#### STATE OF NEW HAMPSHIRE BEFORE THE PUBLIC UTILITIES COMMISSION

## AQUARION WATER COMPANY OF NEW HAMPSHIRE, INC. DW 10-\_\_\_

### 2010 WATER INFRASTRUCTURE AND CONSERVATION ADJUSTMENT FILING

DIRECT TESTIMONY OF

CARL MCMORRAN

NOVEMBER 1, 2010

1	Q.	Mr. McMorran, please state your name and business address.
2	A.	My name is Carl McMorran, and my business address is 1 Merrill Industrial
3		Drive, Hampton, New Hampshire 03842.
4		
5	Q.	By whom are you employed and in what capacity?
6	A.	I am the Operations Manager for Aquarion Water Company of New Hampshire,
7		Inc. ("Aquarion" or the "Company").
8		
9	Q.	Please describe your educational background.
10	A.	I have a Bachelor's Degree in Biology from Bucknell University and a Master of
11		Environmental Science Degree from Miami University. I have also taken
12		graduate level courses in business administration, and attended (and presented at)
13		many water works seminars and conferences.
14		
15	Q.	Please describe your business/professional background.
16	A.	I have worked for Aquarion since November 2008. As Operations Manager, I
17		oversee all operations, maintenance, capital improvement and administrative
18		activities for the New Hampshire division.
19		
20		From April 1999 through October 2008, I served as Production Manager for the
21		Struthers Division of Aqua Ohio. I supervised a 6 MGD surface water treatment
22		plant, source water protection and reservoir management activities, and operations
23		and maintenance for major distribution facilities (tanks, boosters, etc.). I also had

1		interim supervisory duties at other Aqua Ohio production facilities and acted as
2		operations consultant for the City of Campbell's (Ohio) water system.
3		
4		From August 1990 through March 1999, I served as Water Quality / Technical
5		Services Manager for the Bangor (Maine) Water District. I supervised source
6		water protection and watershed management activities, water quality laboratory,
7		regulatory compliance, cross connection, metering and service activities.
8		
9		From June 1982 through July 1990, I worked as an Environmental Protection
10		Specialist for the Susquehanna River Basin Commission, which regulates water
11		resources in Maryland, New York and Pennsylvania. I conducted water quality
12		assessment surveys, water pollution control and hydropower regulation activities.
13		
14		I currently hold Class IV Water Treatment and Distribution licenses in both New
15		Hampshire and Maine. I previously held a Class IV Water System license in Ohio
16		and a Class A Water System license in Pennsylvania. I also held a Lake Manager
17		certification from 1995 through 2008.
18		
19	Q.	Have you previously testified before the New Hampshire Public Utilities
20		Commission ("PUC" or the "Commission")?
21	A.	I have not provided live testimony before the PUC, but I was responsible for
22		preparing the Company's 2009 filing for its water infrastructure and conservation
23		adjustment ("WICA") surcharge in Docket DW 09-211.

#### Q. What is the purpose of your testimony in this proceeding?

- A. My testimony supports the Company's 2010 WICA filing and discusses the projects that are included in that filing for the years 2011 through 2013 as well as the results of the projects constructed in 2010, as approved in the 2009 WICA proceeding. The projects I will discuss are outlined in Attachment CM-1. Troy Dixon will discuss the calculation of the rate impact of the WICA surcharge for
- 8 these projects.

#### 10 Q. What is the basis for the Company's filing in this case?

- 11 A. The settlement agreement in the Company's last rate case, Docket DW 08-098,
- provided as follows in Section II.H.2:

The Company agrees to file a three year projected budget of proposed WICA eligible projects no later than November 1 of each year. Each such budget shall show projects broken down into three years. Year 1 projects are those proposed to be constructed in the succeeding twelve month period. Year 2 projects are those proposed to be constructed in the next twelve month period. Year 3 projects are those proposed to be constructed in the twelve months following Year 2. Year 3 projects shall be provided for advisory purposes and discussion. Year 2 projects shall be provided for review and approval by the Commission. Year 1 projects shall be provided for final review and informational purposes. Staff or any party may request a hearing prior to the Commission's granting approval for a project to become eligible for cost recovery through the WICA. The determination as to whether to hold a hearing on the eligibility of any project for WICA cost recovery shall be at the discretion of the Commission.

