

MINUTES OF THE
MARICOPA ASSOCIATION OF GOVERNMENTS
WATER QUALITY ADVISORY COMMITTEE MEETING

Tuesday, October 25, 2011
MAG Office Building
Phoenix, Arizona

MEMBERS ATTENDING

David McNeil, Tempe, Chair	Richard Sacks for Suzanne Grendahl, Scottsdale
Sandra Rode for Goodyear	Kevin Chadwick, Maricopa County
Barbara Chappell, Avondale	Henry Day for John Boyer, Pinnacle West Capital
Ron Whitler for Buckeye	Jim Kudlinski, Salt River Project
Robert Goff, Chandler	Summer Waters, University of Arizona Cooperative Extension
# Dave Emon, El Mirage	Sherrie Logg for Michael Byrd, Salt River Pima-Maricopa Indian Community
* Lonnie Frost, Gilbert	Carole Klopatek, Fort McDowell Yavapai Nation
Doug Kukino for Lawrence Brotman, Glendale	Glenn Stark, Gila River Indian Community
Jake West for Kathryn Sorenson, Mesa	
* Brian Biesemeyer, Peoria	
Randy Gottler, Phoenix	
Greg Homol, Queen Creek	
Rich Williams Sr., Surprise	

*Those members neither present nor represented by proxy.

#Attended by telephone conference call.

OTHERS PRESENT

Julie Hoffman, Maricopa Association of
Governments
Kara Johnson, Maricopa Association of
Governments

Gerald Copeland, Gerald R. Copeland, PE, RLS
Stephen Rot, City of Glendale

1. Call to Order

A meeting of the MAG Water Quality Advisory Committee (WQAC) was conducted on Tuesday, October 25, 2011. David McNeil, City of Tempe, Chair, called the meeting to order at approximately 2:00 p.m. David Emon, City of El Mirage, attended the meeting via telephone conference call.

2. Agenda Announcements

Chair McNeil provided an opportunity for member agencies to report on activities of interest in their agencies.

3. Call to the Audience

Chair McNeil provided an opportunity for members of the public to address the Committee on items not scheduled on the agenda that fall under the jurisdiction of MAG or items on the agenda for discussion, but not for action. He noted that according to the MAG public comment process,

members of the audience who wish to speak are requested to fill out comment cards, which are available on the tables adjacent to the doorways inside the meeting room. Citizens are asked not to exceed a three minute time period for their comments. Chair McNeil noted that no public comment cards had been received.

4. Approval of the November 8, 2010 Meeting Minutes

The Committee reviewed the minutes from the November 8, 2010 meeting. Greg Homol, Town of Queen Creek, moved and Rich Williams Sr., City of Surprise, seconded, and the motion to approve the November 8, 2010 meeting minutes carried unanimously.

5. Chair and Vice Chair Appointments

Julie Hoffman, MAG, stated that in July 2009, the MAG Regional Council approved the MAG Committee Operating Policies and Procedures. According to the policies and procedures, officer positions for technical committees have one-year terms, with possible reappointment to serve up to one additional term, by consent of the respective committee. She noted that the chair and vice chair appointments of the MAG Water Quality Advisory Committee are due to expire on December 31, 2011. Ms. Hoffman commented that typically the vice chair would ascend to the chair position; however, Vice Chair David Iwanski, City of Goodyear, has retired. She stated that MAG is accepting letters of interest for the chair and vice chair positions of the Water Quality Advisory Committee.

Ms. Hoffman noted that letters of interest from MAG member agencies are required for those who wish to be considered for appointment. The letters of interest are to be submitted to Mayor Hugh Hallman, MAG Chair, by Tuesday, November 1, 2011. The appointments will be made by the MAG Executive Committee at its November 14, 2011 meeting.

6. Update to the MAG 208 Water Quality Management Plan

Ms. Hoffman briefed the Committee on the update of the MAG 208 Water Quality Management Plan. She noted that this updated document will incorporate the amendments and small plant review and approvals that have been approved by the MAG Regional Council since the 208 Plan was last updated in 2002. Ms. Hoffman explained that the 21 amendments and six small plant reviews and approvals have added a total of 35 new wastewater treatment plants since the 2002 update. In addition to including the amendments and small plant review and approvals, the update will also incorporate the latest approved Municipal Planning Areas and population projections. This past April, the MAG member agencies were provided with draft descriptions for their jurisdictions. Comments regarding these sections were requested by July 15, 2011. Ms. Hoffman reported that MAG has received a number of changes to the descriptions. She explained that MAG staff has been incorporating these comments into the 208 Water Quality Management Plan document. Ms. Hoffman mentioned that MAG is continuing to receive comments and will include the changes as they are received. Once all of the information is reviewed and incorporated into the plan, a draft will be sent out to the member agencies for final review.

