

**MEETING OF THE ORLEANS  
BOARD OF WATER/SEWER COMMISSIONERS  
February 3, 2010**

**10 MAY 28 PM 4:04**

A meeting of the Board of Water and Sewer Commissioners was held Wednesday, February 3, 2010 in the Nauset Room, Town Hall:

Those present were Kenneth McKusick, Judith Bruce and Jimmy Dishner of the Board, associate members Ken Rowell and Leonard Short, Mark Carron, Board of Selectmen liaison, Ed Barr, Finance Committee liaison, Lou Briganti, Water Superintendent. Absent were Robert Rich and Ann Hodgkinson of the Board. Leonard Short and Kenneth Rowell were asked to be voting members in the absence of Robert Rich and Ann Hodgkinson.

Kenneth McKusick called the Board of Water and Sewer Commissioners meeting to order at 1:30 p.m.

**MINUTES**

**Jimmy Dishner made a motion seconded by Leonard Short to approve the minutes of the meeting of January 20, 2010 as written. The vote by the Board was 5-0-0.**

**SUPERINTENDENT'S REPORT**

- See attached report

**NEW BUSINESS**

**COMMITMENTS/ABATEMENTS/REFUNDS**

**A motion was made by Judith Bruce seconded by Jimmy Dishner to commit for the month of January 2010 to rate \$0.00, to services \$400.00, to usage \$0.00, to installations \$0.00 and to added billing \$1,129.65. The vote by the Board was 5-0-0.**

**WATER BILLING PROCEDURES**

The Board of Water and Sewer Commissioners were presented with a draft SOP for water billing for their approval. Several suggestions were made for changes and the Board asked for it to be brought back with changes for further review at their next regularly scheduled meeting.

**A motion was made by Judith Bruce seconded by Kenneth Rowell to establish a Board policy to request that the Tax Collector not take possession of property due to an unpaid water lien. The vote by the Board was 5-0-0.**

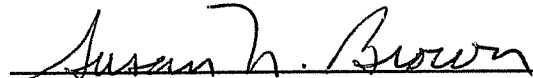
**OTHER BUSINESS**

Louis Briganti will give a presentation for the proposed 5% water rate increase at the public hearing during the Board of Selectmen's meeting on February 24, 2010.

## ADJOURNMENT

**At 3:12 p.m., a motion was made by Leonard Short and seconded by Judith Bruce to adjourn the meeting. The vote by the Board was 5-0-0.**

The next regular meeting is scheduled for March 3, 2010 at 1:30 p.m.

  
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Secretary, Board of Water/Sewer Commissioners

**Board of Water & Sewer Commissioners**

**03Feb2010**

**Annual Report**

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**2009 ANNUAL TOWN REPORT**

The year 2009 will long be remembered. It was marked by global economic turmoil and what seemed to be record revenue losses for the Water Department. There was plenty of rain during the spring and summer and just enough rain when we thought demand might increase. June & July consumption figures were the lowest for the entire period of 1995 to 2009. Water withdrawals totaled 327 million gallons - 10 million gallons less than 2008. This pattern was echoed across not only the Cape, but the entire Northeast.

As the year came to a close the Department achieved substantial completion of the new – Well no. 8 construction project. Well no. 8 was permitted by the Massachusetts Department of Environmental Protection (MA DEP) with a five year window to construct. Plans had been submitted to MA DEP within that five year period and construction began in 2008.

The Water Department acted as general contractor for the project and the great majority of construction was performed by our own staff. Because we utilized state-of-the-art equipment, the need for a building was avoided. Costs were further controlled by passionately avoiding engineering assistance.

We anticipate that all work will be completed within the total budget of \$250,000. Conventional work methods could have easily ballooned the cost to 2 to 3 times that figure. In fact, engineering fees could have equaled our total budget. At the time of this writing, we have applied for the final MA DEP inspection and approval to place new – Well no. 8 in service.

