Date: 2/23/09
Item: 15.a
Water Rate Structure

From: Amy Ihlan [amy@briollaw.com]
Sent: Wednesday, February 18, 2009 10:15 AM
To: Bill Malinen
Cc: Chris Miller; Margaret Driscoll; *RVCouncil
Subject: Agenda Item Request -- Water Rate Structure
Attachments: Conservation Rate Structures.pdf

Dear Bill and Chris,

I have been continuing to get questions from residents about the recent changes to the water rate structure, and why homes that use less water will be seeing a greater increase in their bills than homes that use more water.

I did some research on state law requiring adoption of conservation rates, and I found the attached summary on the DNR website -- for the web page containing the document link here: http://www.dnr.state.mn.us/waters/watermgmt_section/appropriations/eandc_plan.html

Our new water rate structure does not meet the DNR guidelines as explained in the attachment. See the discussion of "Increasing Block Rates" at the bottom of page one:

> Increasing Block Rates: Cost per unit increases within specified "blocks" or volumes. The increase in cost between each block should be significant enough (25% or more and 50% between the last two steps) to encourage conservation.

Our new rate structure doesn't meet this standard because the increase between the steps isn't high enough. I believe this is true of both our residential and non-residential rates, so we need to revisit both. To meet the DNR's conservation rate guidelines, we need to significantly increase the rates for higher usage. Maybe we should also consider adding more "blocks" of water volumes with significant increases between them?

I would like to have this item (including the attached document from the DNR) on the council agenda as soon as possible.

Thank you,

Amy

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Conservation Rates

Minnesota Statutes, section 103G.291, was amended in 2008 to include a requirement for public water suppliers serving more than 1,000 people to adopt a water rate structure that encourages conservation:

> *Minnesota Statutes,* section 103G.291, subd. 4. **Conservation rate structure required.** (a) For the purposes of this section, "conservation rate structure" means a rate structure that encourages conservation and may include increasing block rates, seasonal rates, time of use rates, individualized goal rates, or excess use rates. The rate structure must consider each residential unit as an individual user in multiple-family dwellings.
>
> (b) To encourage conservation, a public water supplier serving more than 1,000 people in the metropolitan area, as defined in section 473.121, subdivision 2, shall use a conservation rate structure by January 1, 2010. All remaining public water suppliers serving more than 1,000 people shall use a conservation rate structure by January 1, 2013.
>
> (c) A public water supplier without the proper measuring equipment to track the amount of water used by its users, as of the effective date of this act, is exempt from this subdivision and the conservation rate structure requirement under subdivision 3, paragraph (c).

In addition, *Minnesota Statues*, section 103G.291, was further amended to read:

> Subd. 3. **Water supply plans; demand reduction.** (c) Public water suppliers serving more than 1,000 people must employ water use demand reduction measures, including a conservation rate structure, as defined in subdivision 4, paragraph (a), unless exempted under subdivision 4, paragraph (c), before requesting approval from the commissioner of health under section 144.383, paragraph (a), to construct a public water supply well or requesting an increase in the authorized volume of appropriation. Demand reduction measures must include evaluation of conservation rate structures and a public education program that may include a toilet and showerhead retrofit program.

Public water suppliers serving more than 1,000 residents will need to adopt a conservation rate structure before requesting well construction approval for a public water supply well or before requesting an increase in permitted volume for their water appropriation permit.

Examples of Conservation Rates:

Below are examples of rate structures that encourage conservation. Many variations and combinations of these examples are possible.

NOTE: Rate structures often include a service charge (base rate) and a volume based charge. Service charges may cover fixed costs (capital improvements) and the volume charge is often for operation and maintenance costs. Volume charges usually use units of 1,000 gallons or 100 cubic feet (748 gallons).

Increasing Block Rates: Cost per unit increases as water use increases within specified “blocks” or volumes. The increase in cost between each block should be significant enough (25% or more and 50% between the last two steps) to encourage conservation.