Ms. Hoffman discussed comments received from the jurisdictions. Regarding the population projections, the last MAG approved population projections are from 2007, which was prior to the downturn in the economy. Many of the jurisdictions are reporting and utilizing different population projections. Ms. Hoffman also stated that some jurisdictions are reporting decreased capacity of facilities and a few plants have been eliminated.

Ms. Hoffman stated that at previous meetings, the Committee has discussed including sustainability and goals for reclaimed water in the update. With regard to sustainability, Ms. Hoffman mentioned that in 2010 MAG conducted the Greening Water and Wastewater Infrastructure Workshop. As part of the workshop a roadmap was produced as a resource for utilities. The roadmap assists utilities in reducing energy consumption and chemical use, and how to save financial resources. Ms. Hoffman suggested including the roadmap in an appendix to the 208 Plan update.

Dr. Carole Klopatek, Fort McDowell Yavapai Nation, inquired what major changes will be made to the update. Ms. Hoffman replied that the 35 new wastewater plants and also the elimination of some plants as requested by the jurisdictions are major changes. Dr. Klopatek asked if the 208 amendment process itself was being updated. Ms. Hoffman responded that, no, the 208 amendment process has not been changed.

Chair McNeil referred back to Ms. Hoffman's comments about population projections. Chair McNeil mentioned that many jurisdictions are facing a decrease in flow. He commented that in the City of Tempe even as population remains at a relatively stable level, there has been a decrease in flow due to a combination of conservation programs and the economic downturn. Chair McNeil stated that the City of Tempe has seen a 17 percent reduction in wastewater flow. He added that the flow reduction has led to jurisdictions in the Sub-Regional Operating Group (SROG) and private entities to relook at their Capital Improvement Programs (CIPs) and master plans.

Dr. Klopatek commented on emerging contaminants and inquired about how to address the topic. Chair McNeil responded that the Committee has not had a discussion on the topic of emerging contaminants. He referred to the 208 process and added that a facility has to obtain the necessary permits in order to treat and discharge water. Chair McNeil stated that any regulatory constraints related to emerging contaminants would accordingly be incorporated into the federal and state regulations. Chair McNeil inquired if Dr. Klopatek envisioned incorporating emerging contaminants into the approval process or mentioning the topic in the 208 Plan update. Dr. Klopatek commented that as the laws change, agencies need to be aware of the emerging contaminants regulations and as new plants are proposed that emerging contaminants are addressed.

Chair McNeil discussed the regional wastewater goals and how reclamation is now necessary for sustainability. He mentioned that this update should address the change from a more regional approach to wastewater due to the importance of reclaimed water. Chair McNeil stated that potentially the Committee could incorporate language regarding various emerging regulations and issues related to wastewater that might impact the permitting of plants in the future. He cautioned against including these items into the 208 approval process.

Dr. Klopatek commented on including the issue of emerging contaminants into the 208 process. She discussed having oversight to ensure these issues are addressed. Chair McNeil questioned the Committee's authority to create additional regulatory criteria. Dr. Klopatek discussed federal regulation and making sure that emerging contaminants are addressed with new plants. Summer Waters, University of Arizona Cooperative Extension, commented on the good discussion and indicated that researchers at the University of Arizona are currently studying the issue of emerging contaminants. She stated that a challenge with these updates is constant change. Ms. Waters commented on keeping emerging contaminants on the radar as the federal regulations evolve. She added that there is a lot of activity occurring.

Dr. Klopatek discussed a process for ensuring plants meet the necessary regulations. Chair McNeil indicated that once the jurisdictional updates are incorporated into the plan, the Committee could reconvene for discussion on any additional language to include in the update. Ms. Hoffman noted

that when an amendment goes through the 208 process, it is the jurisdiction in which the facility would be located that brings it forward to MAG. Therefore, each jurisdiction is able to make sure the plant meet their requirements. There are also permit requirements for facilities.

Barbara Chappell, City of Avondale, cautioned the Committee on redundant regulations. Chair McNeil stated that inconsistent criteria would also be a concern. Ms. Hoffman added that MAG is not a regulatory agency.

