WHAT'S ON TAP

The KKW Water District Newsletter Vol. 7 No. 1 www.kkw.org Winter 2009

SPECIAL BULLETIN:

PLEASE VISIT OUR WEBSITE AT WWW.KKW.ORG TO LEARN HOW TO PROTECT YOUR WATER METER AND PIPES FROM COSTLY FREEZE DAMAGE THIS WINTER.

INSIDE THIS ISSUE:

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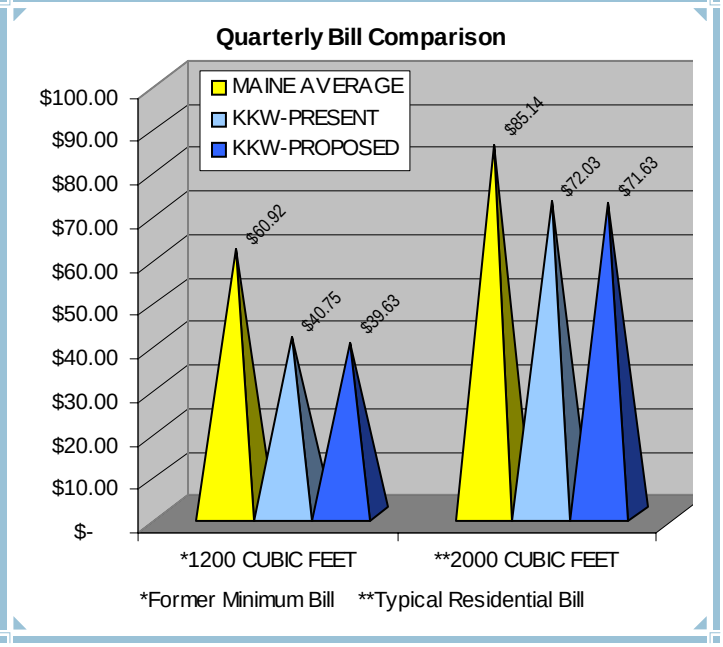
ISSUES, FACTS and INFORMATION

Norm Labbe, Superintendent

Rate Adjustment Update

As reported in our summer 2008 issue of *What's on Tap*, we are in the process of implementing our first revenue-neutral water rate adjustment. Essentially, "revenue-neutral" means that the District will not receive any net increase in water revenues. It's interesting to note that this revenue-neutral rate proceeding has generated more interest than any other District rate proceeding in the past 25 years. Why? Because this process reflects the results of a Cost of Service Study (COS), which was undertaken as a result of a recent regulatory proceeding with the Maine Public Utilities Commission (PUC). A COS is performed to determine the respective costs of serving different customer classes. The COS clearly indicates that our year-round customers have been subsidizing our seasonal customers to varying degrees. As a result, our seasonal customers, especially the larger ones, shall see an increase in their water bills of up to 22%. What has been called by some as unfair toward seasonal customers was deemed "just and reasonable" by the PUC. For more information and detail as to how the new rate schedule, which is planned for April 1st, will impact you, please see the "*Rate Revision Impact*" article on page 2. You may also wish to contact me at (985-3385).



Wind Power? Here?

You may have recently heard about our cooperative wind power study with the Kennebunk Light & Power District (KLP). A generous and civic minded local landowner, Larry Dwight, is letting us install a temporary, 150-foot high anemometer tower on his property allowing us to record wind data for a year. We are also installing an anemometer on our water tank in West Kennebunk. An anemometer is a small "whirligig" device about 18" across that spins in the wind and continuously records wind speed data. Whether or not a commercial sized wind farm is deemed feasible, the resulting data will be valuable, not only for individual parties considering wind power but for both utilities as well. How? We have a proven track record of completing in-house design/build projects at a fraction of "market" cost. When considering this and the synergy between us and the KLP, we could make wind power generation feasible with less wind than typically needed for a privately-designed and funded facility. For a total estimated cost of about $7,000 (which would typically cost over $30,000) we feel that this study is well worth undertaking.

