

Salinity Management and Imported Water Recharge

Plenary Workgroup

April 21, 2009

Signatories to the Cooperative Agreement

City of Corona / EMWD / EVMWD / OCWD / City of Riverside
City of San Bernardino MWD / SGPWA / SBVMWD / WMWD

SIGNATORIES:

Edward Filadelfia, EMWD
John Daverin, EMWD
Marsha Westropp, OCWD
Greg Woodside, OCWD
Sam Fuller, SBVMWD
Doug Headrick, SBVMWD
Mark Bulot, SBVMWD
Jeff Davis, SGPWA
Julius Ma, EVMWD
Val Housel, City of SBMWD
Bobby Gustafson, City of SBMWD
Matt Litchfield, City of SBMWD
Jack Safely, WMWD
Linda Garcia, WMWD
Jeff Davis, SGPWA
Chandra Johannesson, City of Riverside

OTHER ATTENDEES:

Gerry Thibeault, CRWQCB
LeAnne Hamilton, IEUA
Jack Nelson, YVWD
Gary Hobson, AKM Consult/Corona
Dan Craig, Todd Engineers/Corona
Tim Moore, Risk Sciences
David Aladjem, SBVMWD/WMWD
Dennis Williams, Geoscience/SBVMWD
Johnson Yeh, Geoscience/SBVMWD
Matt Huang, MWH/EVMWD
Mark Norton, SAWPA
Regina Patterson, SAWPA

Call to Order / Introductions

The Salinity Management and Imported Water Recharge Workgroup meeting was called to order at 1:35 p.m. at the Santa Ana Watershed Project Authority located at 11615 Sterling Avenue, Riverside, California. Introductions were made.

Approval of January 14, 2009 Meeting Summary

Mark Norton presented the January 14, 2009 Meeting Summary for approval. Hearing no comments or revisions, the meeting summary was approved and filed as presented.

Review of Modeling Report Submittals Received by SAWPA (located on SAWPA's FTP site)

Mark Norton reported an outline for the modeling reports was shared previously and at that time the Workgroup agreed to provide modeling plans for recharging imported water by March 31, 2009. He displayed SAWPA's FTP site containing the modeling reports received. This is in preparation for an actual submittal to the Regional Board that is due to them July 18th. It was indicated previously that we did not want to integrate all reports into one submittal, but we wanted to allow each entity the opportunity to share their modeling approach if they chose.

Tim Moore said the intention is to brief the reports and provide a perspective. The reports are due in three months so we'll come back with suggestions at the next meeting. In addition to the projections, the Regional Board agreed that the estimate of ambient quality (a task in the Cooperative Agreement) could be met by surrogate using the SAWPA/WE Inc. report. We want to make sure we close the loop on that. If that is not how your agency intends to meet your obligation, you need to provide a one paragraph letter to the Regional Board stating that.

San Gorgonio Pass Water Agency - Jeff Davis presented letters from the Regional Board and a letter from SGPWA to the Regional Board. He reported that they are currently going through a process to negotiate an agreement with San Timoteo Watershed Management Authority (STWMA) and the modeling that STWMA is doing for the City of Beaumont's recharge of treated wastewater will serve as the modeling that they would have done.

Mr. Norton asked what the consequences would be if the modeling report was not received on time? Gerry Thibeault said City of Beaumont and STWMA are doing max benefit work outside of this schedule/process. Beaumont has to get modeling work done to support a new permit for recycled water use. Mr. Moore said they need to reflect that.

Mr. Davis said there may be an information item at the May 4, 2009 SGPWA Board Meeting. The Board has voted to move forward with negotiations. We have a draft agreement that is still being negotiated. Mr. Davis further said that he and Andy Schlange want to see something done in May and see nothing to indicate it will not happen. A discussion needs to take place with Gerry Thibeault about a specific timeframe.

Mr. Moore asked if SGPWA is likely to rely on the SAWPA/WEI Inc. ambient water quality update report regarding an estimate of current conditions or would you do something different? Mr. Davis said he is recommending to his Board that they use that report.

Western Municipal Water District - Jack Safely reported that WMWD has no expectation to recharge imported water in the next three year period. Moving water intrabasin could happen. Gerry Thibeault said if they are not going to spread anything there is nothing to model. Mr. Safely said there are currently no projects that will do that. If something changes, we will come back with the tools when the basin models are done. We would have to use the WE Inc. model to do the analysis.

City of Corona - Gary Hobson with AKM Consulting Engineers reported the City of Corona has no recharge projects planned within the next three years. There are some recharge projects that are planned to be implemented beyond that three-year period. He inquired about sending a letter or discussing what will happen later. Mr. Thibeault said if you are not spreading imported water within the three years no action is necessary.