7. Green Projects and Programs for Water and Wastewater Infrastructure

Chair McNeil invited Committee members to share sustainable initiatives and programs for water and wastewater infrastructure that are occurring within their jurisdictions.

Mr. Williams stated that the City of Surprise is commencing a continued effort to use reclaimed wastewater for open space irrigation. Mr. Williams mentioned that the City of Surprise has some HOA open space areas being irrigated with reclaimed water instead of public water. He also mentioned that the City Hall landscape is now using reclaimed water to irrigate. Mr. Williams mentioned that the City has 18 recharge wells.

Dr. Klopatek stated the Fort McDowell Yavapai Nation is developing a water model that is unique to Fort McDowell, but could have applicable use to other jurisdictions. She noted that Fort McDowell gets its water from the Verde River. Dr. Klopatek stated that the Salt River Project (SRP) statements take several weeks. She indicated that SRP works their model in terms of the legal buckets and entitlements. Dr. Klopatek mentioned that the model being developed uses SRP's data in a forward model that would do forecast work. This forward model would allow the Fort McDowell Yavapai Nation to be more efficient in their water use. Chair McNeil inquired if the different buckets are referring to water rights. Dr. Klopatek clarified that each bucket is a different legal entitlement and accordingly each bucket can only be used in a certain area. She noted that using the current model it was difficult to gauge how much water remains and how much is being utilized. The new model would fine tune how their water distribution system is set up and how efficiently the water is being used. Dr. Klopatek mentioned that the revision has already taken about 6,000 hours of work.

Richard Sacks, City of Scottsdale, stated that Scottsdale currently has a request for proposals entitled Renewable Energy Generation Facility, also called the Water Campus or Municipal Campus. The City is requesting proposals for any green energy generation technology that can yield a maximum of seven megawatt hours of electricity. Mr. Sacks also mentioned that Scottsdale's Water Campus produces a high quality level of water that is either recharged or used for irrigation on golf courses. He noted that this process uses a tremendous amount of electricity.

Greg Homol, Town of Queen Creek, stated that Queen Creek is fully dependent on groundwater. He added that better utilization of the SCADA system has lead to reduced energy costs between the range of 10-15 percent per month. Mr. Homol mentioned that a lot of money and energy can be saved by running well and booster facilities more efficiently. Chair McNeil inquired if Queen Creek brought in a third party to audit. Mr. Homol responded, no, the Town of Queen Creek internally reviewed their facility.

Robert Goff, City of Chandler, stated that Chandler has participated in the Environmental Protection Agency (EPA) Region IX year-long webinar series regarding energy efficiency in water and wastewater facilities. He indicated that as part of that webinar series, Chandler developed a project to implement in their City throughout the year. He noted that Chandler, similar to Queen Creek, is

looking at their operations and is optimizing their water distribution system. Mr. Goff stated that utilizing surface water this year was more cost-effective. The goal of the project was to reduce the number of kilowatt hours from a million gallons by five percent over last year. Mr. Goff noted that the City of Chandler is currently at 4.2 percent reduction due to a rigorous examination of their operations.

Chair McNeil stated that Tempe was able to reduce their energy consumption since their disinfection byproduct formation has decreased significantly due to the nature of total organic carbon (TOC) and efficiencies created internally. Therefore, Tempe did not have to pay as much attention to the storage issue. He commented that the City of Tempe had initiated a reduction in night storage to avoid increasing water age. He added that the City was doing what it could to reduce disinfection byproduct formation so they were reducing storage to very low levels. He noted that their disinfection byproducts are so under control at this point that the City is able to treat more at night and store more. Therefore, Tempe has reduced power consumption through off-peak treatment pumping.

Chair McNeil stated that the project on the forefront for the City of Tempe is the Fats, Oils, and Grease (FOG) Program. Chair McNeil explained that Tempe has been reevaluating, from both a sewer management and energy standpoint, how the City can use FOG from local restaurants and convert it to energy. He noted that the year and a half long study analyzing FOG is to be completed within the next few weeks. Chair McNeil added that the study brought to light two major findings. One finding is that the best use for FOG, collected from restaurants, is to introduce it to sludge digesters to create biogas. Using this information, Chair McNeil noted that the City of Tempe in the long-term may seek to partner with one or more regional jurisdictions to utilize solid digesters to turn FOG into energy. He mentioned that in the short-term the City of Tempe is embarking on a multi-phased approach on FOG collection and maintenance. Chair McNeil noted that this approach will both aid in better management of grease and compel restaurants and haulers to better manage grease, but to also obtain the feedstock. He stated that he will be going to the City Council in less than one month to propose a one-year pilot project, whereby the City would contract with one or more private companies to collect grease from approximately 10-12 percent of Tempe restaurants. Chair McNeil mentioned that the pilot project is planned to be implemented in the beginning of next year. He commented that the City would be able to quantify the grease collected from approximately 75 restaurants to determine how competitive pricing could be offered for grease and how to better serve restaurants with regard to grease collection.