Example: 0-6,000 gallons = $2.50/1000 gallons.
6,000-12,000 gallons = $3.15/1000 gallons.
12,000-24,000 gallons = $4.00/1000 gallons.
Above 24,000 gallons = $6.00/1000 gallons.

Seasonal Rates: The rate per unit increases in the summer to encourage the efficient use of water during peak demand periods caused by outdoor water uses. Seasonal rates can take the form of a surcharge added to the normal rate or a separate fee schedule for winter and summer periods.

Example: Surcharge method - $1.00/1000 gallons is added on top of the regular fee schedule for all water use between May 1 and October 1.

Time of Use Rates: Water rates are higher at times of the day when water use demands are high. This rate requires specialized meters that can monitor water use during specified segments of time, for instance, every 15 minutes.

Example: Water rates are reduced by $0.75 for customers that agree not to use water for certain purposes or over a set volume of water during certain times of the day or periods of high water demands.

Individualized Goal Rate (Water Budget Rate): A rate with tailored allocations developed for each customer. The rates increase as the allocation is used or exceeded by the customer. The allocation is generally based upon winter or January use.

Example: A family of four used 6,200 gallons in January. Summer use is higher than January use so a factor is applied to determine a summer allocation (1.5 x 6,200 gallons = 9,300 gallons).
0-6,000 gallons = $2.50/1000 gallons.
6,000-9,300 gallons = $2.75/1000 gallons.
9,300-18,600 gallons = $4.00/1000 gallons. (Allocation is exceeded.)
Above 18,600 gallons = $6.00/1000 gallons.

Excess Use Rates: Cost per unit increases greatly above an established level in order to trigger a strong price signal that discourages excessive use. This rate is similar to an increasing block rate but with much higher charges for the larger volume blocks.

Example: 0-6,000 gallons = $2.50/1000 gallons
6,000-12,000 gallons = $3.15/1000 gallons
12,000-24,000 gallons = $5.00/1000 gallons (Excessive Use Rate)
Above 24,000 gallons=$7.50/1000 gallons (Excessive Use Rate)

Multiple–Family Dwellings: Total water use in a multiple-family dwelling, which has only one water meter for the entire dwelling, may exceed that of a single-family dwelling. The statute does not require individual water meters for each residential unit within a multiple-family dwelling; however, the required conservation rate at which the multiple-family dwelling's water use is billed must consider the number of residential units within that multiple-family dwelling.

Example: A four-plex uses a total of 18,000 gallons per month or approximately 4,500 gallons per residential unit. Water use for each residential unit falls within the first block (0-6,000 gallons) of the above Excess Use Rate example. A rate of $2.50/1000 gallons would apply up to a total use of 24,000 gallons for the multiple-family dwelling. Thereafter, the rate increases according to the rate schedule, always considering each residential unit as an individual user.

Non-conservation rate examples:

Declining (Decreasing) Block Rates: The cost per unit of water (cubic foot or gallon) decreases as the water use increases beyond the basic block. This rate structure provides no incentive to conserve because the cost of water per unit decreases with increased use.

Flat Rates: A set fee allows the use of an indefinite amount of water. This rate structure is used where water is unmetered and provides no incentive to conserve water because cost is unrelated to volume used.

Uniform Rates: The cost per unit is the same regardless of the volume used. This rate structure is considered conservation neutral.

Service Charge (Base Rate) that includes a Minimum Water Volume: The inclusion of a minimum volume of water in the service charge (base rate) discourages conservation especially if the minimum volume exceeds average customer usage.

Public Water Supply Plans

Public water suppliers that service more than 1,000 people are required to have a Water Supply Plan approved by the Department of Natural Resources **(Minnesota Statutes 103G.291)**. These plans were first required in 1996 and must be updated every ten years. A template for the second generation of plans is available below along with a list of resources to help develop local plans.

