

• Water System Operations November 2005 Activity Report

Summary

Following is a summary of Water System Operations Group activities for the period following the November 2005 Board Meeting

Detailed Report

Security Update

Security improvements are proceeding according to schedule and within budget. Johnson Controls, Inc. (JCI) completed installation of conduits, cables, and hardware for the security network at all sites. Metropolitan approved the final acceptance plan for Eagle Rock, Union Station, and Diamond Valley Lake (DVL) central station sites. Eagle Rock, Union Station and DVL sites will undergo central station/command center testing at the end of the project when all sites are connected and command center testing is feasible. Staff had identified some technical anomalies with the programming of the video system servers and brought this to JCI's attention for priority resolution. Subsequently, JCI completed specific testing at Eagle Rock, demonstrating their resolution of the video programming issue. As agreed upon, Metropolitan and JCI restarted site acceptance testing at all sites, including the ones accepted prior to the video programming issues, to ensure proper setting and operation of all system components. During this period, the following sites were recommissioned: Eagle Rock, Ramona Pressure Control Structure (PCS), Foothill Feeder PCS, Sepulveda Canyon PCS, Venice PCS, Greg Avenue PCS, Corona PCS, Temescal Power Plant (PP), Carson and Alameda PCS, Hollywood North Portal PCS, Palos Verdes Reservoir and Secondary Inlet, Oak St. PCS, Carbon Creek PCS, Coastal Junction PCS, Coyote Creek PCS, Deodora PCS, Valley View PP, Rio Hondo PCS, San Gabriel PCS, O.C. Reservoir, Santiago Tower PCS, Chemical Unloading Facility, San Jacinto/West Portal PCS, Perris PCS, PC-1 PCS, San Dimas PCS, Live Oak Reservoir, Red Mountain PCS, Etiwanda PCS/PP/Reservoir, Soto Street Service Center, Diemer Plant, Garvey Reservoir, Santiago Creek PCS, Irvine Regulating Structure, OC-88 Service Connection, Weymouth Plant, and Detention Peak Communication Site. JCI will offer additional training sessions for Metropolitan's security system administrators, as well as special agents and operators. Metropolitan and JCI are continuing to work on the maintenance agreement for the security system, which will take effect at the end of a one-year warranty period for the entire system.

Water Quality and Treatment Update

Metropolitan has complied with all drinking water quality standards during this reporting period.

Disinfection By-Products and DBP Precursors

Trihalomethane (THM) samples were collected from the five treatment plants and in the distribution system on a weekly basis. The four-week THM levels (parts per billion - ppb) and State project water (SPW) blends for the most recent four-week period ending the week of November 28, 2005 were:

	<u>THM Levels</u>		Percent SPW Blends
	4-Week Average	4-Week High	
Mills	25 ppb	47 ppb	100%
Jensen	41 ppb	68 ppb	100%
Diemer	34 ppb	37 ppb	54%
Skinner	48 ppb	51 ppb	26%
Weymouth	34 ppb	36 ppb	54%

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The total organic carbon (TOC) four-week average at the Mills influent was 2.9 parts per million (ppm) in November, up from 2.6 ppm reported in October. The Mills plant began using water from Lake Perris the week of November 21, which caused the increase in the TOC four-week average. The use of Lake Perris was necessary because of repairs being done to the Santa Ana Valley Pipeline, which supplies Silverwood Lake water to the Mills plant.

Jensen influent TOC four-week average has decreased to 3.0 ppm in November from 3.3 ppm reported in October. The Jensen plant experienced a significant increase in THM levels the final two weeks of November due to the plant using influent chlorination with no ozone disinfection. The ozone system was shut down for repairs and returned to service on December 8, 2005.

Diemer and Weymouth plants remain on delayed chlorination. Distribution system THM levels in parts of Orange County and the central pool were as high as 72 ppb, and the 4-week average ranged from 38 to 43 ppb. The Skinner distribution system sites have ranged from 40 to 55 ppb for the 4-week period ending November 28, 2005. The Skinner SPW blend was 23 percent as of October 31.

