**Note:** Minutes are not official until approved by the Committee.

# METROPOLITAN COUNCIL

Mears Park Centre, 390 Robert Street North, St. Paul, Minnesota 55101

## Meeting of the METROPOLITAN AREA WATER SUPPLY ADVISORY COMMITTEE

November 15, 2007

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| Committee Members Present: | Peter Bell, Chair | Metropolitan Council |
| | Dennis Berg | Anoka County, Commissioner |
| | Tom Furlong | City of Chanhassen, Mayor |
| | Chuck Haas | City of Hugo, Council Member |
| | James Japs | DNR, Assistant Director, Waters - Alternate |
| | Peggy Leppik | Metropolitan Council Member |
| | Linda Loomis | City of Golden Valley, Mayor |
| | Gaylen Reetz | PCA – Alternate |
| | Steve Schneider | St. Paul Water, General Manager |
| | John Stine | Dept of Health, Director, Environmental Health Division – Alternate |
| | Barry Stock | City of Savage, Administrator |
| Committee Members Excused/Absent: | Joseph Harris | Dakota County, Commissioner |
| | Hugoson, Gene | Department of Agriculture, Commissioner |

### Call to Order

Chair Bell called the meeting to order at 9:30 a.m.
Representative Paul Gardner recognized / welcomed by Chair Bell.

### Approval of Agenda

It was moved by Stine, seconded by Leppik to approve 11/15/07 agenda and the minutes of the 8/23/07 meeting. **Motion carried.**

### Planning Schedule Update

Anticipate completion of Master Water Supply Plan by end of 2008.

An advisory committee workshop will be held February 27, 2008 to discuss potential planning principles, goals and use actual scenarios to test those principles. Stakeholder workshops will be scheduled for February/March, and their feedback brought to the Committee. Committee members will be informed of the dates and invited to attend.

### Climate Change and Water Supply

J. Drake Hamilton, Science Policy Director, Fresh Energy, informed the committee that the Intergovernmental Panel on Climate Change (IPCC) publishes an assessment report every six years that provides an in-depth analysis of the costs and benefits of different approaches to mitigating and avoiding climate change. The IPCC reports that it is 'very likely' that heat-trapping emissions from human activities have caused "most of the observed increase in globally averaged temperatures since the mid-20$^{th}$ century," and temperature increases by the end of the century in the range of ~2°F to ~11.5°F are projected. Climate projections and potential impacts to water supply and health from climate change were reviewed. Emissions must be cut by at least 80 percent by 2050 in order to protect the world against adverse changes. There is a ten-year window of opportunity to significantly reduce emissions.

Relative to the Great Lakes Region, the committee reviewed evidence of climate change in the area and the impacts of global warming on water supply and health. Governor Pawlenty has created the Minnesota Climate Change Advisory Group to advise him and the legislature on the best set of policies for reaching the state's goals to limit greenhouse gas emissions. Advisory group will develop an action plan for the governor and legislature to enact that would get the state on track to meet the greenhouse gas reduction goals. Chair Bell asked if man-made climate change is a settled question, and the only real questions are the timelines and what should be done? Hamilton responded that there is natural variability, and explained the method scientists used to determine temperature change: thermometer records from the last 100 years of all the settled continents were examined, and the simplest explanation of the variability that was measured is natural variability. Scientists then plugged into a model all of the known natural variability, e.g. sunspots, increases in solar radiation, volcanic eruptions, etc., and could not replicate the increase in temperature that is being seen. When they added to the model the amount of fossil fuels burned and the amount of tropical deforestation they got a very high correlation with the temperature increase. Hamilton was asked what the biggest changes were in the report compared to the one from six years ago. She responded that one main thing being said is that the envelope of what we need to do about it is the 80% reduction starting in the next ten years. If we don't do that the types of changes that will be seen are different from what is heard in the media – the water supply of one in six humans will be at risk. Responding to a question from the committee, Hamilton noted that none of the continents included in the thermometer records have shown a reversal of global warming; 95% of mountain glaciers are retreating. When Hamilton was asked how the 'fix' would benefit the economy, she said it would not be a smooth transition, but the question for all of us is how to plan for it to make it much less rough and, frankly, to make it in our economic interest to do that. The world's economists pointed out earlier in 2007 that climate change is already exerting costs. Often what gets left out of the equation is if we try to fix this problem it will cost money - it's already costing certain economies money, it's certainly costing northern Minnesota winter-based recreation economies money, the forestry industry is very concerned about changes to forests and loss of forests, the agricultural industry is starting to talk about the need for more irrigation and the cost of that. The question is how do we grow our economy and decarbonize it at the same time. Haas asked if reservoirs need to be created. Hamilton said it should be part of the planning and adaptation process.