Accordingly, approximately one year ago, in Docket DW 09-211, the Company submitted its first three year list of projects proposed for WICA eligibility. By Order 25,065 dated January 15, 2010, the Commission approved the proposed

projects for construction in 2010 and gave preliminary approval to the projects proposed for 2011. Projects anticipated for construction in 2012 were provided for preliminary informational purposes. Since that time, the Company has constructed the projects approved for 2010. Specifically, as of September 30, 2010, the Company has replaced: 2,200' of 8" main on Atlantic Avenue, 793 customer meters, five services, three hydrants, two valves and one production meter. These completed projects are each listed in Attachment CM-1 and are the subject of the proposed surcharge as detailed in Mr. Dixon's testimony.

A.

# Q. Was there any change in the scope of the projects constructed in 2010 from what was approved by the Commission in Docket DW 09-211?

The general scope of projects was the same as approved by the PUC, but some quantities of the project categories varied due to financial and schedule constraints. First, the length of main replacement was reduced to keep the project under the approved budget amount of \$588,000. Specifically, the Atlantic Avenue main replacement was reduced from the proposed 3,550' to 2,200' actually constructed because contractor bids came in much higher than the Company's projections. Second, quantities of other project categories are also less than expected due to the short nine-month period for spending compared to the twelve-month figures in the Company's original proposal. Only 793 meters (at a cost of \$104,061) of the 1,002 proposed meters (at a cost of \$125,000) were installed. Only three hydrants, five services and two valves were actually replaced, compared to twelve, eight and three, respectively, as proposed. Thus,

the final costs set forth in Attachment TD-1 to Mr. Dixon's testimony are 80% of the Company's projected costs due, in part, to the nine-month time frame. However, average costs for certain project categories were also higher than projected, which diluted the available funding for these projects. Accordingly, while the nine-month time constraint resulted in less spending by the Company, that effect was in part offset by higher project costs. The Company will provide the supporting invoices and an accounting of the project costs to the Commission staff for its review and audit.

A.

# Q. Does Attachment CM-1 also update the three year list of proposed WICA projects?

Yes, Attachment CM-1 also provides the most recent list of projects proposed for the years 2011 through 2013. Similar to the list provided in Docket DW 09-211, the current proposal includes additional main replacements on Atlantic Avenue and Church Street as well as meter, service, hydrant and valve replacements. The proposed main replacement projects were prioritized from 56 potential main replacement projects based on main break history, pipe age/useful life, material integrity, criticality to system function, water quality problems, hydraulic capacity, schedule coordination with other projects (e.g., road paving or sewer projects), water utility staff input and concerns, and capital budget constraints. The list of priorities is revisited on an annual basis. The proposed WICA projects also include annual replacements of six hydrants, eight service lines and two to four distribution valves. In addition, between 700 and 1,000 direct read meters

will be replaced with radio read meters. The Company is on pace to complete the conversion to radio read meters by late 2012 or early 2013. Meters to be replaced are determined based on required periodic meter replacements per PUC meter test schedules and by capital budget constraints. Attachment CM-1 provides further detail with respect to the different prioritization factors utilized in determining the associated infrastructure replacements. The implementation of the WICA pilot program continues to allow the Company to target main replacements at a faster rate than would have otherwise been possible in its absence.

- Q. Is there any difference between the projects listed on Attachment CM-1 for 2011 and those preliminarily approved by the Commission in Docket DW 09-
- **211?**
- 13 A. Yes. The proposed water main replacements have been shifted based on revised
  14 project cost projections and capital budget constraints. Production meters are
  15 itemized separately from control valves. Projected costs for service line and valve
  16 replacements are higher, reflecting the higher average cost observed over the past
  17 year.

