

REGIONAL WASTEWATER RECLAMATION ADVISORY COMMITTEE

August 21, 2008

Committee Members Present:

Adam Bliven	Sheila Bowen	John Carlson
Marcelino Flores	Barbee Hanson	Corey Smith
Mark Stratton	Ann Marie Wolf	Michael Gritzuk

Committee Members Absent:

John Carhuff	Brad DeSpain	Rob Kulakofsky
Armando Membrila	John Sawyer	

Staff Present:

Ed Curley	Sandra Current	Laura Fairbanks
Mary Hamilton	Suzy Hunt	Jeff Nichols
Jan McDonald	Melaney Seacat	Lorraine Simon
David Smith	Lilian Von Rago	John Warner
Eric Wieduwilt		

Other County Staff Present:

Harlan Agnew	Chuck Wesselhoft
County Attorney's Office	County Attorney's Office

- I. **CALL TO ORDER.** Chair Adam Bliven called the meeting of the Regional Wastewater Reclamation Advisory Committee (RWRAC) to order at 7:48 A.M. Chair Bliven noted that on August 5, 2008, the Board of Supervisors changed the name of the Committee to the Regional Wastewater Reclamation Advisory Committee.
- II. **APPROVAL OF MINUTES.** The Committee approved the minutes of the June 19, 2008, WMAC meeting.
- III. **COMMITTEE/SUBCOMMITTEE REPORTS.**
 - A. **Citizens' Water Advisory Committee (CWAC) Update.** A CWAC Report was not presented.
- IV. **DISCUSSION.**
 - A. **Old Items/Updates.**

1. **Water Infrastructure, Supply and Planning Study (Study).** Melaney Seacat, Co-coordinator for the Study, provided an update on the activities of the Study Oversight Committee. The Oversight Committee has the responsibility of providing direction and oversight on Phase I and Phase II of the Study. Phase I includes presentations on water/wastewater infrastructure by Tucson Water and the Wastewater Reclamation Department. Phase II includes development of a common set of water development and conservation goals.

In the first half of Phase I, five "Water 101" presentations to the Study Oversight Committee were completed by a joint team of City and County staff. These presentations focused on the infrastructure, capacity and condition of the infrastructure, supply and demand, and financial aspects of the Capital Improvement Program (CIP) for both the City and County. In the second half of Phase I of the Study, the Oversight Committee will be looking at issues related to population, land use, growth, environmental needs for water conservation, drought, and climate change. The Oversight Committee will conclude this

phase looking at sustainability – issues that need to be considered when looking at a sustainable future.

Staff is planning to distribute a progress report for the Study in August 2008 to the City of Tucson Mayor and Council and Pima County Board of Supervisors. A public hearing will be held by the Board of Supervisors on September 9, 2008 to afford the public an opportunity to provide input on the Study Program.

A follow-up report with a focus on Phase II will be submitted in October 2008 to the Mayor and Council and the Board of Supervisors. City/County staff will conclude the next phase of presentations to the Oversight Committee on October 2, 2008. The Oversight Committee will spend the remainder of October 2008 looking at Phase II and the final Phase I report, which will be presented in December 2008 to the Mayor and Council and the Board of Supervisors. RWRAC members who serve on the Oversight Committee then gave their perspectives on Oversight Committee activities.

Marcelino Flores commented that the agenda is really picking up for the Oversight Committee, now that it is entering into the second phase of the Phase I Study. As a result, beginning in September 2008, Oversight Committee meetings will be held on a weekly basis. Mr. Flores observed there was a great amount of good will and positive outlook toward this effort.

Mark Stratton said the presentations provided by City and County staff have been exceptional and very informative.

John Carlson felt that staff and the Oversight Committee were really tackling the issues. He also complimented County staff on their presentations.

Mr. Stratton added that individuals who have not been able to attend a particular meeting have expressed their appreciation that video recordings of the Oversight Committee meetings can be viewed on the Study website.

Ms. Seacat commented that the first series of presentations to the Oversight Committee were heavily utility-driven. The primary presenters for the next five presentations include the directors of the City and County Planning Departments, staff from the Pima Association of Governments, as well as Kathy Jacobs from the Arizona Water Institute, and Sharon Megdal from the Water Resources Research Center.

Mr. Bliven asked if the Oversight Committee was still giving consideration to inviting other water agencies from the area into the process. Ms. Seacat anticipated that would be a topic the Oversight Committee would probably deliberate on moving into the October meetings.