The Orleans Water Treatment Plant is nearing five years of operation. It is a state-of the-art facility with ultra filtration membranes designed to remove iron and manganese from the water. The treatment process prevents these metals from entering the distribution system and reaching the consumer's tap. By the close of 2009 the facility had made more than a billion gallons of the *Best Water on the Cape*.

In March of 2010 the manufacturer's warranty for the plant's ultra filtration membranes will expire. Although the membranes are still functioning properly we have decided to move forward with the replacement process. It is impossible to predict when the membranes will fail and industry experts have advised that it would be appropriate to *buy insurance* for the treatment process by replacing one of the three membrane racks in 2010. Having one new membrane rack will allow us to maximize the use of the remaining two racks by using them beyond the warranty period.

## **Board of Water & Sewer Commissioners**

In the face of reduced revenues the Water Department made the decision to slow the rate of Radio Read Meter installations. This was purely a budgetary decision and we hope to return to our normal level of installations next year. Replacing our older meters with Radio Read Meters helps to maintain the accuracy of our meter reading process and maintain current staffing levels. Cautious and conservative spending allowed the Water Department to again close the fiscal year under budget.

On December 1, 2009 The Groundwater Rule became effective. This is a Federal Rule that will require groundwater wells to be sampled and tested for coliform bacteria under certain circumstances. Unfortunately this additional testing could increase the likelihood of a *boil water notice*. The Water Department has submitted disinfection data and plans for facility upgrades to MA DEP hoping to mitigate the need for this additional testing.

Throughout the year the Water Department maintained its system maintenance programs. This includes the inspection, repair and replacement of fire hydrants, system wide flushing in the fall and spring, and valve exercising.

In 2009 we partnered with another Cape Water Department and were awarded \$36,000 from MA DEP's *Water Conservation Grant Program*. The money was used to purchase leak detection equipment that is shared by the two Water Departments. Staff is learning to use the new equipment in order to survey the water system for leaks. We hope to be able to more quickly find and repair leaks - saving water and the associated costs of production.

The Department was also awarded a \$10,000 grant from the Cape Cod Cooperative Extension. This money will be used to enable staff to continue watershed maintenance projects that will help us to comply with our *Wildfire Management Plan*.

As required by the new Town Charter the Board of Water Commissioners reconvened as the Board of Water and Sewer Commissioners in mid 2009. There are 5 members with 2 alternates. The Board devoted significant efforts to the following matters:

- Provided support for the Renewable Energy Committee recommendation for a municipally owned wind turbine in the watershed.
- Achieved Town Meeting approval of the new and updated Water Department By-laws (Chapter 158) in May, 2009.
- Reviewed and analyzed the Department's financials, rate structure and capital plan.
- Obtained Town Meeting approval for the funding needed to begin the membrane replacement project.

We would like to express our appreciation to the Water Department personnel, the other town departments and the residents of the Town of Orleans for their assistance, cooperation and support during the past year.

**Board of Water & Sewer Commissioners**

**Department Statistics**

	2008	2009
Production	337,212,856 gal	327,497,698 gal
Peak Day	7/18/08	8/26/09
	2,309,500 gal	2,015,300 gal
Services	5,164	5,186

Respectfully submitted,  
Board of Water and Sewer Commissioners

**GWR**

*We continue to optimistically await DEP's decision(s).*

*Additional Form D was completed for Facility no. 1 and Well no. 7. Both were submitted to MA DEP in letters dated December 9, 2009. For each facility, Form D and the supportive data were presented for upgraded facilities (not the facilities as they exist today). This was done to take advantage of the current process in the hopes that we could get an engineer to certify (stamp) the documents – and we did. If MA DEP approves these Form D's then we will achieve 4-log certification for each facility, pending the upgrades.*

*The additional Form D for the WTP was completed, certified by an Engineer and submitted to MA DEP SERO on Nov. 17<sup>th</sup>.*