- Q. What action is the Company requesting with regard to the projects shown on Attachment CM-1?
- A. With regard to the projects constructed in 2010, the Company is requesting that the PUC approve a surcharge consistent with that proposed by Mr. Dixon in his testimony. With regard to the projects listed for 2011, the Company is requesting

that the Commission approve these projects for inclusion in the WICA to be effective as of January 1, 2012, subject to a prudence review of the final costs. With regard to the projects listed for 2012, the Company is requesting that the Commission preliminarily approve these proposed projects for the WICA program, subject to the Commission's final review next year. Finally, with regard to the projects listed for 2013, the Company is not requesting any action and is simply providing these projects for informational purposes only.

- Q. Does this conclude your testimony?
- 10 A. Yes.

## AQUARION WATER COMPANY OF NEW HAMPSHIRE WATER INFRASTRUCTURE AND CONSERVATION ADJUSTMENT

November 1, 2010

CONTACT:	Carl McMorran, Operations Manager
	cmcmorran@aquarionwater.com
	603-926-3319 ext 116
Contents:	
Project Summary	Estimated capital expenses by major category
	All projected figures are estimates.
Customer Meters	Aquarion is currently replacing direct read meters with radio meters, and expects to be fully converted to radio meters by late 2012 or early 2013.
	700 to 1,000 meters will be replaced each year until the conversion is completed.
Hydrants	Aquarion has historically replaced 12 hydrants per year, on average. However, rising costs are reducing this figure. The 2010 total is also low because it only covers nine months, instead of a full year.
Services	Aquarion has historically replaced 8 services per year, on average. However, rising costs are reducing this figure. The 2010 total is also low because it only covers nine months, instead of a full year.
Mains	Aquarion and Tata & Howard, our consulting engineer, evaluated potential 56 main replacement projects and developed priorities based on the factors below. Project factors were rated on a scale of 0 (low) to 3 (high), then summed by project to develop a relative priority. Projects that scored high were then placed on the WICA schedule based on schedule constraints, staff and management considerations, and the estimated project cost compared to Aquarion's overall capital budget.
Main Break History	How frequently do main breaks occur on this section of main compared to the system as a whole?
Pipe Age / Useful Life	How old is the pipe compared to its theoretical useful life and to other pipes in the system?
Material Integrity	Is pipe material robust (e.g., ductile iron) vs. other materials (e.g., asbestos cement) that are weaker?
Critical System	Is the particular section of pipe critical to providing fire flows or transmission functions such that its failure
Component	would cause a significant disruption of service?
Water Quality Issues	Does the section of main contribute to discolored water, loss of residual disinfectant or other water quality problems?
Hydraulic Capacity	Does the section of main restrict needed fire flows or cause undesired pressure losses?
Scheduled Work Coordination	Can the project be scheduled to optimize conflicts or synergies with municipal paving schedules, sewer work or other utility projects?
Staff Concerns / Other Factors	Problems identified by staff or other sources that don't fall into the above categories
Main Replacement Project Management	Main replacement projects are split into design and construction phases. Due to the amount of time required for surveys, design, permitting and other design phase factors, these activities are typically scheduled for the year prior to construction. Attempts to squeeze design and construction into a single calendar year have caused significant scheduling and budgeting problems. The design phase typically cannot be completed early enough in the year to allow for a sufficient construction period with respect to cold weather, road opening bans and year end accounting constraints.
Control Valves	Includes pressure reducing valves and other control valves; none are currently scheduled for replacement, but a breakdown or failure could occur that would require a replacement.
Valves	Aquarion has historically replaced 3 valves per year, on average. The 2010 total is also low because it only covers nine months, instead of a full year.