In addition, all communities that have public water supplies in the Twin Cities Metropolitan Area are required to prepare water supply plans as part of their local comprehensive plans **(Minnesota Statutes 473.859)**. Those communities should use the DNR Water Supply Plan materials to satisfy that requirement. See Metropolitan Council - **Water Supply Planning** for more information.

Water Supply Plan Template

Please download the template and save the document with a file name that identifies your community. The template is a form that can be completed electronically and requires information to be provided in specified boxes. If you have questions or problems down loading or using the template, please call 651-259-5703 or send an e-mail to **wateruse@dnr.state.mn.us**.

- **Plan Instructions and Checklist** (Microsoft Word ®)
- **Plan Template** (Microsoft Word ®)

Water Supply Plan approvals may also include approval for increased water volumes and for new wells that are planned over the ten year life of the plan. The request for ten year permit approvals as part of the Water Supply Plan is optional and would most likely benefit growing communities that anticipate large increases in water use or a number of new wells over the next ten years. To qualify for the ten year permit approval certain benchmarks or conservation measures are required along with adequate documentation on the need for increased water volumes and new wells. Your DNR Waters Area Hydrologist (see link below for a list) can assist with your questions about this permit option.

- **Benchmarks and Conservation Measures** PDF

Public water suppliers serving more than 1,000 people are now required to adopt a water rate structure that encourages conservation. The statutory language and time frame as well as water rate structures that are considered to be conservation rates are found in Minnesota Statutes, section 103G.291 subdivision 4. They are further described in **Conservation Rate Structures** for public water suppliers (MN DNR). Within the seven county metropolitan area these conservation rates must be in use by January 1, 2010. For the remainder of the state the conservation rates must be in use by January 1, 2013.

- **Conservation Rate Structures** PDF

Communities which have non-conserving rate structures need to explain their plan for implementing conservation rates including a time line. This should be explained in the **Water Supply Plan Template** under "Part III. WATER

CONSERVATION PLAN, Part B. 3. Conservation Water Rates" in the text box titled "Non-conserving Rate Structures".

Resources for Plan Development

The following items are resources that may be helpful for developing your Water Supply Plan:

- **List of Wells-Table 4(B) Attachment** (Microsoft Word ®)
- **Emergency Telephone List Template** (Microsoft Word ®)
- **Sample Ordinance** PDF
- **Reducing Peak Demands** PDF
- **Lawn Watering Tips** PDF
- **Customer Education Options** PDF
  - **Example: City of Elk River conservation education program**
- **Certification of Plan Adoption** (Microsoft Word ®)

Resources for Sustainability

The second generation of Water Supply Plans now incorporate the concept of sustainability. Sustainable water use is defined as the use of water for the needs of society, now and in the future, without unacceptable social, economic, or environmental consequences. Water withdrawals by public water suppliers and other users can impact natural resources and other water users. The potential for impacts must be considered when planning for development of new water sources or increased water withdrawals. The following list of resources can help determine the location of natural resources of special concern and the location of other water wells.

- **Ground Water Sustainability Defined and Examined** - General information about the **sustainable use** of ground water.
- **Trout Streams** - Minnesota Statutes (**103G.285, Subd. 5**) and Rules (**6115.0670, Subp. 3 B**) prohibit water withdrawals that impact designated trout streams. A list of designated trout streams is found in Minnesota Rules (**6264.0050, Subpart 4**).
- **Calcareous Fens** - These are unique wetlands that require an upwelling of groundwater similar to a spring to survive and can be impacted by groundwater withdrawals. These wetlands are protected under Minnesota Statutes (**103G.223**) from being wholly or partially degraded. A list of known calcareous fens is published in Department of Natural Resources Commissioner's Order **No. 05-001**.
- **Public Waters Inventory** - Public waters wetlands include all type 3, type 4, and type 5 wetlands (as defined in U.S. Fish and Wildlife Service Circular No. 39, 1971 edition) that are 10 acres or more in size in unincorporated areas or 2.5 acres or more in size in incorporated areas (see Minnesota Statutes Section **103G.005**). DNR Waters utilizes county-scale maps to show the general location of the public waters and public waters wetlands (lakes, wetlands, and watercourses) under its regulatory jurisdiction. These maps are commonly known as **Public Waters Inventory** (PWI) maps.
- **Wetland Conservation Act** - To retain the benefits of wetlands and reach the legislation's goal of no-net-loss of wetlands, the Wetland Conservation Act

