



2870 Gateway Oaks Drive, Suite 150
Sacramento, CA 95833

Job Name: Muscoy OU Remedial Action
WA No.: 016-RARA-09J5
Project Location: San Bernardino, CA
URS Project No.: 18600069.01030

MUSCOY 19th STREET PLANT/ENCANTO PARK TECHNICAL MEETING MINUTES

Date: 04/27/06
Time From: 0830 - 1400

U.S. Environmental Protection Agency, Region IX
75 Hawthorne Street
San Francisco, CA 94105
Contract No. 68-W-98-225

Meeting Attendees:

- Kim Hoang/USEPA; Glenn Bruck/USEPA
- Dwayne Deutscher/URS; Adam Harvey/URS; Roger Nommensen/URS; Nick Reylek/URS
- Stacey Aldstadt/SBMWD; Robin Ohama/SBMWD; Bill Bryden/SBMWD; Lana Kennerly/SBMWD; Mike Lowe/SBMWD
- Dave Solomona/SBMWD
- Mark Eisen/Secor
- Bob Kemmerle/E2
- Mark Wuttig/CH2M Hill

Project Construction Status

- o Encanto Park Booster Pump Station
 - The manufacturer representative performed the SixCENSE training last week on 4/20/06. The probe was inspected and found to be scaled. Suspected causes are that the probe needs to be lengthened to be in the flow of the pipe more and the probe was left inserted and energized during shutdown periods. The probe was removed and shipped to the manufacturer for lengthening and cleaning. It is expected back today.
 - The electrical shakedown checklist and the final inspection (of remaining attachment A items identified during the 11 October 2005 inspection) were completed on 26 April 2006.
 - During the shakedown and inspection the surge system alarm signal was wired to SCADA, wire labeling was corrected, and shakedown checklist sign-offs were completed. Remaining items are calibration of the SixCENSE probe once it is reinstalled (SBMWD and URS), installation of two SCADA module covers (URS), cleaning of the control panel floor (URS), and testing of the MUNI stop signal (coordinated by Dave S.).
 - URS noted that the manufacturer stated that the SixCENSE probe needs to be de-energized and pulled out of the pipe when there is no flow for more than 4 or 5 days. This is because the probe generates low pH water at the chip by electrolysis that will cause excessive scaling on the chip. Bill asked if it is necessary to remove the probe or if de-energizing the probe is sufficient. URS will ask the manufacturer and return answer to Bill.
 - URS will prepare a transmittal letter for the SixCENSE probe manuals and hand held controllers and transfer to SBMWD (Bill) after probe is reinstalled.
- o Treatment Plant
 - The monthly performance evaluation was conducted on 26 April 2006 by Adam Harvey and Nick Reylek/URS; Bob Kemmerle/E2; and Mike Garland/SBMWD. Items identified include: D/P 4B transducer missing (at manufacturer for evaluation) and remote RTU backplane requires replacement. Vessel backwashing was performed last month.
- o Extraction Wells
 - EW-108 work: City will send a simple work plan to Kim for review. Kim will send a concurrence letter to the city.
- o Monitoring Wells
 - MW labeling completed at RTUs per Dave S. Caps are being replaced and desiccant is being installed.
 - Mark E. needs the survey data for the new MW-140 well. Recommended Dawson Surveying.



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Meeting Topics Continued:

- Other

- Dwayne noted that he found the source drawings for Newmark in Microstation format. Bill noted that he needs them converted to Autocad. Kim asked URS for estimate to convert them. Dwayne said approximately 40 hours. Kim will check to see if this can be performed by URS.

- Performance Criteria Review

- Flow rate Performance

- Adam presented the flow rate tables for August 2005 through March 2006. A summary graph compares the 3-month rolling average system flowrate to the Target Extraction Rate.
- Kim recommended clarifying that "TER or Target Extraction Rate" on the tables to "Adjusted Design Extraction Rate", since although currently the TER is equal to the maintenance-adjusted DER, this may not be true in the future. Adding another column on the tables for the adjusted DER, or adding notes on the tables explaining that TER is currently the maintenance-adjusted DER may accomplish this.

- Flow Performance

- Roger presented the hydraulic capture plots showing capture for all months with the exception of August and September 2005.
- Mark E. stated the loss of capture during August and September was likely caused by the summer pumping regime when other Muni wells and others in the basin increase pumping rates.
- Bill and Mark E. noted that overall flowlines change when other entities increase pumping, which could draw impact our capture plots.
- Mark E. noted that the Muni wells at Paris St. and 9th St. are capable of 4,000 gpm each. Bill said they are currently inoperable.
- Mike L. said that SBMWD has peak pumping in September.
- Kim requested various scenario analysis in the 6-month report, varying the level of wells to explore this hypothesis for loss of capture. Include a new shallow EW-108 well. Roger to propose scenarios for review by Tom, Glenn, Mark E.
- Mark E. stated that there is still an issue with quantity of water level data we have. There is uncertainty of capture on the east side of the Muscoy plume with no wells in the area. There is also uncertainty because of the limited water level data.
- Mark W. said to use incremental lower drawdown at 108A, and use 110 for specific capacity estimate.
- Kim said to use straight draw down, interpret the lithology.
- Mark E. noted the 940 contour could be pulled to the north, put in the 9th St. and Paris St. wells and see what happens.