Mr. Carlson said from the start, the Oversight Committee has said anybody can come and make a presentation and provide input.

Mr. Stratton added that at the last Oversight Committee meeting there was discussion on the scheduling of presentations. He said what came out of that was a change in the schedule to allow two additional meetings so that the Oversight Committee could get more public input.

Mr. Seacat said letters have gone out to the Southern Arizona Water Users Association and the other providers, and the last letter included a supply inventory template. There is also a place in the final report for inclusion of this data.

- 2. Regional Optimization Master Plan (ROMP) Update.** Mike Gritzuk, Department Director, provided the ROMP Update. There are three major components of the ROMP Program. They are the upgrade and expansion of the Ina Road Water Reclamation Facility (WRF), the Roger Road to Ina Road Plant Interconnect and the new Water Reclamation Campus in the vicinity of the Roger Road site.

The Department has retained a consultant team to provide overall program management for the ROMP Program. In addition to having the responsibility for oversight of the overall budget and schedule of the ROMP Program, the consultants are also developing standards and quality assurance/quality control components for the Program.

The Department has awarded the Consultant, CH2MHill, the design contract for the Ina Road WRF upgrade and expansion project. This project will expand the facility's treatment capacity to 50 million gallons per day (mgd) and is the largest design contract in the ROMP Program. That design activity is underway with major work on the design of the interim biosolids facilities at the Ina Road facility.

The Contractor, Montgomery Watson and Harza (MWH) Constructors, is the Construction-Manager-At-Risk (CMAR) for the Ina Road WRF project. The Department has approved the first guaranteed maximum price (GMP) component of this contract. That component consists of the contractor establishing an operations complex at the facility for all of the consultants that will be involved in the Ina Road project and to provide assistance in the cultural resources activity. The site for this complex is currently undergoing cultural resource evaluation, which Mr. Gritzuk hopes will be completed very shortly.

The Ina Road expansion project is on-schedule. The schedule calls for the new facility to be on-line and operational six months in advance of the regulatory date of January 2014.

Design of the Plant Interconnect between the Roger Road and Ina Road facilities is underway. Brown & Caldwell is the design consultant for this project. At this point in time, issues concerning alignment, permitting, property acquisition, etc. have been resolved and the design is nearing 90 percent completion. Mr. Gritzuk anticipated the Department would be proceeding into a GMP arrangement with Sundt/Kiwuit, the contractor for the Plant Interconnect project, within the next couple of months.

Mr. Gritzuk informed Committee members that the Department has completed a series of workshops concerning the procurement method for the Water Reclamation Campus construction project in the vicinity of the Roger Road site. A recommendation from the Consultant, Greeley and Hansen, is the design-build-operate method. The Department is currently performing an extensive internal review of the details of the Consultant's recommendation. Mr. Gritzuk was hopeful staff would be able to report on the recommended procurement method within the next couple of months. Looking at the schedule for the Water Campus, Mr. Gritzuk anticipates the Department can bring this project on-line at least six months in advance of the regulatory date of January 2015.

Mr. Gritzuk reminded the Committee members that the ROMP needs to be supported with future rate increases and bond issues. Several presentations were made by the Department and Chair Bliven made a presentation to the County Bond Advisory Committee recommending approval of the bond authorization. The Department's bond recommendation is for \$565 million. The bond election is now planned for November 2009. The Department has geared its Financial Plan in anticipation that there will be a bond election in 2009. Of the \$565 million, \$445 million is for ROMP. The Department has

the 2007/08 Financial Plan in place which includes some initial rate increases. Discussion followed.

Mr. Stratton asked, with the move back to November 2009 for the bond election, are there any changes to the Financial Plan scenario because the Department is losing a year of having those bond monies. Mr. Nichols responded that it may have a slight impact on the Financial Plan. The Department is planning on using certificates of participation (COPs) to bridge the gap between having potential bond funding available in 2009. There could be a little bit of interest expense related to the COPs. However, as long as the Department stays on track with the rate increases projected in the 2007/08 Financial Plan, we should be okay. Mr. Nichols reminded the Committee members that the Department is currently updating the Financial Plan, which will be presented later in 2008 to the Committee.