A 150,000 gallon per minute torrent gushes from a broken 66" diameter main in Bethesda, MD on Dec. 23rd, trapping motorists and washing out the roadway.

Did you know……..that we strive to renew about 10,000 feet, or 1%, of our distribution system piping each year in accordance with recommended industry guidelines. That's a lot of pipe and costs over $1 million each year. We do this in recognition of the many health, safety and customer service benefits realized by maintaining a reliable and integral water delivery system. By contrast, on average, only 0.5% of public water infrastructure is renewed in the U.S. each year, resulting in an estimated shortfall of $276 billion over the next 20 years according to the AWWA.

BENEATH THE SURFACE - GAZING INTO THE CRYSTAL BALL

Don Gobeil, Technical Services Director

As regular readers of our newsletter are aware, *Beneath the Surface* strives to educate and inform our customers about what has, is or will be happening in the area of our operation that is "out of sight and out of mind". Since buried pipelines connect our sources of supply to each and every one of our customers, it is a vitally important segment of our operation.

Recapping the highlights of the last construction season, or detailing the goals of the upcoming construction season is a pretty straightforward process. One only needs to tally and list the projects recently completed, along with describing the projects that represent our goals for the next construction season. But before summarizing past and future endeavors, I thought it important this time to provide some additional background context into this year's budget planning process. As we have described in past newsletters, construction costs over the past few years have escalated by double digits from one year to the next. This has proved to be quite a challenge for us in attempting to maintain our aggressive water system improvement program (see "Did you know" at left of this page). KKW has prided itself for many years in doing whatever is required to replace and upgrade its distribution system. Our record of achievement in reaching industry thresholds for ongoing, systematic upgrades of our distribution system network is something we take great pride in and is also a record that keeps us at the forefront of Maine water utilities.

While we look at our past with pride, we also recognize that simply applying past practice year after year is no longer sustainable. The events surrounding the current national economic climate have affected our utility, and must be factored into our overall operational planning moving forward. We have made an assessment of our 2009 budget needs in the context of this economic downturn and have consequently lowered our projected spending as a result. The 2009 District capital spending program reflects a 28% decrease from last year's budget. But just deciding to spend less is not the complete answer. We must also look at operational efficiencies in a new light.

continued on page 5……..

RATE REVISION IMPACT - SEE HOW YOU'LL BE AFFECTED

Wayne Brockway, Treasurer

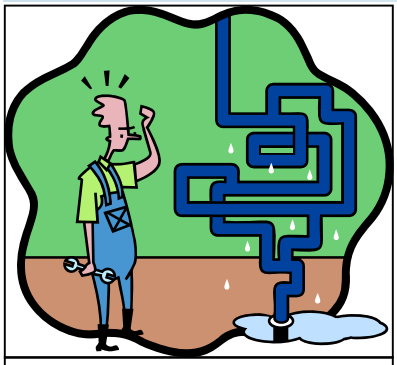
Most of you are probably wondering how you'll be impacted by the rate adjustments planned for April 1st. First, a few pertinent facts. This final rate revision differs from the initial proposal last summer in that it retains the same billing structure for residential and commercial customers within the same class (annual or seasonal). Another key difference is the significant financial impacts for some large seasonal users have been substantially reduced (to no more than 22%). Also, the minimum allowance has been reduced for both annual and seasonal customers to promote the District's conservation efforts. Finally, we are establishing a seasonal service fee of $60 per year for all customers receiving seasonal water service.

The new quarterly minimum allowance is reduced from 1,200 to 300 cubic feet per quarter (CFPQ) for all meter sizes. For all annual customers who use 3,000 CFPQ or less, you will see bills that range from no change to a 25% decrease for minimum users (300 CFPQ). For annual customers who use above 3,000 CFPQ, the increase will range from 1 to 14%.