**Water Supply System Safety, Security and Reliability**

Jon Groethe, Minnesota Department of Health, reviewed two security-based initiatives that began in 2007.

1. The "Minnesota Water/Wastewater Agency Response Network" (MnWARN) is a network of utilities helping utilities to respond and recover from emergencies. The utilities are organized within a state by agreement to help each other with personnel and resources. Participation is voluntary, with no obligation to respond, and no cost to participate.

2. The Minnesota Department of Health (MDH) has developed a water supply system emergency response tabletop exercise program which is designed to test and evaluate existing emergency response systems to address incidents of sabotage. 35 exercises will be held throughout Minnesota over a two-year period. Bell: as a result of the tabletop exercises that take place, will infrastructure and/or system shortcomings be identified, and a feedback loop to state policymakers. Groethe: After-action reports are

produced (some info is confidential). Stine: Systemic issues that need to be addressed will be brought to the attention of Governor and legislature. Bell: will there be interface between regions? Yes. Bell: Bring results of tabletop exercises to MAWSAC.

**Cost Analysis Process / Northwest Metro Update**

Scott Harder, Environmental Financial Group, discussed prioritization and evaluation of water supply options and investments. In preparation for the upcoming workshops, an availability analysis will be conducted. [Bell reminded committee that the City of Ramsey (presentation at a prior meeting) presented the water supply challenges it is facing, and today's presentation should be heard in that context.]

Guiding principles – five global best practices: Business case evaluation; Risk assessment; Sustainability-life cycle assessment; Address climate change; Use capital efficiency index; Consider multiple and innovative sources.

Proposed approach at this time: 1) Make a business case for a solution to problem areas, to include: life cycle cost; regulatory, supply, climate and monetary risks; tangible and intangible regional benefits. 2) Demonstrate enhancement of overall regional water supply sustainability. 3) Use profitability index to prioritize projects; 4) Encourage alternative supply development; 5) Encourage greater energy efficiency; 6) Address both mitigation and adaptation responses to climate change.

Next Steps

1. Keep overall methodology flexible until availability analysis is completed and a sense of how the plan is going to be formulated
2. Business case evaluation (spreadsheet model) to look at the business decision piece of the various alternatives; supplement with risk templates and sustainability protocols.

**Availability Analysis**

Ray Wuolo, Barr Engineering, provided an update on the development of a groundwater flow model for the seven-county metropolitan area. The model is a key aspect of the availability analysis of water supply in the metropolitan area. Objectives of the study were to develop and calibrate a MODFLOW groundwater model of the area, and use this model to identify and evaluate water supply alternatives. The model will: 1) determine what groundwater levels will be in the future; 2) determine how future pumping may affect flows in streams; 3) determine how land use and development patterns may affect recharge and groundwater levels; 4) estimate the maximum pumping capacity of a well field or area; 5) determine what the drawdown will look like and what existing wells could be affected; and 6) determine how future pumping will affect other important ecological resources. The model must be adaptive for future modifications and use. It is expected that the model calibration will be completed by the end of 2007, and available for use to evaluate specific water supply alternatives in Spring 2008.

**Adjourn**

The meeting adjourned at 11:30 a.m.