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METROPOLITAN COUNCIL

Mears Park Centre, 230 E. 5th St., St. Paul, Minnesota 55101

Meeting of the METROPOLITAN AREA WATER SUPPLY ADVISORY COMMITTEE

July 27, 2006

Committee Members Present:	Peter Bell, Chair Bev Aplikowski Greg Buzicky	Metropolitan Council City of Arden Hills, Mayor Department of Agriculture, Director, Pesticide & Fertilizer Management - Alternate
	Tom Furlong Chuck Haas Joe Harris James Japs Peggy Leppik Linda Loomis Faye Sleeper John Stine	City of Chanhassen, Mayor City of Hugo, Council Member Dakota County, Commissioner DNR, Assistant Director, Waters – Alternate Metropolitan Council Member City of Golden Valley, Mayor PCA, Watershed Section Manager – Alternate Dept of Health, Director, Environmental Health Division – Alternate
	Barry Stock	City of Savage, Administrator
Committee Members Excused:/Absent:	Dennis Berg	Anoka County, Commissioner

Call to Order

Chair Bell called the meeting to order at 9:40 a.m.

Approval of Agenda

It was moved by Joe Harris, seconded by Bev Aplikowski, to approve the 7/27/06 agenda and the minutes of the 6/22/06 meeting. **The motion carried.**

Committee Charter Review

William Moore, General Manager of Environmental Services, reviewed the purpose and duties of the Committee, as ordered by State Statute. Mayor Aplikowski commented that periodically reviewing the Charter helps the Committee to maintain its focus.

Advisory Committee Schedule Update

The August 24, 2006 meeting will be a three-hour meeting (9am – Noon) to allow additional time to review the executive summary.

Committee members requested material in advance of meetings to give their staff an opportunity to review it. Council staff agreed that it is a reasonable objective and, for the most part, has been able to provide agendas and meeting materials one week in advance.

Committee member Leppik commented that the schedule does not indicate an opportunity for public review and feedback on the material. Chris Elvrum, Manager, Water Supply Planning, responded that when a draft report is ready, it will be sent to all the attendees of the

workshops for their review. Meeting material is also on the web site. Mr. Elvrum also stated that public feedback will be summarized and reported to the committee.

Committee members will be polled as to their availability for a three-hour meeting in November to review the final report.

Water Supply Safety and Security

Mr. Elvrum informed the Committee that the focus of today's meeting will be on short-term or incident-related safety and security issues. The risk discussed will relate to a shortage or loss of water, or water that is undrinkable. The presentation consisted of:

- An overview of federal legislation
- State requirements
- How local suppliers have handled the requirements and responded to them
- Examples of how other regions have addressed safety and security issues

Bill Desing, CH2M Hill (RW Beck team) noted that safety and security are not new issues. The 1974 Safe Drinking Water Act required emergency response plans. Awareness of the issue was elevated by 9/11 and hurricanes.

Federal regulations and requirements were reviewed, specifically the Bioterrorism Act of 2002 which applies to all water systems that serve more than 3,300 people. The Act required vulnerability assessments (VA) and an emergency response plans (ERP). The Act does not require implementation of recommendations for improvements that result from the VA, although many agencies did implement improvements for a variety of reasons.

Another federal regulation related to water security is a series of Homeland Security Presidential Directives (7 and 9). The Environmental Protection Agency (EPA) was granted power to implement a series of security programs for water systems.

A federal requirement relating to emergency management is the National Incident Management System (NIMS). It was developed to integrate responses from different local, state and federal jurisdictions. Public entities like water systems must follow NIMS requirements and be trained in NIMS (or be ineligible for grant money). There is also legislation pending regarding chemical security.

Mark Wallis, Bonestroo and Associates (AMEC team), summarized community emergency planning requirements. In today's drought conditions, many communities are using over 400 gallons/person/day. In the middle of the winter use is 100 gallons/person/day. In an extreme emergency, (drinking, minimal cooking) 1.5 gallons/person/day is adequate. As communities decide on reliability and their emergency plan it's very important to work through the issue of how much water is required. A water system is designed with many built-in redundancies.

Beginning in 1995, State requirements include an Emergency & Conservation Plan (Water Supply Plan), with updates required every ten years. Plans consist of three parts: 1) review adequacy of water system; 2) conservation plan; and 3) emergency preparedness plan.

In Minnesota, any public water supplier serving a population of over 1,000 is required to submit a plan, with the exception of the metro area. Because it is a required element of local comprehensive plans, every community in the metro area that has a municipal water supply system has to have a water supply plan. There are approximately 320 communities state-wide with water supply plans, 120 located in the metro area.