For all seasonal customers, the minimum allowance will be 600 cubic feet per season (CFPS) for all meter sizes. The financial impact is somewhat more complex to describe because of the seasonal service fee. For just the water charge component of a seasonal customer's bill, the vast majority will see a decrease ranging from 1% to 40% depending on usage (1% for those using 5,200 CFPS dropping to 40% for minimum users at 600 CFPS). The combined financial impact (water rate reductions plus the seasonal service fee) will result in a net reduction of 3% for minimum users (600 CFPS) up to a 22% increase for the largest users.

THE PLUMBING CONNECTION - COMMON PLUMBING MAINTENANCE ISSUES, TIPS and TRICKS

Bill Snyder, Treatment Plant Manager



The District recommends that only qualified individuals perform work on your private plumbing system.

The District has addressed a variety of customer plumbing related issues this past year, some being routine while others were more involved. Drinking water chemistry can be somewhat complicated, changing with fluctuations in water temperature, pH, etc. Here are some of the more recent and common issues our customers have faced.

Plumbing components:

Many of the new, less expensive, plumbing components are made of plastics and rubber which are generally lower quality and less durable. Given that fact, there is a heightened probability and vulnerability for those components to deteriorate over time. Many parts, such as toilet flappers and flushing mechanisms, need to be replaced on a regular basis, often as frequently as every five years. Also, be sure that any cleaning agents used are compatible with your plumbing materials as incompatible agents may hasten their deterioration.

Hot water tanks:

Hot water storage tanks and hot water tank heaters are susceptible to sediment build up in the bottom of the vessel over time. Periodic or yearly flushing will alleviate potential taste or odor problems and is essential for increasing tank life expectancy.

Heating systems:

Today's heating systems are much more efficient and considerably more complicated than just a few years ago. Some installations use a closed loop type system where treatment may be desirable to avoid the build up of scale and corrosion resulting in leaks. In addition, stray electrical current due to improper grounding can result in leaks due to electrolysis as well as the introduction of certain metals, such as copper or lead, into the water. Remember that water pH and corrosiveness can change due to a variety of conditions. Customers who vacate their residence for prolonged periods of time (generally more than two weeks) should flush out their internal plumbing lines to remove stagnant water before using. Most residential plumbing systems can be adequately flushed by running your faucets wide open for about five minutes.

Washing machines and laundry:

Recently, questions have arisen related to laundry staining or discoloration. Some splotching of gray or rust on clothing inherently links to the degradation of hot and cold water feed hoses that contain small internal screens that become corroded and need replacement. Screens, as well as hoses, are upgradeable to stainless steel, which is more durable and corrosion resistant.

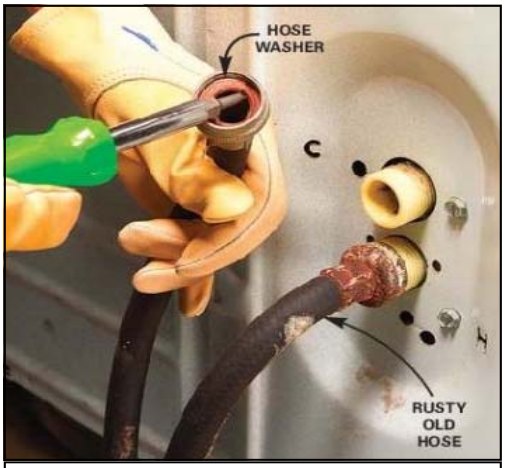
Instantaneous hot water systems and dishwasher problems:

Due to the District's use of more groundwater with a higher hardness, meaning an increased content of the mineral calcium, customers might find the formation of scale developing when hot water is heated above 160 degrees Fahrenheit. This calcium scale is harmless and appears as a white residue that leaves unwelcomed spots on glasses and silverware. The scale can also build on heating elements, leading to their inefficient operation due to the insulating nature of the residue. Manual and chemical cleaning are effective ways to remove the residue. Another effect of calcium hardness is that it may require more soap than usual for proper cleaning. We thank you for your questions and encourage you to call the Treatment Plant (985-2362) should any unusual plumbing issues arise.

