as Organization and Land & Land Rights.

Table 19 - Total Plant with Respect to Accounts

| Account | Original Cost | Accumulated Depreciation | Net Asset Value | Replacement Value | Net Replacement Value |
|-----------------------------------|---------------------|--------------------------|---------------------|---------------------|-----------------------|
| Source of Supply Plant | \$8,697,291 | \$1,282,743 | \$7,079,448 | \$11,189,792 | \$9,476,359 |
| Pumping Plant | \$4,416,635 | \$979,200 | \$3,106,469 | \$5,815,233 | \$4,413,927 |
| Water Treatment Plant | \$9,173,155 | \$2,159,281 | \$6,771,694 | \$11,738,313 | \$8,715,880 |
| Transmission & Distribution Plant | \$45,324,361 | \$5,911,710 | \$31,772,782 | \$54,334,913 | \$45,255,402 |
| General Plant | \$5,182,929 | \$2,858,498 | \$2,251,508 | \$6,349,870 | \$2,813,410 |
| SUBTOTAL | \$72,794,372 | \$13,191,432 | \$50,981,899 | \$89,428,121 | \$70,674,978 |
| TOTAL | \$73,121,887 | \$13,191,432 | \$51,309,415 | \$89,755,636 | \$71,002,493 |

Original cost, accumulated depreciation, net asset values, replacement values and net replacement values for the Hingham service area only are shown in Table 20.

Table 20 - Hingham Region: Original Costs, Accumulated Depreciation, Net Asset Value, Replacement Value & Net Replacement Value

| Account Description | Original Cost | Accumulated Depreciation | Net Asset Value | Replacement Value | Net Replacement Value |
|--|---------------|--------------------------|-----------------|-------------------|-----------------------|
| <i>Source of Supply Plant</i> | | | | | |
| Structures & Improvements | \$448,384 | \$46,271 | \$402,113 | \$553,114 | \$496,036 |
| Collecting & Impounding Reservoirs | \$74,080 | \$20,076 | \$54,004 | \$119,490 | \$87,108 |
| Lake, river and other intakes | \$1,162 | \$513 | \$649 | \$1,865 | \$1,042 |
| Wells & Springs | \$3,333,602 | \$595,768 | \$2,737,834 | \$4,432,337 | \$3,640,208 |
| Supply Mains | \$633,698 | \$46,873 | \$586,824 | \$957,618 | \$886,785 |
| Other Water Source Plant | \$403,930 | \$41,361 | \$362,569 | \$485,583 | \$435,861 |
| <i>Pumping Plant</i> | | | | | |
| Structures & Improvements | \$1,276,594 | \$309,393 | \$967,201 | \$1,809,226 | \$1,370,746 |
| Electric Pumping Equipment, Booster | \$969,895 | \$243,032 | \$726,864 | \$1,428,973 | \$1,070,908 |
| Other Pumping Equipment | \$145,080 | \$20,756 | \$124,324 | \$165,781 | \$142,063 |
| <i>Water Treatment Plant</i> | | | | | |
| Structures & Improvements | \$5,352,827 | \$509,204 | \$4,843,623 | \$6,531,604 | \$5,910,265 |
| Water Treatment Equipment | \$3,578,147 | \$1,650,077 | \$1,928,070 | \$5,206,709 | \$2,805,615 |
| <i>Transmission & Distribution Plant</i> | | | | | |
| Structures & Improvements | \$129,104 | \$8,895 | \$120,209 | \$145,423 | \$135,403 |
| Distribution Reservoirs & Standpipes | \$567,762 | \$69,884 | \$497,878 | \$712,845 | \$625,103 |
| Transmission & Distribution Mains | \$19,915,376 | \$1,063,959 | \$18,851,417 | \$28,929,741 | \$27,384,198 |
| Services | \$5,962,006 | \$744,368 | \$5,217,638 | \$8,406,278 | \$7,356,737 |
| Meters | \$1,040,596 | \$111,483 | \$929,113 | \$1,078,882 | \$963,297 |
| Meter Installation | \$3,026,653 | \$2,258,310 | \$768,343 | \$4,956,907 | \$1,258,355 |
| Hydrants | \$292,139 | \$14,773 | \$277,367 | \$392,651 | \$372,795 |
| Other T & D Plant | \$736,342 | \$123,953 | \$612,389 | \$988,752 | \$822,309 |
| <i>General Plant</i> | | | | | |
| Structures & Improvements | \$422,063 | \$219,139 | \$202,924 | \$669,932 | \$322,097 |
| Office Furniture & Equipment | \$668,555 | \$509,399 | \$159,156 | \$845,614 | \$201,307 |
| Computer Hardware | \$564,249 | \$325,518 | \$238,731 | \$626,381 | \$265,019 |
| Computer Software | \$383,982 | \$318,965 | \$65,017 | \$436,166 | \$73,853 |
| Transportation Equipment | \$664,818 | \$274,937 | \$389,880 | \$802,517 | \$470,634 |
| Stores Equipment | \$21,002 | \$6,598 | \$14,404 | \$27,006 | \$18,522 |
| Tools, Shop & Garage Equipment | \$277,398 | \$73,308 | \$204,090 | \$342,994 | \$252,351 |
| Laboratory Equipment | \$80,011 | \$36,293 | \$43,718 | \$99,598 | \$54,421 |
| Power Operated Equipment | \$27,481 | \$17,428 | \$10,053 | \$28,751 | \$10,518 |
| Communications Equipment (non-telephone) | \$218,441 | \$116,083 | \$102,358 | \$260,139 | \$121,896 |
| Miscellaneous Equipment | \$115,021 | \$28,332 | \$86,690 | \$139,320 | \$105,003 |

