

Infrastructure/Retrofit Working Group of the Blue Ribbon Panel on Water Sustainability

Meeting Minutes

April 21, 2010

Introductions

Chair Guy Carpenter called the meeting to order a 9:35 am, and attendees introduced themselves. **Per the sign-in sheet, 19 people attended the meeting.**

Approval of 4-7-2010 Meeting Minutes

Although there were no comments by attendees on the draft notes, Chair Carpenter did not call for a vote to approve them because no copies were available for attendees to examine. Consideration and approval of both the 4-7-2010 and 4-21-2010 notes will be on the next agenda.

Presentations

The scheduled presentation by Mike Palermo did not take place as he was not in attendance. He will be contacted about presenting at the next meeting.

Other Information Sharing

Chair Carpenter led a discussion on the different ways that reclaimed water can be integrated into water supply infrastructure and what technical criteria and regulatory and administrative approaches are appropriate for these different cases. The premise behind this discussion is that reclaimed water, although treated to a very high standard, is never served as a potable source in Arizona. Despite this, reclaimed water is often dealt with as if it were drinking water, leading to contradictions in regulatory requirements and strategies compared to other water sources used for the same purposes that are usually of poorer quality, such as untreated CAP or SRP surface waters. MCESD staff present wanted to make it clear that whether reclaimed water is better or worse in quality than CAP or SRP surface waters depends on the parameters being measured. While reclaimed water can be lower for bacteria and viruses than these surface waters, the opposite is likely true for parasites, particularly the protozoa *Giardia* and *Cryptosporidium*. The digestive track of mammals is a breeding environment for these parasites and they are heavily shed in feces. The thick-walled oocysts of both are highly resistant to chlorine and will pass unaffected through the disinfection system of most water reclamation facilities. This is a concern for MCESD from a public health standpoint. Among the issues noted were:

1. Should the technical criteria and permitting requirements for reclaimed water distribution systems apply only to the point where the water is released into an impoundment? If so, water pumped from the impoundment for irrigation would not be subject to the reclaimed water rules. This would align the regulation of these impoundments with irrigation impoundments supplied by SRP and CAP water, for which few irrigation restrictions exist. This would also make it easier to design systems to take advantage of multiple sources of water.

2. Is there a need for a separate definition and regulatory approach for “non-potable water,” which would encompass reclaimed water, surface waters, pumped groundwater, and perhaps stormwater and irrigation tail water. Australia has adopted this approach, which allows greater flexibility in developing non-potable water supply infrastructure.

3. How should technical criteria for onsite use (at the residence or place of use after the meter) be addressed in the reclaimed water program? Should there be a separate “code”? Should the UPC be modified? Should a single color (purple) or different colors be used for different types of non-potable water? How should “distribution system” versus “onsite” be defined?

4. What are reasonable requirements for converting existing pipeline infrastructure for other uses (for example, drinking water pipelines) into non-potable supply systems?

It was suggested that non-potable water supply systems could have common technical criteria for cross-connection control, pipe marking, and signage. Currently, the City of Tucson recommends purple pipe not only for reclaimed water, but for gray water and water harvesting. Attendees generally thought that this might be a viable approach.

Reports by Subcommittees

A. Aquifer Recharge Subcommittee – Maurice Tatlow reported that this subcommittee would meet for the first time the following week. He asked for input on the scope of the subcommittees work. He noted that there is a lot of overlap with the Permits Working Group and suggested that Aquifer Storage and Recovery technical criteria be separate from the reclaimed water program. He stated that recharge-recovery wells might be best regulated under the APP, rather than the reclaimed water program. Dale Leib and Bill Kenning indicated their interest in joining the subcommittee. It was requested of Chair Carpenter that he encourage Michele Robertson, Scott Miller, and Sandra Fabritz to provide input into the aquifer recharge subcommittee process. The idea of forming a cross functional committee between our group and the permitting group was discussed. Chair Carpenter suggested that we hold off on requesting that, and allow the group chairs an opportunity to coordinate among groups and subcommittees, but to capture in writing the coordination issues.

B. Retrofit Subcommittee – Andy Terrey reported that the subcommittee has convened once to discuss its goals. The subcommittee has also begun compiling various pertinent rules and regulation from other utilities and regulators, and is working on an outline for the recommendations.