Did you know…..that five of the top ten costliest homeowner insurance claims are plumbing related; the top claim being a burst washing machine hose that can dump over 500 gallons of water per hour into your house, causing thousands in damages.

The scale on this hot water faucet is readily removed with any commercial grade calcium-lime-rust type cleaner.

The calcium deposits on this hot water heating element act like insulation, driving up your heating costs. Clean or replace the element.



Periodically replace washing machine hoses every 3 to 5 years to prevent costly water leaks.

Whether a spot of tea or a cup of Joe - tap water as an ingredient is the way to go.

Did you know……that over 8.8 billion gallons of bottled water were sold in the U.S. in 2007, up 6.9% from 2006. The average per capita consumption in 2007 was 29.3 gallons. (source IBWA)

Did you know…….that each year more than 4,000 people die in residential fires and that smoke detectors combined with sprinklers reduce fatalities by 80% (source USFA)

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SAVE OUR TAP - A REFLECTIVE PERSPECTIVE

Norm Labbe, Superintendent

With all of the recent debate about spring water sales and the bottled water industry, you may be wondering where the Water District stands on the "Save our Tap" initiative, which encourages drinking tap water instead of bottled water.

We continue to work diligently to produce the best quality drinking water for our customers. Accordingly, if someone chooses to drink our water directly from the tap or from a reusable container, we applaud them. When compared to all other beverage options, tap water is by far the most economical and often the healthiest option available. However, some people would rather not drink tap water exclusively. Usually it's for aesthetic reasons related to the small chlorine residual in the water, as required by State and Federal regulations for disinfection. Others may be concerned about ingesting fluoride which we are also required to add per State regulation (by majority customer vote in 2002). Aesthetic concerns can easily be taken care of by the installation of a relatively inexpensive activated carbon type water filter that eliminates any unwanted taste for drinking and food preparation.

Another reason people choose not to drink tap water is due to personal choice. Many people want to be able to walk into a convenience store and have a healthier option than sugar water, artificially-sweetened water or beer. And because of this freedom of choice, like it or not, spring water is now a commodity item, not unlike Maine lobsters or wood products. Unlike these other commodities however, our local spring water is continually replaced in a matter of days, weeks or months; it can't be saved for future generations. It's use it or lose it. The science proves this out.

In summary, it's up to you - enjoy good tasting, healthy and economical tap water or use your freedom of choice to purchase alternative beverages as you see fit.

WATER PRESSURE 101 - WHY DOES MY WATER PRESSURE FLUCTUATE?

Rob Weymouth, Facilities Manager

Have you ever taken a shower and noticed that the water spray was lacking the "normal" invigorating force that you were used too? Well, if you have, you're not alone and the reason may not always be related to your plumbing. This situation can occur periodically in some locations throughout our distribution system. The reasons for these changes are many, but generally include three primary factors.

First, every 2.31 feet of water height equals one pound per square inch (1 psi) of water pressure. So if you consider a full water storage tank with 138 feet of water, that will equate to approximately 60 psi at the base of the tank. As the water level in the tank drops over time due to normal customer demand, say to 92 feet, the pressure will drop from 60 to 40 psi. In order to maintain water quality and an adequate reserve for large demand periods, we generally allow the tanks to drop to 2/3 capacity, a practice known as "tank cycling."

Second, as the tanks are refilled, we boost the water pressure leaving our Treatment Plant and/or use booster stations along the way to overcome the friction loss of the water moving through the distribution mains. If you live on the suction side of a booster (the side feeding the pumps), your water pressure will be lower when the booster is running and higher when it is off. The opposite is true if you live on the discharge side (the side the pump sends its water to). These boosters can cause your pressure to change by as much as 20 to 30 psi.