Mr. Gritzuk reminded Committee members that the cost of the ROMP was \$536 million in 2006 dollars. He added that the entire ROMP Program has been broken down into the various construction projects' professional services. Individual construction project cost estimates have been tweaked and inflated to their individual construction periods, assuming that inflation will continue. This has made the overall budget for the ROMP at \$720 million. This \$720 million relates to the Department's original projection of \$717 million for the ROMP.

The Department still needs to develop a plan for upgrade, rehabilitation, or replacement of the Ina Road WRF power plant. There recently has been interest in that facility. The Department has been contacted by various entities in a public/private partnership arena. After the Department develops the procurement method for the Water Campus project, we will move into deciding how to proceed with the powerhouse.

Mr. Bliven asked if the powerhouse might actually be a revenue generator for the County - the County might be able to get green energy credits for this project Mr. Gritzuk responded that is still is an option. He added that the powerhouse also has the potential of being a cost-effective way to produce energy for operation of the Ina Road WRF.

3. **System-Wide Odor Control Program.** Mr. Gritzuk provided an update on the System-Wide Odor Control Program. The Department's overall Odor Control Program is now in place and all of the interim odor control projects are operational. These projects included placement of permanent odor control devices in the conveyance system and also interim facilities at the Roger Road WRF. The cost of these projects was approximately \$7 million. Mr. Gritzuk referred Committee members to the Odor Control Quarterly Report which staff distributed at the meeting. This report will also be distributed to the Board of Supervisors.

The Odor Control Quarterly Report reflects the significant reductions the Department has made in odors system-wide. Many new facilities, including granulated activated carbon scrubbing (GAC) devices, have been installed. The GAC units are new to staff and they still need to optimize their own knowledge of how these facilities are operated and maintained to their highest efficiency. The Odor Control Management Program which was previously reported to the Committee is now in place and fully staffed and fully funded in various budgets within the Department. This was one of the major issues of the Citizens Involvement Committee. Mr. Gritzuk added, if the Department sees that there are odor control improvements needed anywhere in the system, the Department will move ahead with those improvements.

Mr. Flores noted that the Odor Control Quarterly Report does not address the health concerns that are perhaps associated with the odors. He felt it would be beneficial to address this issue. Mr. Gritzuk responded that during the development of the Odor Control

Management Program and involvement of the CIC the health risk issue was raised. The Department had a University of Arizona expert make a detailed presentation on health impacts of odors to the CIC and informed the CIC that there is no linkage to health issues.

Corey Smith asked about the 47 odor complaints identified in the Odor Control Quarterly Report compared with other municipalities of similar size. Mr. Gritzuk responded that this was difficult to benchmark, but from his own experience with Phoenix, prior to improvements made there, there were hundreds of complaints. There again, a very aggressive odor control program was implemented and the complaints came down to a negligible amount. He felt that the Department was at that point.

4. **FY 2008/09 Budget Update.** Jeff Nichols, Deputy Director Finance and Administration Division, provided the FY (Fiscal Year) 2008/09 Budget Update. Mr. Nichols informed the Committee members that, because the Department does accrual-based accounting, many of the Department's expenses that appeared in July 2008, were actually incurred in June 2008. Normally, the Department sees a doubling of its expenses (on a month-by-month-basis) in June and very little activity in July. The Department has seen some decreases in connection fee revenues. County Finance has asked the Department to track this trend on a 13 month rolling plan. Connection fee revenues do fluctuate from month to month. The Department is seeing some downturns in single family residential permits.

Mr. Nichols also informed Committee members that the Department will be preparing a zero-based budget for FY 2008/09. This process requires the Department to justify every line item within its budget. Discussion followed.

Mr. Carlson asked if there was any doubt that connection fee revenues were going to be considerably lower for an extended period of time. Mr. Nichols responded the Department hopes to see an uptake, but if there is a decrease the Department will react. Its major concerns are meeting its funding needs which are, in order of priority, regulatory requirements, rehabilitation/maintenance of the existing sewer system and expansion of conveyance and treatment systems. If there is a downturn in the market, expansion may not be necessary.

Mr. Carlson expressed that with the lack of availability of money for mortgages, the market would be low for quite awhile.

Mr. Wieduwilt noted that the Department bases much of its planning on the 2006 Metropolitan Area Facility Plan Update where we use population projections, load it with capacity and identify areas where the growth is going to require augmentation of the sewer system. If growth occurs in different locations than projected, the Department may have to address those capacity problems with shorter term capacity augmentations to provide for that development.