*Ground Water Rule (GWR)*

- Systems that apply for and receive 4-log approval will be required to submit daily calculations of actual-CT (concentration X time) vs. required CT.*
- Continuous monitoring of disinfectant will be required.*
- Disinfectant monitoring must be at the first customer or after the point in treatment where CT is calculated.*
- Daily CT will be calculated using the lowest chlorine residual and the highest flow rate.*
- Falling below the required CT for 2-days in a month will be considered a violation that must be reported to the public within 30 days.*

*No change for the WTP and wells 1, 4, 5 & 6 that supply it. Well nos. 2, 3 & 8 at Facility no. 1 and Well no. 7 will not meet the CT requirement and will be part of triggered monitoring until modifications are made.*

**Meter Reading**

Meter reading was started on January 11 and completed on the 29<sup>th</sup> (14 days).

**Board of Water & Sewer Commissioners**

Close to 60% of the meters are radio read. These readings were collected in 3 days. Of the 5,000 plus readings there were 42 follow ups.

Great job by Susan Brown!!

**NSTAR Right of Way**

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**From:** Bob Rich [robert.rich4@verizon.net]  
**Sent:** Tuesday, January 12, 2010 4:20 PM  
**To:** Kenneth McKusick M.D.; Louis Briganti  
**Cc:** Ann Hodgkinson; Gen. Jimmy Dishner; Judith Bruce; Kenneth Rowell; Leonard Len Short; Myra Suchenicz; Sue Brown  
**Subject:** NStar Herbicide Use-- Summary Comments

Dear Ken et al.,

I have reviewed NStar's 2009 Operational Plan regarding their use of herbicides on power line rights of way and offer the following summary notes:

1. There is no herbicide use permitted in a Zone 1-- i.e. within 400 feet of a public water supply well.
2. "Limited Spray Areas", which apply to Sensitive Areas such as Zone 2's for public water supply wells-- Lower doses of herbicide are applied in such areas.
3. Herbicides have the following key characteristics: mobility (whether and how a herbicide moves in the environment after application); half life (how rapidly a herbicide bio-degrades); toxicity of herbicide and its breakdown products to non-target species of plants and animals.
4. NStar lists the use of a number of commercially available herbicides, which contain one of the following active ingredients: Glyphosate, Fosamine, Metsulfuron-Methyl, Imazapyr, Triclopyr.
5. Of the active ingredients, Fosamine appeared to me to provide the most advantageous characteristic: Low mobility & short half life. Fosamine is the active ingredient in the herbicide Krenite S.

Note: NStar's 2009 Operation Plan did not involve any of the Orleans watershed. The Commission should watch for and review NStar's Plan for 2010 when it becomes available to make sure that our Zone 1's and 2's are being properly treated.

Regards,  
Bob

**Board of Water & Sewer Commissioners**

**Rate Increase**

There will be a public hearing on the proposed 5% rate increase on February 24 at the BOS meeting.

**Tanks 1 & 2**

A meeting to discuss the Tank nos. 1 & 2 - inspection reports with the author (Leo R. Yuskus, Sr VP Haley and Ward, Inc.) is scheduled for Feb. 4<sup>th</sup> with

*The inspection reports of Tank nos. 1 & 2 have just been received from Haley & Ward. This will be a topic for the next Board meeting.*

*Both of our storage reservoirs were inspected on October 15<sup>th</sup>. The inspections were done by Leo R. Yuskus, Sr VP Haley and Ward, Inc.*

**Thank you's**

**The Cape Codder: Letters**

Sat Jan 02, 2010, 08:05 AM EST

**WATER ELVES**

On Christmas Eve Day we went down into our finished basement and discovered it was flooded. We turned the water off but it still kept coming in. We called the police, who were able to contact the water department, and they came almost immediately. Of course, at this point we had visions of no water through the holiday. But thanks to Todd, Rick, Dan and John of the Orleans Water Department, who all gave up their Christmas Eve afternoon with family and friends, the problem was fixed.