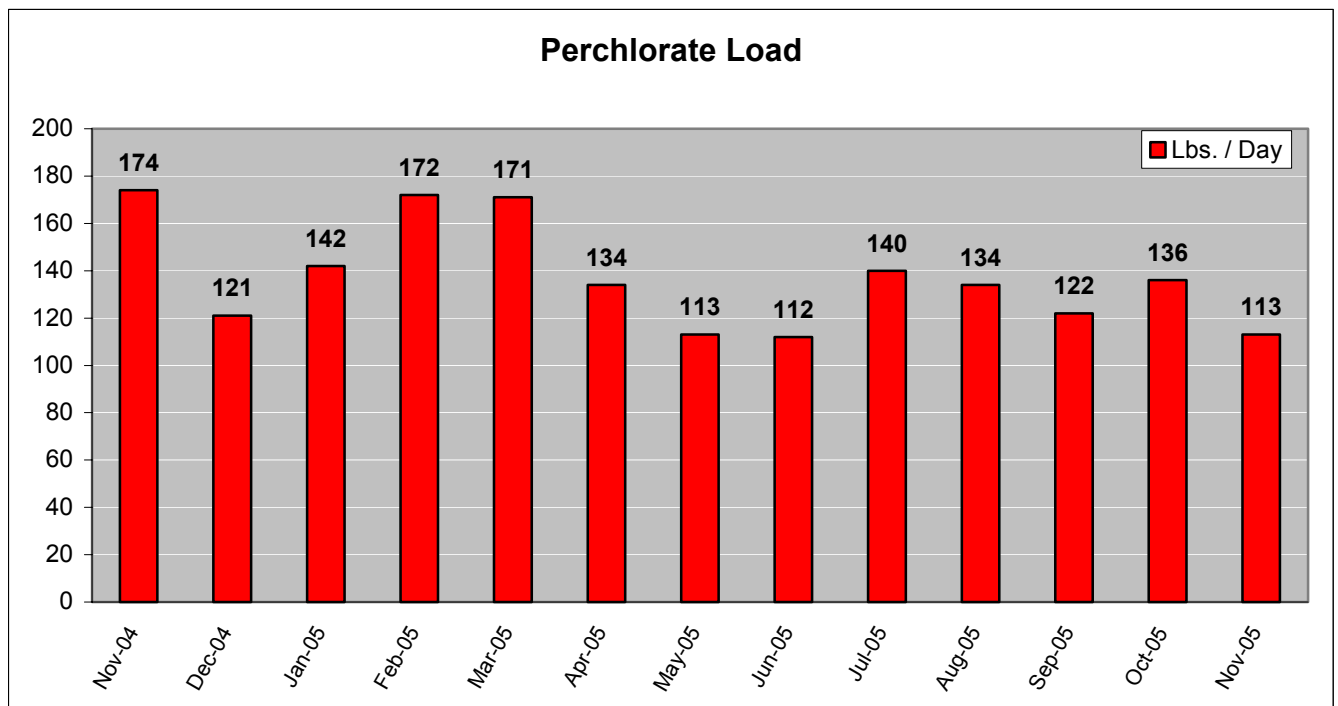
Perchlorate

Since January 2005, perchlorate levels in the Colorado River source water locations (Lake Havasu at Intake, San Jacinto Tunnel West Portal, and Lake Mathews) have ranged from non-detect (<2 ppb) to 3.4 ppb. For the month of November, perchlorate was detected at 2.0 ppb at the Lake Havasu intake. No other source waters, treatment plant effluents, or distribution system locations have perchlorate detections above the minimum reporting level (MRL) of 2 ppb.

Currently, there is no regulatory standard for perchlorate. California Department of Health Services (CDHS) plans to establish a maximum contaminant level (MCL), based on the Office of Environmental Health Hazard Assessment (OEHHA) public health goal (PHG) of 6 ppb.

Perchlorate clean-up efforts in Henderson, Nevada continue. Based on our weekly monitoring data and the real-time flow data provided by the Nevada Department of Environmental Protection (NDEP), the average loading at North Shore Road for November 2005 was calculated to be 113 lbs/day.

Perchlorate loads measured at North Shore Road are presented in the figure below:



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Chromium 6

Metropolitan continues to participate in the Department of Toxic Substance Control's (DTSC) Consultative Workgroup in order to ensure that Metropolitan's interests are represented.

Chromium 6 concentrations in monitoring well MW 34-100 (located approximately 50 - 65 feet from the river) have continuously increased since April 2005 and ranged from 452 to 791 ppb from April 4 through November 30, 2005. As a result of these findings, the DTSC has directed Pacific Gas and Electric (PG&E) to install an additional extraction well [PE-1] that is located 150 - 165 feet from the river. Installation of extraction well PE-1 was completed in March 2005. The final design of the PE-1 conveyance piping, and power supply was completed on July 29, 2005. DTSC conditionally approved the PE-1 conveyance piping and power supply design plan on October 5, 2005 and issued a Notice of Exemption (NOE) on October 5, 2005. It is expected that pipeline construction activities will commence after Bureau of Land Management (BLM) approves the construction permit. Monthly sampling of the Colorado River near the PG&E site continues. Chromium 6 was not detected (<0.03 ppb) in any of the samples collected in November.

Currently, there is no drinking water standard for chromium 6. The CDHS MCL for total chromium is set at 50 ppb. The OEHHA is working on a PHG that will be used by CDHS to set an MCL for chromium 6.