Chair McNeil commented that they are excited about this project of harvesting the feedstock for future renewable energy generation which has really gained traction the last several months. Chair McNeil explained that Tempe restaurants are showing support for this initiative and are committed to stewardship. He added that not only is the restaurant community interested in sustaining the sewer infrastructure, but also seeing a waste product turned into a renewable energy source. Chair McNeil stated that within the next few years, it is the hope that the City may control all FOG maintenance and management with Tempe.

Dr. Klopatek inquired how often FOG is collected. Chair McNeil responded that the prescribed timeline is every 90 days for interceptors and 30 days for grease traps. He noted that the time frame may be dependent on how much waste is produced. Chair McNeil stated that under the FOG project structure, the City would be taking responsibility for cleaning and maintaining restaurant grease traps which removes them from regulatory programs. Accordingly, Chair McNeil noted that through contracts with liquid waste haulers, Tempe could potentially be able to pass on grease maintenance savings of 15-25 percent to the restaurant community. He stated that the grease would be managed

like municipal solid waste. He stated that the City would be able to hold the liquid waste haulers accountable for quality criteria, which has been a problem in the industry.

Ms. Chappel asked where the product will be going. Chair McNeil replied that through contract, the City of Tempe would determine where the FOG goes. He stated that until a renewable energy alternative is established, the FOG will go to the landfill. Chair McNeil commented that the long-term intent is to partner with a jurisdiction who has use for the feedstock to generate renewable energy. The landfill tipping fee would then be reduced dramatically or eliminated altogether. A part of this savings would then be passed on to restaurants and revenue would be generated for the City. Ms. Chappel mentioned that this program would be similar to recycling in that a city can create revenue by selling the renewable energy that is created from the waste product. Chair McNeil replied that the pilot program restaurant locations are in downtown Tempe which is a concentrated area. This concentrated area of restaurants feeds into one 16-inch sewer line that goes into a meter station and the City has years of baseline Chemical Oxygen Demand (COD) and Total Suspended Solids (TSS) data. After the program has been initiated, the City can measure the differences in loading and calculate the cost savings in treatment. Chair McNeil noted that cost savings will be distributed as year-end dividend checks to restaurants. He added that the FOG program is being structured as a big win for Tempe and its restaurants.

Mr. Sacks inquired if the liquid waste haulers would have to provide a receipt to prove that they went to the landfill. Chair McNeil responded that the haulers will be required to provide proof, and the trucks would also be equipped with Global Positioning System equipment. He added that renewable energy aside, Tempe hopes this project will reinvent the paradigm for grease management in the region. It will provide a structure for proper maintenance of grease traps. Mr. Homol commented that the Town of Queen Creek is very interested in this project and potentially partnering in the future.

Chair McNeil noted another finding of the Tempe FOG feasibility study was that the technology of turning brown grease into biodiesel is emerging. The technology to turn brown grease to biodiesel is feasible; however, the cost associated with it and the large quantity needed makes it difficult to actualize for a single jurisdiction. Chair McNeil commented that to make a brown grease to biodiesel project viable, the City of Tempe would need 10 times more restaurants. However, he noted that in the future, the region could potentially discuss a regional approach to creating biodiesel from brown grease. Mr. Homol mentioned that a biodiesel company was building a facility in Chandler. Chair McNeil stated that the company was AZ Biodiesel and they only worked with yellow, not brown, grease. He explained that the City of Tempe was approached by BlackGold Biodiesel and a private investor who were interested in creating a large scale brown grease to biodiesel facility. However, Chair McNeil noted that Tempe alone could not support a large scale brown grease to biodiesel facility based on the amount of brown grease produced in the City, but it may be a possibility once the region is on board.

8. Call for Future Agenda Items

Chair McNeil announced that future meetings will be called to discuss the update to the 208 Plan as needed. With no further comments, Chair McNeil thanked the Committee for participating and called for adjournment of the meeting at 2:45 p.m.