Framework for Design Criteria for Reclaimed Water Infrastructure

Chair Carpenter suggested the following outline for the Interim Report of the Working Group (which he called a policy white paper), due to the Blue Ribbon Panel in June 2010:

1. Policy statement: background/description
2. Guidelines (not in rule): best practice examples

3. Standards (in rule): best practice examples

4. Recommendations

Next Meeting

The next meetings will be held on May 12 and May 26 at ADEQ, 5th Floor Conference Room, from 9:30 – 11:30 am. Chair Carpenter will be reporting on Working Group progress at the next Blue Ribbon Panel meeting on May 7, 2010.

Gaps, Proposed Methods to Fill Gaps, and Issues to Forward (Continuing)

The Working Group has identified “gaps” in the State of Arizona existing reclaimed water technical standards. These gaps are shown in Table 1 along with the date of the meeting where each gap was identified.

No.	Description	Date of Meeting	Potential Source of Guidance/Applicability for Arizona
1	There is no guidance provided on retrofitting systems (e.g., converting an existing potable water line to deliver reclaimed water)	2-24-2010	
2	Current standards do not address groundwater augmentation that occurs when reclaimed water is recharged to the aquifer	2-24-2010	
3	There is no guidance provided on distribution and use of reclaimed water inside buildings	2-24-2010	Tucson Water
4	There is no guidance provided on using raw water to augment reclaimed water to meet seasonal demand fluctuations	2-24-2010	
5	There is no guidance provided regarding using high quality reclaimed water to augment potable water supplies at water treatment plants during emergencies	2-24-2010	
6	There is no guidance provided related to the protection of reclaimed water from the point of delivery to end users in order to preserve the quality of the water	2-24-2010	
7	On-site issues are not addressed	2-24-2010	State of Florida
8	There is no guidance provided related to operations and maintenance of reclaimed water conveyances	2-24-2010	
9	There is no guidance provided for abandoning a reclaimed water line.	3-24-2010	
10	Should a General Aquifer Protection Permit (APP)	3-24-2010	

	be required to operate a reclaimed water distribution system?		
11	Should certification/training for reclaimed water users be required?	3-24-2010	
12	There is more EPA guidance for Water Treatment unit processes than for Wastewater Treatment Unit Processes.	4-7-2010	
13	There are no technical criteria for mixed, non-potable water supply systems (reclaimed water, CAP and canal water, pumped groundwater, etc.)	4-21-10	

The Working Group has suggested several ways to fill in the gaps in the state of Arizona’s existing reclaimed water technical standards. These suggestions are shown in Table 2 along with the date of the meeting where suggestion was made.

Table 2. Proposed Methods to fill in the Gaps in the State of Arizona Existing Reclaimed Water Technical Standards Identified by the Infrastructure/Retrofit Working Group		
No.	Description	Date of Meeting
1	Incorporate design standards in the regulatory rules	2-24-2010
2	Consider aquifers as “infrastructure” for storing reclaimed water for future use	2-24-2010
3	Review existing standards from other states or countries to determine applicability to the State of Arizona	2-24-2010
4	Incorporate a visioning process that will help chart a course to achieve goals of the working group	2-24-2010
5	Develop Best Management Practices (BMPs) for operations related to reclaimed water distribution	3-24-2010
6	Develop a definition for “recycled” and/or “non-potable” water	4-21-10

The Working Group has identified several issues that are related to reclaimed water infrastructure but that also might be more appropriately addressed by another working group or at the Blue Ribbon Panel level. These issues are shown in Table 3 along with the date of the meeting where each issue was identified.

Table 3. Proposed Reclaimed Water Issues to be Forwarded to Another Working Group or the Blue Ribbon Panel		
No.	Description	Date of Meeting
1	Impact of water softening on reclaimed water quality with primary concern for increased salinity and TDS concentrations	2-24-2010
2	De-centralized use of reclaimed water resources	2-24-2010
3	Permitting issues related to jurisdictional boundaries that might result in potable water supplies being located too close to reclaimed water recharge projects	2-24-2010
4	Review the Type 3 Reuse (Agent) permit for a reclaimed water distribution utility in regards to risk to the utility versus the end user	3-24-2010

	with respect to the use of reclaimed water “after the meter”	
5	Addressing the formation of Disinfection By-Products (DBPs) in reclaimed water	3-24-2010
6	Addressing reclaimed “water wheeling” whereby an intermediate party delivers water to another user (e.g., a golf course providing water from its lake to a HOA subdivision).	3-24-2010

Action Items

The following action items resulted from the meeting:

- The Aquifer Recharge and Retrofit sub-committees will hold their first meeting.
- Mike Palermo will be contacted about presenting “Lessons (O&M and More) From 24 Years of Operating a HOA Reclaimed Water System” at the next Working Group Meeting.