Meeting the requirements of the federal Bioterrorism Act satisfies part 3 of the State requirements. Minnesota also requires plans for allocating water when water supplies are limited based on statutory priorities, and also must identify triggers for those priorities.

The first generation of plans was completed with very few exceptions, and the second generation of plans is just beginning. The Metropolitan Council (Council) and Department of Natural Resources (DNR) worked on updating the guidelines for developing the plans and simplified them considerably, addressing this emergency part in a different fashion and including some of the federal requirements.

Relative to conservation, there is no uniform standard for conservation. Communities are required to have a conservation plan, which must include an education program, and they have to evaluate the rate structure. Communities have gone further in most cases and there is a wide range of plans. The new set of guidelines have goals and specific programs outlined, so as plans are reviewed as a result of the permitting process, more standard conservation programs are emerging, but still have considerable flexibility.

SOURCE WATER PROTECTION

The purpose of source water protection is to prevent contamination from entering the public water source, both ground (well) and surface water sources. In the case of groundwater, essentially what is done is look at where the water comes from, the geologic vulnerability, existing/potential threats, and develop a management plan. For surface water, an assessment is required. A protection plan is not required at this time.

As a result of federal vulnerability assessments and the emergency response plans, local communities realized the following areas needed further examination:

- 1) Mission of water system [quantity, quality pressure, fire flows, critical customers]
- 2) Critical assets
- 3) Design basis threat (what are you trying to protect against)
- 4) Countermeasures
- 5) Areas outside the utility's sphere of influence. One significant finding was that very early in the process most communities realized that there are many areas that affect their ability to produce water that are outside their sphere of influence (power grid, ability to transport fuel, chemical access and quality, testing requirements)

The question arose as to liability when a VA is completed and no action is taken. The consultant stated that attorneys have basically said that it is true to a certain extent, if an issue is identified and documented, liability is increased. However, the industry standard for security is considered, and if best practice has been enacted, liability is reduced.

Industry standards on how to mitigate the risks that the VA identifies is readily available through professional society publications. A fairly significant document that is going to be finalized this fall is called the Water Infrastructure Security Enhancement (WISE) document. It was developed by American Water Works Association/American Society of Civil Engineers/Water Environment Federation (AWWA/ASCE/WEF) and sets voluntary guidance. American National Standards Institute (ANSI) standard methodology was used to come up with consensus standards through a pretty rigorous approach.

EMERGENCY RESPONSE PLANS

In Minnesota, most communities have fairly well developed plans for local emergencies, mutual aid agreements being an example. Most water utility employees are accustomed to sharing tools or helping out with a watermain break. What's significant is that as the extent of the emergency, or as the scope or duration grows, the ability for those local partnerships diminishes.

National Incident Management System (NIMS)

An emergency response plan needs to be coordinated with the local emergency planning committee, which are called Regional Review Committees (RRC) in Minnesota. There are seven of them in the state, two in the metro area. Every city has an emergency plan and the water utility emergency response plan is a part of the city-wide plan. The city-wide plan then fits in with the county-wide plan, which fits in with the state plan. All of this is reviewed by the RRCs, and the entire process is overseen in the state by the Department of Homeland Security and Emergency Management.

Use of NIMS is required, as well as training in NIMS for anyone with a direct role in emergency preparedness, incident management or response. Minnesota has been using a similar system, Minnesota Incident Management System (MnIMS), for over ten years.

During the discussion, the Committee determined it is not clear who is required to take NIMS training, and agreed it would be reasonable for the Committee to make recommendations for a utility to decide what it means to comply with NIMS. It would not be a mandate for the sake of local conformity, but advice on what is prudent practice for a utility.

The water emergency conservation guidelines require identification of who had the authority to implement restrictions if required. The guidelines suggest that action from a city council not be required, that someone is empowered to take action without hesitation.

Mr. Wallis discussed NIMS Next Steps for Water Utilities. There is a self-assessment tool that communities can use. NIMCAST is a web-based way to assess how a community is doing with compliance. A password from Homeland Security and Emergency Management is required to access what is needed. In addition to classes, tabletop exercises would be beneficial.

Every state agency is required to put together an emergency plan for the items under their jurisdiction and one example that relates to the water industry would be the Minnesota Department of Health (MDH) *All-Hazards Response and Recovery Plan*. This plan is in draft

form and provides an organizational framework for MDH. It describes their capability and the resources available to MDH to address various public health hazards. Also in draft form is a multi-agency coordination plan that begins to address how MDH would coordinate with other agencies.

In summary, from the local perspective there is a good start. Staff is well-versed in dealing with normal emergencies, there are well-developed local relationships, some training is underway, agencies are defining their roles to help with those areas that are outside the utility's sphere of influence, and the way water systems are designed provides some level of redundancy. Opportunities include alternative supplies, expanding relationships regionally, and additional training.