Table 21 summarizes the totals for original cost, accumulated depreciation, net asset values, replacement values and net replacement values for the Hingham service area only, with respect to allocation factors. The *SUBTOTAL* accounts for all of the Hingham service area's depreciated assets. The *TOTAL* consists of depreciated assets as well as Organization and Land & Land Rights.

Table 21 - Hingham Region Totals with Respect to Allocation Factors

| Allocation | Original Cost | Accumulated Depreciation | Net Asset Value | Replacement Value | Net Replacement Value |
|-----------------|---------------------|--------------------------|---------------------|---------------------|-----------------------|
| Flow | \$7,676,310 | \$1,324,041 | \$5,962,383 | \$9,953,987 | \$8,130,757 |
| Plant - Hingham | \$9,173,155 | \$2,159,281 | \$6,771,694 | \$11,738,313 | \$8,715,880 |
| Distribution | \$34,059,331 | \$2,011,060 | \$25,299,530 | \$39,183,038 | \$36,323,751 |
| Meters | \$3,974,338 | \$2,369,793 | \$1,697,456 | \$6,035,789 | \$2,221,652 |
| Hydrants | \$361,481 | \$14,773 | \$277,367 | \$392,651 | \$372,795 |
| Customers | \$3,492,155 | \$1,926,000 | \$1,517,021 | \$4,278,417 | \$1,895,620 |
| SUBTOTAL | \$58,736,771 | \$9,804,947 | \$41,525,451 | \$71,582,195 | \$57,660,456 |
| TOTAL | \$58,933,626 | \$9,804,947 | \$41,722,307 | \$71,779,050 | \$57,857,311 |

Table 22 summarizes the totals for original cost, accumulated depreciation, net asset values, replacement values and net replacement values for the Hingham service area only, with respect to allocation factors. The *SUBTOTAL* accounts for the Hingham service area's depreciated assets. The *TOTAL* consists of depreciated assets as well as Organization and Land & Land Rights.

Table 22 - Hingham Region Totals with Respect to Accounts

| Account | Original Cost | Accumulated Depreciation | Net Asset Value | Replacement Value | Net Replacement Value |
|-----------------------------------|---------------------|--------------------------|---------------------|---------------------|-----------------------|
| Source of Supply Plant | \$5,091,008 | \$750,861 | \$4,143,994 | \$6,550,007 | \$5,547,040 |
| Pumping Plant | \$2,585,302 | \$573,180 | \$1,818,389 | \$3,403,979 | \$2,583,717 |
| Water Treatment Plant | \$9,173,155 | \$2,159,281 | \$6,771,694 | \$11,738,313 | \$8,715,880 |
| Transmission & Distribution Plant | \$38,395,150 | \$4,395,626 | \$27,274,353 | \$45,611,478 | \$38,918,198 |
| General Plant | \$3,492,155 | \$1,926,000 | \$1,517,021 | \$4,278,417 | \$1,895,620 |
| SUBTOTAL | \$58,736,771 | \$9,804,947 | \$41,525,451 | \$71,582,195 | \$57,660,456 |
| TOTAL | \$58,933,626 | \$9,804,947 | \$41,722,307 | \$71,779,050 | \$57,857,311 |

Table 23 shows the net asset values and the replacement values for the Hingham service area and Aquarion's entire plant. The Hingham service area is currently worth \$41,722,307.

Replacement of the Hingham service area would cost \$71,779,050. The total plant is currently worth \$51,309,415. Total plant replacement would cost \$89,755,636.