#### Aquarion Water Company of New Hampshire Water Conservation and Infrastructure Adjustment Project Summary

November 1, 2010

		2010	2011	2012	2013		Pro	ject Totals
1	CUSTOMER METERS	\$ 104,061.21	\$ 125,000	\$ 122,000	\$ 100,000		\$	451,061
2	HYDRANTS	\$ 11,773.90	\$ 20,000	\$ 20,000	\$ 20,000		\$	71,774
3	SERVICES	\$ 15,796.53	\$ 27,000	\$ 27,000	\$ 27,000		\$	96,797
	MAIN REPLACEMENTS							
4	Atlantic Avenue - Mill Road to House 106	\$ 574,019.91 <sup>(a)</sup>	\$ -	\$ -	\$ -		\$	574,020
5	Atlantic Avenue - House 106 to Woodland Road	\$ -	\$ 696,000 <sup>(b)</sup>	\$ -	\$ -		\$	696,000
6	Church Street - Highland Avenue to William Street	\$ -	\$ 10,000 <sup>(c)</sup>	\$ 280,000	\$ -		\$	290,000
7	Atlantic Avenue - Woodland Road to H539	\$ -	\$ -	\$ 20,000	\$ 296,000		\$	316,000
8	Atlantic Avenue - H539 to H540	\$ -	\$ -	\$ -	\$ 20,000	(d)	\$	20,000
9	CONTROL VALVES	\$ -	\$ -	\$ -	\$ -		\$	-
10	VALVES	\$ 14,479.76	\$ 8,000	\$ 8,000	\$ 8,000		\$	38,480
11	PRODUCTION METERS	\$ 1,414.32	\$ 8,000 <sup>(e)</sup>	\$ 2,000	\$ 2,000		\$	13,414
	ANNUAL TOTALS	\$ 721,545.63	\$ 894,000	\$ 479,000	\$ 473,000		\$	2,567,546

- All numbers are estimates
  (a) 2010 total for Item 1 includes design costs from 2009.
  (b) \$93,519 in 2009 & 2010 design costs to be added to project cost
  (c) \$14,300 in 2010 design costs to be added to project cost
  (d) Estimated 2014 construction costs = \$395,000
  (e) \$4,935 in 2010 carried forward into 2011 (project put into service in last quarter of 2010)

November 1, 2010

#### **WICA Customer Meter Replacements**

Account 334

Α		В	С		D		G	Н
		COMP	LETED PROJECT	S				
	ME	TER SIZE	ACTUAL NUMBER	cos	Γ/METER	Pl	ROJECT COST	COMPLETION DATE
2010								
Jan - Sep	5/8-inch		689	\$	130.74	\$	90,077.11	9/30/2010
	1-inch		56	\$	134.03	\$	7,505.62	9/30/2010
	1.5-inch		13	\$	125.74	\$	1,634.56	9/30/2010
	2-inch		35	\$	138.40	\$	4,843.92	9/30/2010
				201	0 TOTAL	\$	104,061.21	
		PROP	OSED PROJECTS	S				
	ME	TER SIZE	ESTIMATED NUMBER		TIMATED Γ/METER		ESTIMATED ROJECT COST ased on 2009 \$)	ESTIMATED COMPLETION DATE
2011								
Oct - Sep	5/8-inch		819	\$	140	\$	114,600	9/30/2011
	1-inch		40	\$	140	\$	5,600	9/30/2011
	1.5-inch		10	\$	130	\$	1,300	9/30/2011
	2-inch		25	\$	140	\$	3,500	9/30/2011
				201	1 TOTAL	\$	125,000	
2012								
Oct - Sep	5/8-inch		827	\$	140	\$	115,750	9/30/2012
	1-inch		30	\$	140	\$	4,200	9/30/2012
	1.5-inch		5	\$	130	\$	650	9/30/2012
	2-inch		10	\$	140	\$	1,400	9/30/2012
				201	2 TOTAL	\$	122,000	
2013								
Oct - Sep	5/8-inch		706	\$	140	\$	98,770	9/30/2013
	1-inch		3	\$	140	\$	420	9/30/2013
	1.5-inch		3	\$	130	\$	390	9/30/2013
	2-inch		3	\$	140	\$	420	9/30/2013
					3 TOTAL	\$	100,000	
			2011	- 201	3 TOTAL	\$	347,000	