We cannot even begin to tell these men and their families how much we appreciate their swift response and successful completion of the problem.

Residents of Orleans, we are very fortunate to have these men in our water department.

Board of Water & Sewer Commissioners

Town of Orleans  
19 School Rd  
Orleans, MA 02653

Jan 25, 2010

Water Department  
Director + Personnel

My Compliments and Thanks for  
your good + diligent staff people  
who repaired the 2 inch water main  
leak @ Rock Harbor Village Jan  
16 2010 under tough circumstances  
They expertly put everything back  
together getting the water service on  
line / much of the work done in  
darkness -

Joe Manson

Bldg 2



**Board of Water & Sewer Commissioners**

**WTP (& Membrane Status)**

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• **CIP**

On January 26 to 28 an *Aggressive CIP* was performed on rack no. 1. This is the annual chemical cleaning that each rack receives before peak season. The rack was cleaned with citric acid followed by KOH/Chlorine followed by a final citric acid CIP.

The results were very good. We achieved a permeability of 6.22 GFD – the target being 6.0.

• **Membrane Fiber Breaks**

The number of fiber breaks seems to have stabilized.



The total is now 19 as of February 1<sup>st</sup> – only 2 breaks since 12/30/2009.

An integrity test was performed on rack no. 1 after its *Aggressive CIP* and surprisingly there were no breaks.

*For what it is worth - Pall Corp. is being kept aware through email (below). Included was a spreadsheet with a map of the fiber breaks across the 3-racks. Since the wtp was placed in service there have been 17 fiber breaks – 9 breaks have occurred since Nov. 11<sup>th</sup>.*

• **Membrane Replacement**

Met with Jeff Musich of Wright-Pierce to kick off the process to develop an RFP for membrane replacement (01/14). We hope to have a draft document by mid-February.

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Information to date:

After meeting with the Town Administrator and Town Counsel on 12/08 and 12/15 it has been concluded that replacement membranes will need to be publicly bid. Jeffrey P. Musich, P.E., Vice President of Wright-Pierce provided the best approach and price to assist the Town in this effort.

1. Replacement membranes must be publicly bid -Town Counsel.
2. Pall UF membranes (LOV5210) would only require that MA DEP be notified. The membrane material is PAN –Polyacrilonitrile.

**Board of Water & Sewer Commissioners**

3. For Pall MF membranes (UNA-620A), MA DEP will require a demonstration test with the first rack in lieu of a pilot study. This is a verbal commitment (2009.06.09, DEP SERO). These MF membranes are made of PVDF - Polyvinylidene fluoride.
4. Any other membranes will need to be piloted and also be listed on MA DEP's Approved Technologies List.
5. Layne Christensen Company could supply Toray UF membranes and are willing to conduct a free pilot study (2009.06.30, WTP). The Toray PVDF membranes have a larger pore size than the Pall UF membranes. Layne could provide some level of ongoing support.
6. Technology Sales Associates with General Electric Co. can supply ZeeWeed 1500 UF membranes (PVDF) along with a free pilot study (2009.07.09, WTP). Ongoing support is not provided.

**Well no. 8**

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*We continue to optimistically await DEP's inspection.*

*The request for final inspection of well no. 8 was forwarded to MA DEP on November 13<sup>th</sup>.*

**Miscellaneous**

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- **Eastham**

Nothing to report.

- **Spare Parts**

We have made progress and continue to work with Tyco Flow Controls to verify and order some of the spare parts that we would like to maintain on hand - valves and actuators in the wtp.

- **WQ Lab**

Work continues to prepare the necessary SOP's and Laboratory Manual before the application for certification is submitted to MA DEP.

A QC Plan must be submitted with the application in order for any review to take place.

*Having successfully completed 2-rounds of PE testing opens the door for us to apply for MA Certification.*

- **Wind Turbine**

Nothing to report.