Third, during heavy demand periods (when more water is being used than we can pump from our Treatment Plant and/or groundwater supplies), the tanks are making up the difference by allowing water to flow via gravity into the distribution system which drops the water level, reducing the available pressure. In addition, the high flow rates generate pipe friction, further reducing the available pressure (pipe friction increases with flow rate). These conditions generally occur in the morning from 5AM to 9AM and evening from 5PM to 9PM to coincide with periods of high customer demand.

Yellowstone's Old Faithful geyser blasts a fountain of water and steam 120-feet into the air, requiring a base pressure of 52 psi.

Beneath the Surface - continued from page 2

As we go to press, we are in discussion with State and Federal officials regarding the structure and extent of a possible economic stimulus program that may provide needed funds for water system infrastructure improvements. Additionally, we must stay nimble in our 2009 planning for the likelihood of stimulus funds finding their way to local towns and/or State highway programs. This could lead to additional public works projects that could offer attractive partnering opportunities between us and the towns we serve. All this discussion and planning is happening at a dizzying pace among local, state and federal interest groups, but will not crystallize into a coherent economic program until after we are well into our new budget cycle. As a result, it appears likely that the projects we have identified in our 2009 Capital Improvement Budget may not be the same projects that are listed in our newsletter as having been completed a year from now. We're sure you'll agree – we live in interesting and challenging times.

With that backdrop, it's time to revisit the "straightforward" portion of this article.

The major projects completed in 2008 include:

- The District completed a two year project to replace the aged 10-inch main along Fishers Lane in Cape Porpoise with a new 16-inch main. The 650 feet completed in 2008 is a part of a much larger, multi-phase effort to replace all of our primary trunk line from Cape Porpoise through Goose Rocks Beach to Granite Point in Biddeford. (see 2009 projects below)
- Partnering with the State Department of Transportation on a 1,000-foot upgrade of our 8-inch main with a 12-inch main along Alewive Road (Rte. 35) in Kennebunk.
- Completion of the first half of a major 3,100-foot replacement project along Route One in Wells. This project replaces our old 10-inch main with 20-inch main and is made possible by utilizing low interest funds (2.8%) provided by the State of Maine Drinking Water Program. This project is part of a much larger multi-phase initiative begun over a decade ago to upgrade the primary transmission line between Kennebunk and Ogunquit.
- Partnering with the Town of Wells on a 600-foot installation of a new 12-inch main along the new seawall on Webhannet Drive.

For 2009, the major projects being planned include:

- Completing the 2nd half (Phase II - 1,450 feet) of the main upgrade along Route One in Wells.
- Continue the Cape Porpoise to Granite Point initiative by replacing 2,100 feet of 10-inch main in the Skipper Joe's Point/Marshall Point Road area of Kennebunkport.
- Working in cooperation with the Town of Kennebunk on an 800-foot replacement along Brown Street.
- Working with the Department of Transportation on a bridge replacement project on Bourne Avenue in Wells.

And, as discussed earlier, maintaining some organizational flexibility to incorporate projects that offer funding or partnering opportunities that are too good to pass up is a major component of this year's budget. So, with all that is happening both within and outside of our organization, it promises to be another interesting and busy year.

As always, if you would like to ask questions, or receive more information, please feel free to contact me (985-3385) at any time. You may also wish to visit our website (www.kkw.org) for periodic project updates that are posted throughout the year.

Crews install a large 20" diameter check valve as part of the $800K Route 1 main replacement project in Wells. The check valve is used to separate pressure zones.

Did you know ..... that the District's crews install the vast majority of all water main replacements and upgrades. Doing these projects "in house" is the best way to ensure that the work is completed on time, on budget and with the highest of quality.

District crews got off to a cold and early start in February '08, installing over 650' of 16" diameter main in Cape Porpoise (Kennebunkport) to improve water supply capacity.

Treasurer Wayne Brockway and Billing Clerk Brenda Hamilton are part of a Front Office team that puts customer service first.