Mr. Nichols addressing Mr. Carlson's earlier comments, said the majority of the Department's program is not on increasing capacity; therefore, those fees would come from user fees to fund that program and not connection fees.

B. New Items.

1. **Pharmaceuticals in Wastewater Supply.** Jeff Prevatt, Manager of the Compliance and Regulatory Affairs Office (CRAO), gave a PowerPoint presentation on pharmaceuticals in the wastewater supply. (Note: On August 26, 2008, staff forwarded electronic copies of the PowerPoint presentation to Committee members.)

Mr. Prevatt noted that there had been a number of articles in the media recently about pharmaceuticals and other compounds found in the water supply. These compounds were originally known as endocrine disrupting compounds (EDCs) because when first detected, they were mostly hormone-based type compounds with potential for affecting the normal operation of endocrine systems. Increased research has detected a variety of additional compounds resulting in a shift in terminology. These compounds have now been described by their source or origin as pharmaceuticals and personal care products, or PPCPs. This includes prescription medications, over-the-counter-drugs, illicit drug use, as well as cosmetics and fragrances.

Mr. Prevatt reviewed the mechanisms of PPCP disposal and noted that the end route is always in sewage, landfills or some type of recycle program. In addition, he reviewed the timeline of EDC and PPCP research occurring over the last decade. PPCPs first became an issue in 1999-2000 when the United States Geologic Survey (USGS) did reconnaissance of some of the streams of the US and presented that data.

Since 2002, the Department has partnered with the USGS and the Environmental Protection Agency (EPA) on many research sampling studies. In 2002, Pima County participated in a sampling study of 10 different wastewater treatment facilities. The Ina Road, Roger Road and Avra Valley facilities were included in this study – with sampling locations also occurring along the Santa Cruz River. In 2003, additional studies were conducted to characterize the removal of PPCPs through the different treatment processes including Randolph Park WRF, Roger Road WRF and Green Valley WRF. In 2004, a disinfection byproduct study was conducted to ascertain the optimal disinfection technology for PPCP removal and byproduct formation.

Since 2006, many of the sampling studies have concentrated on both the effects and risks associated with these compounds. Fire retardants represent the class of compounds occurring in the highest concentration and frequency. Given the concentrations detected, the average person experiences higher relative risk of exposure when clothes shopping in malls and dusting their home because these products are abundant in the manufacturing of fabrics and carpets.

A 2006 summary report prepared by the EPA Office of Research and Development reflects the sources of available information and highlights the proactive participation exhibited by wastewater utilities nationwide, accounting for over 39 percent of the available research data. By contrast, groundwater and tap water sources accounted for only 16 percent of the available data sources. Most of the available groundwater data comes from Arizona, Nevada and New Mexico sources.

A survey was conducted in 2005 of all the healthcare agencies in the US. This included over 50,000 hospitals. Prescription medications are of two types – those that are dispensed through hospitals and those that are dispensed through pharmacies. In Arizona alone, 54 million prescriptions are dispensed by pharmacies.

No single technology can remove all PPCPs from effluent produced by wastewater treatment facilities. Recent studies conducted by the Water Environment Research Foundation (WERF), demonstrated that conventional secondary wastewater treatment removes over 90 percent of some compounds. The Ina Road, Roger Road, Randolph Park and Green Valley facilities were involved in this study. A 2004 Black & Veatch study demonstrated complete bio-degradation of select PPCPs can be achieved with adequate solids retention time (SRT) and and/or hydraulic retention times where further removal can be achieved. In 2004, the Roger Road WRF went from a trickling filter scenario to a trickling filter/activated sludge process based on previous studies. Since 2004, when the

Roger Road facility went to an activated sludge process, effluent quality has improved significantly.

Mr. Prevatt informed the Committee members that as the Roger and Ina Road facilities are converted to de-nitrification facilities, the Department will start to see additional benefit as well.

Mr. Prevatt informed the Committee members that the pharmaceutical industry estimates that three percent of the 54 million prescriptions issued go unused. He anticipated that in the next few years, many municipalities will be implementing pharmaceutical take-back programs. Federal disposal guidelines recommend less disposal of prescription drugs down the toilet and recommend taking advantage of take-back programs. In April 2008, the Drug Enforcement Agency (DEA) issued a statement addressing prescription take-back programs and said the Controlled Substances Act disallows anyone other than pharmacists and law enforcement officers from handling controlled substances. Therefore, there are legal implications when agencies setup these types of programs. Discussion followed.