Table 23 - Net Asset Value and Replacement Value

| | Hingham | Total Plant |
|-------------------|--------------|--------------|
| Net Asset Value | \$41,722,307 | \$51,309,415 |
| Replacement Value | \$71,779,050 | \$89,755,636 |

Acquisition Impacts to Existing Customers

A simple rate study was performed to demonstrate the potential impact of financing the acquisition of Aquarion and repayment of the debt via water rate revenue. If recovery of the acquisition were to be solely allocated to rates, and the total purchase price was the net asset value of the Hingham service area, the HMLP would have to increase water rates by 41% in 2009. This is based on Aquarion's current rate revenue stream, and a \$41,722,307 G.O. bond issuance in 2009. We have assumed that the bond would be issued over a 20-year term and an interest rate of 6%. Table 24 shows what the HMLP's annual revenue requirements, debt service payments, and annual rate increases would be for the next five years.

Table 24 - Acquisition of Hingham Service Area - Rate Impact using Net Asset Value

| | 2009 |
|---|-------------|
| Annual Rate Revenues | \$9,023,765 |
| Debt Service Payment | \$3,728,479 |
| Annual Rate Increase | 41% |
| Note: Rate Revenues based on FY2006 rate filings assuming 3% growth and 81% allocation to Hingham Service area. | |

If the Hingham service area were to be purchased at the net replacement value of \$71,779,050, rates would increase 57% in 2009. Table 25 shows the annual rate revenues, debt service payment, and resulting annual rate increase.

Table 25 - Acquisition of Hingham Service Area - Rate Impact using Net Replacement Value

| 2009 | |
|---|-------------|
| Annual Rate Revenues | \$9,023,765 |
| Debt Service Payment | \$5,170,371 |
| Annual Rate Increase | 57% |
| Note: Rate Revenues based on FY2006 rate filings assuming 3% growth and 81% allocation to Hingham Service area. | |

It is important to note that this analysis does not take into account the current condition of the system and any necessary capital improvements. Additionally, the annual revenue requirement is strictly based on the operating expenses currently incurred by Aquarion. However, based on the information obtained throughout this study, we have concluded that:

The Water Treatment Facility located in Hingham appears to be operating without major issues and seems to be in good condition. In Hingham alone, there has been significant customer growth over the last 5 years and the plant operates close to capacity at peak days. The main focus for future capital improvements would have to be the distribution system which is relatively old and consists of several undersized water mains. There have been some water complaints over the years and it is likely that significant capital expenditures would be required over the foreseeable future.

In regard to any operating cost savings, it is difficult to assess to what extent HMLP would be able to run the facility and maintenance of the distribution system at lower costs. Electric line crews and water maintenance staff can not be easily substituted for each other. Consequently, we see operating cost savings in case of an acquisition of the water system as unlikely. The only exception would likely be the provision of combined accounting, management, and billing functions.

Legal Implications

Based on the legal opinion provided by *Rubin and Rudman LLP*, the only feasible approach for the HMLP to acquire, manage, and operate a water system which serves customers at retail outside of Hingham is through the special legislation process. The HMLP, as a municipal light plant, does not possess the authority to acquire and operate a water system under G.L. c. 164 and the statutory provisions authorizing towns to acquire, operate, and maintain such systems.

Cities and towns derive their authority to acquire and operate water systems under the provisions of G.L. c. 40. While G.L. c. 40 may provide sufficient authority for the Town of Hingham to acquire Aquarion's water system to service its customers, it does not allow for the Town of Hingham to service the Towns of Hull and North Cohasset, or for the HMLP to operate and maintain the system.

The establishment of a municipal water system requires Town Meeting approval and because the Town of Hingham is already being served by another water company, requirements of G.L. c. 40, § 38 must also be met. G.L. c. 40, § 38 requires authorization by the Board of Selectmen, ratified by a majority vote at the Town Meeting, to acquire water rights for the purposes of supplying water to their inhabitants. While towns may enter contracts to sell water to other towns, G.L. c. 40, § 38 does not authorize municipal water departments to sell water directly to the inhabitants of other towns. Rather, the water department, through the town, may sell the water to a neighboring town. That town, through its water department, may distribute the water to its inhabitants.

Towns may incur debt for purchasing a water system needed for supplying the city, town, or district and its inhabitants with water. While G.L. c. 44, § 8 would allow The Town of Hingham to incur debt for establishing a water system, this statute would not necessarily allow the Town of Hingham to acquire a system for the purposes of serving customers in Hull and North Cohasset as well.

G.L. c. 40, § 39E provides for management of the water system by either an elected Board of Commissioners or the town's Board of Selectmen. Thus, the water department would not necessarily be under the HMLP Board's authority without additional necessary approvals. For instance, the Town could form a Board of Public Works ("BPW"), which would oversee the electric and water operations. The HMLP Board could serve as the BPW and the HMLP General Manager could serve as the superintendent.