requires anyone proposing to drain, fill, or excavate a wetland first to try to avoid disturbing the wetland; second, to try to minimize any impact on the wetland; and, finally, to replace any lost wetland acres, functions, and values. See: Board of Water and Soil Resources Wetland Conservation Act **information**.

- **Mt. Simon-Hinckley Aquifer Guidance Paper** - The Mt. Simon-Hinckley aquifer is the deepest formation in the Twin City Metropolitan Area and is protected as a drinking water source. This aquifer can only be used as a potable water supply when there are no other alternatives and conservation measures are being implemented. See: Mt. Simon-Hinckley aquifer **Guidance Paper**.
- **Observation Wells** - There are around 750 observation wells located around the state that may provide useful information on water level trends for aquifers in your area. Ground water level data are available **online**.
- **Climate Data** - There are over 1400 volunteer precipitation observers located across Minnesota. Climate data may provide useful insights into water level trends in your area. Minnesota's climate data are available **online**.
- **County Well Index** - The County Well Index can be use to identify wells located near a project area and can help determine potential for well interference problems. Please be aware that the County Well Index is not a complete list of wells and additional survey efforts may be necessary to identify all potential water supplies within a specified radius of a proposed production well. See: Department of Health - **County Well Index Online**.

This web page is intended to provide information that will be useful for developing Water Supply Plans. If you have any suggestions or identify any problems, please contact us at 651-259-5703 or **wateruse@dnr.state.mn.us**. The DNR Waters **Area Hydrologist** for the county in which your community is located can also help with questions about plans.

Water Level Monitoring

Water Supply Plans may include actions for measuring water levels and reporting these to DNR Waters. Electronic forms for reporting the water level measurements from wells and surface water are available through the links below. Use these forms to record and save the water level measurements. Completed forms can be e-mailed to the DNR Data System Coordinator. Paper copies of these forms are available upon request.

- **Ground Water Level Monitoring Spreadsheet** XLS
  e-mail completed form to: **gwlevelcoordinator@dnr.state.mn.us**
- **Surface Water Level Monitoring Document** DOC
  e-mail completed form to: **sandy.fecht@dnr.state.mn.us**

Other Resources

Emergency Response

- **Minnesota Rural Water Association** - technical assistance and education
- **American Water Works Association** - publications and education
- **Environmental Protection Agency**

  - **Water Security**
  - **Source Water Protection**
- **Minnesota Department of Health**
  - **Division of Environmental Health**
  - **Office of Emergency Preparedness Drinking Water Protection**
- **Minnesota Department of Public Safety**
  - **Homeland Security and Emergency Management**
  - **Minnesota National Guard** - assistance with vulnerability assessments

Water Conservation

- **Metropolitan Council Water Conservation Information**
- **Water Conservation Toolbox: Programs for Water Suppliers** (Metropolitan Council)
- **Water Conservation Toolbox: Tips and Practices for Conserving Water** (Metropolitan Council)
- **Residential Water Conservation Information** - from the American Water Works Association (AWWA)
- **Residential Water Use Summary** - information on residential water use and water saving tips from the AWWA
- **AWWA Water Efficiency Clearinghouse - Waterwiser**
- **U.S. Bureau of Reclamation Water Conservation Learning Site - WaterLearn**
- **EPA Water Use Efficiency Program**
- **Conservation Measures for Water Supply Systems**

General

- **DNR Waters**
- **Metropolitan Council**
- **Department of Health**
- **Board of Soil and Water Resources**