Did you know…..that water has a profound effect on brain function and energy levels. Even slight dehydration can produce a small but critical brain shrinkage, impairing neuromuscular coordination, con–centration and thinking.

Did you know… that the snow capital of the U.S. is Stampede Pass, WA where each year the average snowfall is 430 inches. By contrast, York County receives around 58 inches.

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CUSTOMER CORNER - HELP US HELP YOU

Kathleen Chapin, Customer Service Coordinator

Winters in Maine can be tough and we know it. You don't have to look far to know the current economic climate is gloomy. People everywhere have rising expenses, fuel and heating costs are high, housing values have plummeted and day-to-day living costs are greater than ever. We understand that all of your bills contribute to the whole, including your water bill. If your bill becomes unmanageable, the best thing you can do is to call us early on to discuss payment plan options. Unfortunately, if we don't hear from you, you run the risk of disconnection and there are hefty fees attached to being reconnected. This in turn only makes the process more expensive. So please contact our office at 985-3385 if you are unable to pay your bill in full. We're here to help you maintain your water service.

What makes a customer seasonal?

According to our *Terms and Conditions*, a seasonal customer is one who regularly takes service for only a portion of the year from either a summer or year-round service. We understand that this year many customers who don't ordinarily close down their properties are doing so in an effort to economize. Please contact our office and let us know if this is the case as we don't want to change the status of any account if it will not close down in the upcoming winters. Typically we wait a couple of years to determine if this is a permanent pattern and if so, we would convert your account status and your water service charges would then be issued according to the seasonal rate schedule.

EDUCATIONAL OUTREACH - INTERACTIVE TOURS, TALKS AND TRIPS

Greg Pargellis, Chief Operator

This past year, the Treatment Plant operators have revived an old pre-9-11 practice by giving area students tours of the Plant. The students, mostly fourth and fifth grade this year, have been genuinely interested to learn how safe drinking water is produced, asking great questions and sharing their knowledge of the environment.

Topics range from the watershed and groundwater to Plant processes and laboratory analytical methods. During the tour, students are shown how water moves from Branch Brook through the various plant processes that take place in order to make the water meet all of the stringent public drinking water regulations and requirements. We also use a groundwater model to illustrate the different strata of sand, clay, and course gravel, and to show how water travels through an aquifer. The students are also shown maps of the watershed and the distribution system where they have an opportunity to view how our computer SCADA system controls and monitors water pressure and tank levels throughout the service area.

District Operator Lynn Mankin begins a plant tour with some Kennebunk 4th graders discussing the Branch Brook water supply source during a recent visit.

We look forward to the many thank you notes the students send us, explaining their favorite parts of the tour, often including a well drawn picture or two. We enjoy seeing the kids and often get caught up in each others enthusiasm as the tour progresses.

We hope to have more tours in 2009, both Elementary and High School levels, and invite any school within our service territory to participate. We can even tailor a tour for college level students as we have done in the past with an emphasis on science and chemistry. In addition to sharing our knowledge, we hope to inspire some of these great kids to join us in the drinking water profession and to enjoy the same satisfaction that we get every day from serving the public.

SUPPLY SOURCE - GROUNDWATER'S ROLE EXPANDED IN 2008; THE FUTURE IS HERE

Scott Minor, Assistant Superintendent

The verdict is in: Groundwater will continue to play a vital role in the District's comprehensive water supply management strategy for years to come.

During the inaugural year of 2007, the District's groundwater supply wells produced 321 million gallons of high quality drinking water, accounting for 30.6% of the total water produced. By further refining well operations, groundwater production for 2008 increased to 350 million gallons, equating to 35.5% of total water production. With the recent installation of a second, larger back up well at the Merriland River Well site, the District estimates that groundwater production could be as high as 400 million gallons (40% of total production) in 2009.