The formation of a BPW requires Town Meeting approval initiated by either a petition of ten percent of the qualified voters or a special town meeting. If the Town voted to establish a BPW, the HMLP, under G.L. c. 40 would fall under its direction and the BPW would replace the HMLP Board pursuant to G.L. c. 41, § 69D. The selectmen could serve as the BPW or could appoint the members to such board upon Town Meeting approval. Here, there is no guarantee the selectmen would appoint the HMLP Board members to serve on the BPW. As such, only special legislation would guarantee that the water department falls under the direction and control of the HMLP and prove the requisite authority to serve customers in Hull and North Cohasset.

Water could be supplied to customers in multiple towns through the formation of a regional water department or water and sewer commission. Such authority could be obtained by following the G.L. c. 40N process or directly through special legislation.

G.L. c. 40N, known as the "Model Water and Sewer Reorganization Act," authorizes towns, upon the vote at a Town Meeting, to establish autonomous water and sewer commissions. Section 8 of this provision allows the commission to, "Sell water....to any person, private or public corporation or public instrumentality or municipality, including the municipality, the commonwealth and the federal government when necessary or convenient for the operation of the water works system or sewer works system." Because this section does not necessarily limit service to residents within the town's limits, an argument could be made that the Town of Hingham could distribute water at retail to customers in the Towns of Hull and North Cohasset direction, especially if Aquarion will sell the entire system, and not just the portion of the system and rights to serve Hingham residents only. In that situation, it could be argued that the provision of service to residents of Hull and North Cohasset is necessary or convenient for the operation of the water works system.

While regional water and sewer commissions have broad statutory authority, the HMLP would not have complete control over the operation and maintenance of the water department. The process is also cumbersome, which would require the cooperation of member towns and ultimately special legislation, as well as some additional preliminary steps. For these reasons, special legislation would be the most practicable way for the HMLP to go about acquisition of a private water system.

The special legislation process could be used for the HMLP to obtain the requisite authority to acquire, operate and manage the Aquarion water system and to serve customers outside of the Town of Hingham with or without the formation of a regional water district. The special legislation could specify the terms of any such arrangement, including the authorization for financing and other issues. This approach would give the HMLP the most flexibility to tailor acquisition, service territory, financing, and governance arrangements. To utilize the special legislation process, the HMLP would need to obtain town approval to petition the legislature. Also, because the special legislation is a political process, the HMLP would need the support of the Towns of Hull and North Cohasset for its successful passage.

Case Study - Grafton Water District

In 1988 the Town of Grafton, Massachusetts formed its own water district by legislative right (under the provisions of G.L. c. 40). The district attempted to negotiate a sale price with the private water company, The Massachusetts American Water Company. The town believed the Massachusetts American Water Company took poor care of the system and their rates were too high.

The Massachusetts American Water Company and the Grafton Water District were unable to negotiate a fair market value price for the utility. The Massachusetts American Water Company valued their system at \$2.5 million, while the Grafton Water District only offered them \$1 million for it. After much debate over a selling price, the Grafton Water District decided to invoke their legislative right and take The Massachusetts American Water Company (through eminent domain law).

The Massachusetts American Water Company believed the district took their system unjustly and for much less than fair market value. In turn, the company took the district to court and was awarded over \$5 million for their system. The depreciated reproduction cost method was used to determine this sale price awarded to The Massachusetts American Water Company. Depreciated reproduction cost is the cost of replacement less depreciation, also known as net replacement cost. The Grafton Water District was required to pay The Massachusetts American Water Company this amount and the taking was final.

Once the acquisition was finalized, the Grafton Water District hired a private company to come in and assume operations. They spent a year working with this company before hiring their own employees to operate and maintain the system.

Case Study - Dedham/Westwood Water District

The Dedham/Westwood Water District was formed in 1985 and negotiated a sale of the Dedham Water Company that same year. Negotiations took place between Dedham Water Company's parent company, American Water Works, and the district.

The district, for many years, continued to have American Water Works operate the system. The transition was seamless in the sense that the employees remained employees of American Water Works. This lasted up until 2006 when the contract expired and American Water Works did not wish to renew it. As a result, employees of American Water Works were laid off and immediately hired by the district to run the system.

Recommendations from Case Studies

The municipality first must decide which legal process to pursue in the effort to form a water district (as described in the *Consultation with Rubin and Rudman LLP, Attorneys at Law* section). If the newly formed water district and Aquarion can negotiate a sale price, the legalities of taking the utility by eminent domain can be avoided. This is a favorable route for the municipality because it eliminates lengthy court proceedings involving a formal "order of taking". Additionally, in a court case, the municipality may become a victim of interpretations of the jury. Because no method of determining fair market value in the case of

water utilities has been established, this may simply result in a financial disadvantage on behalf of the municipality.

Unfortunately, a sale price cannot always be agreed upon, in which case the municipality is legally entitled to take the utility through the aforementioned eminent domain law. This results in both a lengthy and costly process, as evidenced by the Grafton Water District.