COMMENTS

### November 1, 2010

#### **WICA Hydrant Replacements**

Account 335

Α	В	С	D		E	F
	COMPLI	ETED PROJECTS	I	T		
Hydrant # 2010	HYDRANT LOCATION	Town	Number	ACTUAL PROJECT COST		COMPLETION DATE
Jan - Sep	Scheduled Replacements		1			
H518	Hobbs Road	North Hampton		\$	2,466.14	30-Jun-2010
	Emergency / Reactive Replacements		2			
H025	Ocean Boulevard	Hampton		\$	3,626.20	30-Apr-2010
H908	Kenphil Avenue	Rye		\$	5,681.56	03-Feb-2010
		2010 TOTAL	3	\$	11,773.90	
	PROPO	SED PROJECTS				
Hydrant #	HYDRANT LOCATION	Town	Number		STIMATED	ESTIMATED COMPLETION DATI
2011						
Oct - Sep	Scheduled Replacements	To be determined	4	\$	12,000	9/30/2011
	Probable number of hydrant replacements	s that will identified b	y Nov 1, 2	010		
	Emergency / Reactive Replacements	To be determined	2	\$	8,000	9/30/2011
	Hydrants that must be replaced due to un	predicted damage o	r malfuncti	on		
			6	\$	20,000	
2012						
Oct - Sep	Scheduled Replacements	To be determined	4	\$	12,000	9/30/2012
	Probable number of hydrant replacements	s that will identified b	y Nov 1, 2	011		
	Emergency / Reactive Replacements	To be determined	2	\$	8,000	9/30/2012
	Hydrants that must be replaced due to un	predicted damage o	r malfuncti	on		
			6	\$	20,000	
2013						
Oct - Sep	Scheduled Replacements	To be determined	4	\$	12,000	9/30/2013
	Probable number of hydrant replacements	that will identified b	y Nov 1, 2	011		
	Emergency / Reactive Replacements	To be determined	2	\$	8,000	9/30/2013
	Hydrants that must be replaced due to un	predicted damage o	r malfuncti	on		
			6	\$	20,000	
		2011 - 2013 TOTAL		\$	60,000	

COMMENTS No specific hydrants have been identified yet for replacement.

November 1, 2010

WICA Services Account 333

Α	В	С	D	E	F	G	Н
		COMPLE	TED PROJECTS	<b>i</b>			
#	SERVICE ADDRESS	Town	NUMBER	LENGTH (FEET)	PIPE DIAMETER (INCHES)	PROJECT COST	COMPLETION DATE
2010							
	Scheduled Replacements		4				
345001050	28 Hobbs Road	North Hampton			1	\$ 2,185.55	5/3/2010
345001055	172 Mill Road	Hampton			3/4	\$ 1,106.33	5/27/2010
345001075	12 Morningside Drive	Hampton			3/4	\$ 6,950.54	5/26/2010
345001104	5 Morningside Drive	Hampton			3/4	\$ 3,266.87	5/27/2010
	Emergency / Reactive Replacements		1				
345001256	51 Huckleberry	Hampton			1	\$ 2,287.24	9/1/2010
		2010 TOTAL	5			\$ 15,796.53	
		PROPOS	ED PROJECTS				
#	SERVICE ADDRESS	Town	NUMBER	LENGTH (FEET)	PIPE DIAMETER (INCHES)	ESTIMATED PROJECT COST	ESTIMATED COMPLETION DATE
2011				(- ==-)	(		
	Scheduled Replacements	To be determined	5	50	3/4	\$ 15,000	9/30/2011
	Probable number of service replacemen	nts that will identified	by Nov 1, 2010				
	Emergency / Reactive Replacements	As needed	3	50	3/4	\$ 12,000	9/30/2011
	Services that must be replaced due to u	inpredicted damage	or malfunction				
		2011 TOTAL	8		2011 TOTAL	\$ 27,000	
2012							
	Scheduled Replacements	To be determined	5	50	3/4	\$ 15,000	9/30/2012
	Probable number of service replacemen	nts that will identified	by Nov 1, 2010				
	Emergency / Reactive Replacements	As needed	3	50	3/4	\$ 12,000	9/30/2012
	Services that must be replaced due to u	inpredicted damage	or malfunction				
		2012 TOTAL	8		2012 TOTAL	\$ 27,000	
2013							
	Scheduled Replacements	To be determined	5	50	3/4	\$ 15,000	9/30/2013
	Probable number of service replacemen	nts that will identified	by Nov 1, 2010				
	Emergency / Reactive Replacements	As needed	3	50	3/4	\$ 12,000	9/30/2013
	Services that must be replaced due to u	inpredicted damage	or malfunction				
		2013 TOTAL	8		2013 TOTAL	\$ 27,000	
					2011 - 2013 TOTAL	\$ 81,000	

COMMENTS No specific services have been identified yet for replacement. Most of these are identified in the fall when seasonal meters are removed.