NATIONAL PERSPECTIVE

Mr. Desing informed the Committee in general there was a fair amount of variance in types of risk identified and risk ranking across water utility agencies, due in part to the struggle with some of the methodologies that existed. As things have evolved a number of risks have risen to the top. Another issue with the VA is that when the assessment is completed, there are long lists of vulnerabilities and recommended improvements, without funding to implement them. In a lot of cases improvements are phased in over time to make them affordable.

One of the most significant risks identified in a many cases was the threat of contamination of the water system, both unintentional and intentional, but the highest risk is generally intentional. Generally, it was found that the distribution systems are much more vulnerable than the supply or the treatment.

Another significant risk found nationally is the loss of power, and there is a high likelihood that it could happen. Examples are the 2003 East Coast power outage, and on July 25, 2006, California forced some customers to cut back on non-essential power usage to avoid a blackout due to the heat wave. Consequences can be significant – loss of drinking water, fire protection, and boil water notices. Other risks identified, not as required by the Bioterrorism Act, but identified as people started to think about risks in general, were how the intentional risks fit in with all the other risks that are faced, such as natural disasters (hurricanes, floods), source water accidental spills, and pandemic.

HOW UTILITIES MITIGATING ARE RISKS

In relation to contamination risk, EPA developed the WaterSentinal Program with the goal of designing a system to detect contamination and respond quickly to minimize the impacts. The program uses a series of multiple triggers as potential indicators to increase chances of detection. All data is then brought together into a common management system.

As utilities look at a long list of improvements, they struggle with how much needs to be implemented. Almost all large metro areas have adopted some level of security program, but the scope varies significantly. As mentioned previously the Water Infrastructure Securing Enhancement (WISE) Consensus Standards are being developed to assist in setting the best management practice.

To mitigate power loss, utilities can increase backup generator capacity, and increase or optimize water storage volume.

Supply water contamination: In this area one of the most mature systems is the Ohio River Valley Water Sanitation Commission (ORSANCO). It is a sophisticated system that detects contaminants on the Ohio River before they would get into the treatment plant. In the Minneapolis/Saint Paul area, the Mississippi River Emergency Management Model, River Defense Network has modeled spills and some procedures are in place.

Another thing utilities are doing to mitigate risk are looking at their security policies and procedures, which is a very cost effective way to address security.

A lot of work is going into enhancing and improving emergency response plans. One example is the WARN program (Water/Wastewater Agency Response Network), which is a utilities-helping-utilities concept, a mutual aid/assistance network. This program is an interstate program allowing utilities outside of the immediate area impacted to assist affected utilities.

A specific example of how large metro areas are dealing with security is the Seattle metro area, where the plan entails cooperation across several different agencies and several different water utilities. Seattle has organized several different agencies to come up with a regional emergency response plan covering not only water utilities but also other utilities such as power, and transportation. Extensive training and exercises are required.

Preliminary ideas on what some of the opportunities are for the Twin Cities region include:

- WARN – continue to enhance this system
- Data sharing for contamination warning, similar to the regional WaterSentinal program.
- Provide utilities in the area the commonly used policies/procedures for security (e.g. WISE document)
- NIMS training (on-line/classroom)
- Sourcewater Protection Coordination throughout the region
- Support Development of Backup Supplies
- Regional Federal Homeland Security Grants

Committee member Japs would like discussion on demand reduction/demand management, as it is something that in an emergency situation is inherent.

Committee member Leppik asked about sourcewater protection coordination among the different jurisdictions. Mr. Elvrum responded that Minneapolis, Saint Paul and Saint Cloud have voluntarily developed sourcewater protection plans. The real question is how to implement plan in watersheds and farming areas unfamiliar that they're tied to the Mississippi River. Those communities have been working very hard to establish relationships, specifically with watershed districts that contribute water to their supply source. An opportunity for this committee to address might be to recommend a coordinating entity to look at common implementation across the entire watershed.

Committee member Japs also noted that with respect to coordination of supply, the DNR has a plan where dam operators have a coordination mechanism for dealing with the flow in the Mississippi River.

Committee member Stine asked that the committee make recommendations on backup supplies, as a proposal for state bonding dollars was postponed in lieu of this committee's work. The governor communicated very clearly that hopefully this process would address that issue in some regard. In addition, MDH would welcome additional input from the committee on the WARN system.

Committee member Harris identified a main concern as being safety of the water supply, and related to that is the elimination of natural filtering systems (wetlands). He asked that this area be discussed in the future.

Adjourn

The meeting adjourned at 11:06 a.m.