In addition to providing a much needed supplement to our Branch Brook surface water supply during the typical high summertime demand period, the better natural raw water quality inherent of groundwater (sediment and organics are naturally filtered by the sand-gravel deposits that comprise the aquifer) requires less treatment, reducing chemical costs by over $113 for every million gallons pumped. Nearly $40,000 in chemical savings were realized in 2008 with even greater savings expected in the future as additional groundwater is pumped in conjunction with rising chemical costs.

The District's *Water System Master Plan (Master Plan),* updated in August 2008, anticipates the present maximum day demand (MDD) of 6.34 MGD (million gallons per day) increasing to 7.68 MGD (21%) by 2022 and 9.0 MGD (42%) by 2037, respectively. The Master Plan also estimates that the average day demand will increase from the present 2.8 MGD to 3.4 MGD by 2022 and 4.0 MGD by 2037.

As part of its future planning activities, the District continues working with interested landowners within its service territory to search for new viable groundwater supply sources. We understand that acquiring additional groundwater supply sources is the best way to ensure that an abundant, reliable, safe and cost effective supply of public drinking water is always at the ready for this and future generations to come.

Drillers install an 18-inch diameter gravel well to back up the existing 12-inch diameter production well at the District's Merriland River Well site.

Sparks fly as the District's Gerry Goulden welds a pitless adapter onto the 18-inch diameter steel casing. Precise vertical alignment is critical.

An initial flow test yielded around 1.8 MGD of high quality water. Following the "break-in" period, flows over 2 MGD could be realized.

CLOSELY WATCHING THE BOTTOM LINE - RECENT COST SAVING INITIATIVES

Norm Labbe, Superintendent

Job Consolidation and Cross Training

As a result of attrition through retirement, we have consolidated two positions into one. Help from our Treatment Plant operators with testing of over 2,000 meters each year now allows Steve Spofford to oversee both the Meter Shop and Purchasing and Inventory Control functions. This has resulted in an annual cost savings of over $50,000 and also provides beneficial cross training between departments.

Four-day Work Week for Construction Projects

During the 2008 summer and fall construction season when fuel prices were at $4.00 per gallon, we experimented with a modified four-day, 40-hour workweek for our construction crews. In addition to decreasing fuel consumption, we increased overall efficiency by reducing the amount of job start-ups and shut-downs by 20%. A side benefit was that employees also saved fuel on the day they didn't have to commute to and from work.

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EMPLOYEE SPOTLIGHT

Cindy Rounds, Administrative Assistant

This issue of *Employee Spotlight* shines a bright light on our Utility personnel. Mike Buzulchuck, Ray Brown, Mike Johnston, and when needed, Keith Archibald, make up this group of dedicated service professionals. Mike B. is a familiar face serving our southern service areas including Wells and Ogunquit; Mike J. handles the central part of our service territory including Kennebunk; while Ray is responsible for the northern area of our service territory, including Kennebunkport and Biddeford Pool.

Utility personnel respond to a wide variety of customer needs as well as performing hydrant maintenance throughout the distribution system. When there's a meter to be installed or removed, one of these gentlemen will be there. How about if your bill is high and you don't think you've used any more water than usual? They'll investigate the problem and work with you to bring it to a satisfactory conclusion.

To prepare for the cold winter months, these men are responsible for pumping down the hydrants throughout the service area to prevent freeze-ups and then rechecking them each week. They also advise customers on the best way to protect their water meter and pipes from freezing and assist with leak investigations. These are only a few examples of how we depend on their experience, service and knowhow (*can you believe Mike B. and Ray together have 67 years of service?*). The District is proud of how these men maintain the solid relationships they've established with customers, plumbers and contractors and applaud the professionalism with which they carry out their job responsibilities. So the next time you're out and about and see one of our green and yellow trucks, give 'em a wave and say hello.

We were able to catch up with Mike Johnston (left) and Ray Brown (right) just long enough for this photo. Unfortunately, Mike Buzulchuck and Keith Archibald were not available.