Mr. Smith, questioned - when talking about 80 percent to 90 percent of contaminants being removed and the inverse of that is 10 percent to 20 percent remaining even at parts per billion – what is the threshold where there is an impact or a health risk.

Mr. Stratton observed that the concentration levels are really low. He informed the Committee members that Metro Water conducted water samplings - based on the media articles – to provide some confirmation for the Utility's customers that its water is safe. Metro Water staff sampled wells along the Canyon del Oro Wash and Rillito River because those are the major conduits for groundwater transportation. A well in the middle of the Utility's system was used as a control. A trace of Tylenol at a level that would take nine million gallons of consumption to get to one tablet of Tylenol was found. Mr. Stratton said those are the levels that we are talking about.

Mr. Carlson commented that there have not been enough studies to determine the risk factors. He asked what is done with the compounds that are removed. Mr. Prevatt responded compounds are reduced through the treatment digestion process and broken down by bacteria. What remains goes into the sludge process and utilizes land disposal and not effluent discharge. What is being seen in the sampling wells are those compounds that are very resistant and not broken down, and even those are being seen in the parts per trillion/billion.

Mr. Gritzuk responded that the Department has participated in a lot of this work at the request of governmental agencies, primarily the EPA, which basically is taking the lead in the nation on the impact of PPCPs. He added that the Department is not a research entity, and cannot do health effect type studies – that is the responsibility of the EPA and all the various entities they involve in this process. He informed Committee members that we are not saying that we are generally removing 90 percent of those compounds that we find in our wastewater. We remove 90 percent of some of the compounds and some compounds pass right through. He did not think that anyone has definitive information on the health impact of these compounds in the water supply – that is study currently underway. There are no regulations for the control of these compounds. When there is regulation that comes forward, the Department will comply. If there are more requests from the various agencies involved with this work for the Department to participate, it will do so

Mr. Prevatt added the Department has actively participated in at least 20 studies since 2000. Part of the problem is that with all of the research being done, there are only three

laboratories in North America - one in Canada and two in the US – that are equipped to do laboratory testing on the PPCP samplings. This is hindering a lot of the research that is being conducted - these are difficult compounds to detect and that require sophisticated testing methods.

Marcelino Flores asked where is the technology on testing – locally there may be development opportunities - perhaps using the universities to locate having a national laboratory, especially since the Southwest is the focal point for this type of research.

Mr. Carlson asked how big a program of public information the Department has to encourage the public to not flush PPCPs. Mr. Prevatt responded the Department is in the process of developing a program.

Mr. Bliven asked if the County was considering development of a prescription drug take-back policy. Mr. Prevatt responded that was a goal but not being done at the moment. Mr. Bliven said it would be good to discourage flushing of medicines, but if that avenue of disposal is stopped, then the public may find another avenue and that might be the landfills. He felt a good source for alternate disposal was needed and felt the County should look at developing a take-back program. Mr. Gritzuk commented further that we should also encourage some federal agencies not to recommend disposal of these products by flushing.

2. **Annual Report to Board of Supervisors.** Ed Curley, Planning Division Manager, reviewed the Committee's draft FY 2007/08 Annual Report to the Board of Supervisors which Committee members received at the meeting. Members were asked to forward any suggested revisions in the next couple of weeks to Susan Hunt, RWRAC Coordinator. Staff will present the revised draft Report for final approval at the next regularly scheduled RWRAC meeting. Discussion followed.

Mr. Bliven commented that the Annual Report provides the opportunity for the Committee to communicate with the Board of Supervisors about what we think, as a committee, is important and what we have accomplished.

Mr. Carlson suggested that Mr. Bliven present the Report to the Board of Supervisors in person. Mr. Gritzuk suggested that the Committee could request to make a formal presentation to the Board.

- V. **FUTURE AGENDA ITEMS.** 2008/09 Financial Plan; Water Infrastructure, Supply and Planning Study; Federal/State Legislative Update; Regional Optimization Master Plan; and Odor Control Plan Update.

At this point in the meeting, Mr. Stratton requested that staff provide an update on staffing levels and filling some of the vacancies at the next meeting.

- VI. **CALL TO THE AUDIENCE.** There being no response from the audience Chair Bliven adjourned the meeting.
- VII. **ADJOURNMENT.** The meeting adjourned at 8:58 A.M.