Dan Craig with Todd Engineers reported they prepared a preliminary Phase I Salt Balance Model for the City of Corona using some of the existing numerical data results for the physical basis of the model. They modeled a future 20-year period in accordance with the MOU. He presented a diagram of the inflows and outflows in the Temescal groundwater basin that were simulated. There was an existing MODFLOW model that was used as a basis for all the volumetric fluxes and the existing model was prepared as part of this GWMP. The MODFLOW

model covered a 15-year historical period. Planned pumping rates were accounted for. A model was used to develop initial conditions on storage and mass storage. Representative TDS and nitrate concentrations were used to develop total initial mass. A volumetric water budget was calculated showing the accumulating water budget over time with the mass deficit under current conditions.

San Bernardino Valley Municipal Water District - Dennis Williams reported they were tasked to analyze three groups of basins in the San Bernardino area consisting of Bunker Hill A and B, and the Lytle, Rialto, Colton and Yucaipa management zones to comply with the Cooperative Agreement. He provided an overview of the management zones. For Bunker Hill A and B, a refined USGS model was used. We didn't know what the State Project water delivery or quality would be in the next 20 years, so we went through a 3x3 matrix with a low recharge rate and assumed an ambient TDS value for this exercise. Averages of stream flow were done.

Elsinore Valley Municipal Water District - Matt Huang reported they have developed a salt balance model. Projections were done on the ambient water quality in the basin with similar results. We are showing that TDS concentrations remain the same over the period whether recharging or not, staying between 460 mg/L and 470 mg/L. Jack Safely said there is a conjunctive use program in the Elsinore basin (treated water injected into the basin). Mr. Moore said an independent assessment of the ambient will be assuring. If you did your own analysis, is that what you would rely on? Mr. Huang said they found that existing concentrations vary greatly with the average TDS concentration at 460 mg/L versus WE Inc. reporting 470 mg/L.

Eastern Municipal Water District - Edward Filadelfia reported EMWD submitted what was based on WE Inc. reports two years ago for the maximum benefit for that area. There is one project that will be using State Project water in the San Jacinto pressure zone. The projections go out more than 20 years. He presented four analyzed cases who are planning to use State Project water, with Phase 1 of the project initially putting in a maximum of about 8,000 acre-feet per year. When the project is fully implemented, Phase 2, which has not been built yet is up to 16,000 acre-feet per year. The model shows an integration of bringing in a small amount of State Project water, and as the timeline moves 20 years out, it goes to using 16,000 acre-feet of imported water. Mr. Thibeault asked that since this was done two years ago, does it include all EMWD desalters? Mr. Filadelfia said there are no desalters in this particular area.

Orange County Water District - Greg Woodside reported in Orange County they have conducted modeling for the Orange County, Irvine and La Habra management zones. The focus is on the Orange County management zone. The only place we have imported water recharge included is the Alamitos Barrier, where there are a series of wells injecting a blend of imported and recycled water into multiple aquifer zones. Other cases have been run to see what the model would predict. We have done a projection, the lump parameter approach, estimating the TDS and nitrate of all inflows. The average concentration per year was calculated by solving the mass balance approach. He provided a summary of inflows showing a total volume of 325,500 acre-feet, and a TDS concentration of 514 mg/L. The most difficult term to estimate TDS flow is subsurface inflow.

Mr. Woodside said the recharge of the groundwater recharge system water will improve TDS concentration in the Orange County management zone, the average TDS in the basin is

estimated to improve slowly, recharge of up to 20,000 acre-feet per year of additional imported water, and not expected to cause adverse impact on compliance with the TDS water quality objective.

City of San Bernardino MWD - Mr. Norton reported Stacey Alstadt informed him that their modeling is covered by SBVMWD, and that she would send a letter stating that.

Mr. Moore said he sees different hydrology periods being used to represent the average range, and he would like to be sure the Workgroup is okay with that. As long as the years represent the range of hydrological conditions, there should be something that demonstrates that would be helpful. It is important that everyone understand that the Cooperative Agreement requires you to look at the 'without project' and 'with project' condition. The status quo recharge condition represents the baseline condition. He is not saying to take current projects offline due to calculation, he just wants to make sure the zero condition represents current operating strategy. He recommended creating a template cover page that systemizes/standardizes the basic claims of the Cooperative Agreement as a one page attachment to the transmittal letter.

Mr. Moore will draft a template cover page that systemizes requirements and provide it to SAWPA for distribution.

David Aladjem said when presenting this to the Regional Board, that the Regional Board provide guidance about what they think would be helpful moving forward in terms of explaining the way the basins are operating and how it compares to the objectives. Mr. Moore said we will need a method to document if calculation procedures/methods change. We will want enough documentation so that next time there is an obligation to document the change for the method used.

Mark Norton will create a folder on SAWPA's FTP site where each agency can place their report. Tim Moore will create a template by May 5th. Comments to SAWPA are requested by May 19th.

Future Meeting - August 4, 2009 at 1:30 p.m. for coordination.

Adjournment

The meeting adjourned at 3:05 p.m.