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Meeting Topics Continued:

- Kim stated that we need Muni well operating data. Mark E. will provide Muni production data.
- Stacey stated that the City's position is that there is indication of no capture occurring at EW-108 shallow. Therefore, the system is not O&F. City is now in an untenable position since there is no capture at EW-108 shallow.
- Kim said the issue in August and September was either seasonal or the system had not reached equilibrium after startup. Kim noted that 85% capture is required not 100%.
- Roger stated that flow at 109 could potentially be increased.
- Mark E. Stated that when the Geologists met, all agreed that 108 was an issue. Options are to install 108 shallow and operate per design, or retry 108 slot installation. Best drilling thinks that aggressive swabbing with dispersant, followed by pumping aggressively with a packer between shallow and deep zones may improve situation. The city has a cost estimate for this work. Could also use a mills knife to try installing a new screen interval. Rough costs were discussed: \$300k to \$500k for a new shallow well; \$700k to \$900k for a complete new well; \$55k for redevelopment of current well.
- Stacey noted that the City is offering a potential solution even though they are not convinced it is their problem to fix the well. When decision is made to use a mills knife will want EPA buy in.
- Mark E. stated that we have 80% of what was designed. Part of the year it is not performing, we are doing the best we can with the limited data. When the SOW was negotiated, we used the best knowledge we had. City exploring fixing the well at significant expense.
- Kim stated that if there are problems with the SOW, put them on the table for a discussion with EPA legal.
- Roger will propose scenarios to run for discussion/comments from Mark E., Mark W., Tom, Glenn.
- Contaminant Performance
 - Adam presented the concentration versus time plots for the five downstream monitoring wells for the period of April 2005 through January 2006.
 - Kim and Mark W. said it would be helpful to have all historical data presented in the 6-month report.
 - Stacey asked why we are tracking Dichlorodifluoromethane. Mark noted that this is a good indicator of the plume.
 - Bob noted that the outliers should be explained in the data quality section of the report and also the effect that the change in laboratory may have had on the data.
- Instrumentation/SCADA
 - Treatment Plant –
 - RTU near GAC vessels requires backplane replacement.
 - D/P transmitter 4B is removed for manufacturer evaluation.
 - Encanto Park –
 - SixCENSE probe will be installed when returned by manufacturer. Muni stop signal to be tested.
 - Monitoring Wells –
 - Labeling complete.
 - Extraction Well Status
 - No updates.



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Meeting Topics Continued:

- Project Issues/Schedules
 - EPA requested information from the City: item 5 for wells (calibration data) is in the OSAP, Table 6-3 per Mark E. URS still needs items 7-22 relating to costs for the Cost and Performance Report.
 - Kim noted to make sure to reference the information source.
 - Mark E. noted that the transducer offsets change frequently. Refer to the OSAP on how offsets are adjusted.
- Deliverables
 - Monthly Progress Report will be sent to Kim and Tom for review after their latest comments are incorporated by URS in hard copy (for Kim only) and electronic (Word and PDF) formats.
 - June and July lab turn around time-need to request expedited lab analytical of 3-days.
 - City sent the O&M Manual comments to Dwayne and Kim on April 20.
 - In the well reports, for the aquifer tests, zone sampling, and spinner logs: URS will include 108 and 112; SBMWD will include 109, 110, 111, Olive, Gardner, Paris wells.
- Quality Control
 - Bob asked if there was a plan to determine if loss of capture in August and September 2005 was due to not yet reaching equilibrium after system startup or seasonal pumping. Mark E. stated that we will see what happens this year and see if a problem.
 - Bob said he went to Encanto Park for the electrical shakedown and Attachment A inspection on April 26 and also participated in the monthly inspection on April 26.
 - Kim noted that Bob is performing QA on the monthly inspection portion of the monthly progress report. Mark W. and Tom performing QA on the remainder of the report.
- Community Relations
 - 13th and G street pump pull at EW-108 if well development is performed. City will handle community relations and will notify neighbors if needed.
- Next Meeting
 - The next Technical meeting is scheduled for 20 July 2006 in San Bernardino.

The minutes of this meeting represent the writer's understanding of the events as discussed. Should an attendees understanding differ, please contact Adam Harvey at (916) 679-2002 or adam_harvey@urscorp.com. The minutes contained herein will stand if not corrected within ten (10) days of this writing.