Aquarion Water Company of New Hampshire

Projects	
lacement P	
fain Rep	
WICA	

November 1, 2010

High rank in main break listory, pipe age  $\prime$  useful life, material integrity and critical system component.

High rank in main break history, pipe age / useful life, material integrity, critical system component and water quality issues.

High rank in main break history, pipe age/useful life, material integrity, critical system component and water utility staff concerns.

High rank in main break history, pipe age / useful life, material integrity, hydraulic capacity and water quality issues.

High rank in main break history, pipe age / hydraulic capacity and water quality issues.

PRIORITIZATION FACTORS

Aquarion Water Company of New Hampshire, Inc. Docket No. DW 10 - \_\_\_ Attachment CM-1 Page 7 of 9

#### Aquarion Water Company of New Hampshire

#### November 1, 2010

#### Control Valves

PROJECT NAME	Town	TOTAL ESTIMATED COST	Actual 2010	Carryover to 2011	Projected 2011	Projected 2012	Projected 2013	Comments
None		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	None are currently scheduled for replacement
	TOTALS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	

November 1, 2010

WICA Valve Replacements Account 331

Α	В	С	D		Е	F
	COMPL	ETED PROJECTS				
Valve #	VALVE LOCATION	Town			ACTUAL COST	COMPLETION DAT
2010						
	Scheduled Replacements		1			
GV0936	Douglas Circle	Rye		\$	2,044.06	5/6/2010
	Emergency / Reactive Replacements		1			
GV0200	Lafayette Road	Hampton		\$	12,435.70	1/23/2010
		2010 TOTAL	2	\$	14,479.76	
	PROPO	SED PROJECTS				
Value #	VALVE LOCATION	Town	Number		STIMATED	ESTIMATED COMPLETION DAT
Valve # 2011	VALVE LOCATION	Town	Number	PK	OJECT COST	COMPLETION DAT
	Scheduled Replacements	To be determined	3	\$	6,000	9/30/2011
				Ť	-,	
	Emergency / Reactive Replacements	As needed	1	\$	2,000	9/30/2011
	Valves that must be replaced due to unpre	edicted damage or m	alfunction			
				\$	8,000	
2012						
	Scheduled Replacements	To be determined	3	\$	6,000	9/30/2012
	Probable number of hydrant replacements	that will identified b	y Nov 1, 20	10		
	Emergency / Reactive Replacements	As needed	1	\$	2,000	9/30/2012
	Valves that must be replaced due to unpre	edicted damage or m	alfunction			
				\$	8,000	
2013						
	Scheduled Replacements	To be determined	3	\$	6,000	9/30/2013
	Probable number of hydrant replacements	that will identified b	y Nov 1, 20	)11		
	Emergency / Reactive Replacements	As needed	1	\$	2,000	9/30/2013
	Valves that must be replaced due to unpre	edicted damage or m	alfunction			
				\$	8,000	
		2011 - 20	13 TOTAL	\$	24,000	

COMMENTS:

Aquarion Water Company of New Hampshire, Inc. Docket No. DW 10 - \_\_\_ Attachment CM-1 Page 9 of 9

#### Aquarion Water Company of New Hampshire

#### November 1, 2010

#### **Production Meters**

PROJECT NAME	Town	ESTI	OTAL MATED OST	Actual 2010	Carryover to 2011	Projected 2011	rojected 2012	ojected 2013	Comments
Well 16 Meter Chamber	Stratham	\$	1,414	\$ 1,414.32	\$ -	\$ -	\$	\$ -	
Replace Tide Mill PRV Meter	Hampton	\$	6,000	\$ -	\$ 4,935	\$ 1,065	\$	\$ -	
Future projects		\$	6,000	\$ -	\$ -	\$ 2,000	\$ 2,000	\$ 2,000	Reactive capital replacements and repairs.
	TOTALS	\$	13,414	\$ 1,414.32	\$ 4,935	\$ 3,065	\$ 2,000	\$ 2,000	