Las Vegas Wastewater Discharge

Wastewater discharge into Lake Mead from the Las Vegas area is expected to increase from 170 million gallons per day (mgd) to approximately 400 mgd by 2050. Several agencies (City of Las Vegas, City of Henderson, and Clark County Sanitation District) have formed a collaborative partnership [Clean Water Coalition (CWC)] and proposed alternatives for wastewater discharge into Lake Mead. These alternatives, described in a draft environmental impact study (EIS), are available for public comment. Metropolitan is preparing comments for the draft EIS which will be submitted on December 22, 2005. On December 16, 2005, staff met in Henderson with key representatives of the co-lead agencies and the CWC, to continue the ongoing dialog with respect to key water quality concerns. The goal was to pursue a mutually beneficial outcome between Metropolitan and the proponents and co-lead agencies.

Taste-and-Odor (T&O)

A multi-species methylisoborneol (MIB) event at Lake Perris was treated by DWR with copper sulfate on October 17. Post-treatment concentrations of MIB were quickly reduced from greater than 100 parts per trillion (ppt) to the 20 to 40 ppt range, where they remained until about November 14, 2005. By the end of November the levels of MIB were reduced to 6 to 8 ppt and are no longer an issue.

There are no other taste-and-odor problems in our source or finished waters.

Total Dissolved Solids (TDS) Levels

The December 2004 through November 2005 twelve-month flow-weighted average TDS levels for the Diemer and Weymouth plants were 469 and 447, respectively. The twelve-month flow-weighted average TDS for Skinner is 511 and has exceeded the goal of 500 because of SPW blend restrictions required to meet the Stage 1 Disinfectants/Disinfection By-Products regulations at the Skinner plant.

Fluoridation

Final design for fluoridation is complete for all five plants. Construction contracts for fluoridation facilities to be completed by December 2006 are in various phases of the bid/award process. Plant status: the Skinner construction contract was awarded at the November Board; the Diemer contract is expected to be awarded at the December Board; the Jensen bids are to be opened November 21; and the Mills contract is being advertised for bids. The Weymouth contract only had one bidder and will be re-bid. This is expected to delay the completion date at Weymouth until approximately February 2007. Water Quality staff is preparing informational material for member agencies and the public, required permit amendment application forms, and the Fluoridation Plan required by CDHS. Meetings with the Member Agency Fluoridation Policy Workgroup and the in-house Fluoride Task Force are ongoing. A meeting with CDHS and Los Angeles County Department of Environmental Health Services was held on November 3, 2005, to discuss communication plans, fluoridation design, permitting and timing requirements. These discussions will be

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continued on January 12, 2006. CDHS has approved the conceptual design and has confirmed approval in writing. The permit amendment application form was submitted and approval is pending completion of implementation milestones.

Water Treatment Plant Operations Update

On November 21, 2005, the Mills plant began treating water pumped back from Lake Perris during an outage of the Santa Ana Valley Pipeline. Because of an earlier algae bloom in Lake Perris, the Mills plant used the PEROXONE process (a combination of ozone and hydrogen peroxide) to destroy the MIB that was present in the lake at levels expected to cause consumer complaints. The PEROXONE process successfully reduced the MIB concentration and no objectionable flavors or odors were noted.

Conveyance & Distribution Update

A shutdown of the West Valley Feeder No. 1 took place during this period. This shutdown was for two primary purposes. The first was to replace a 260-foot section of the pipeline that was damaged in 2004 by movement of an adjacent fill slope. Though this pipeline is leased to Los Angeles Department of Water and Power (DWP), Metropolitan staff were involved in dewatering the pipeline and providing construction inspection. The second reason for the shutdown was to conduct electromagnetic eddy-current and visual inspection of the prestressed concrete cylinder pipe (PCCP) sections of this pipeline. The visual inspection resulted in identification of just over 20 locations where minor repairs were needed to the pipe's interior. This work was also accomplished during this shutdown. Results of the eddy-current inspection are still pending. The pipeline was refilled by DWP and Metropolitan crews and returned to service on December 21.

Also completed during this period was a 30-day shutdown of the Santa Ana Valley Pipeline (SAVP). This Department of Water Resources (DWR) pipeline supplies SPW to the Mills Treatment Plant and Lake Perris. The purpose of the shutdown was to make repairs to several locations on this PCCP pipeline, and to allow encasement of another section to accommodate a Caltrans freeway-widening project. Metropolitan's involvement was to provide assistance to dewater and refill the pipeline, and included two brief outages of the Mills plant and the Box Springs Feeder at the start and end of the shutdown. For most of the 30-day period, the Mills plant was supplied from Lake Perris via Metropolitan's Perris Pumpback Facility. Due to contractor damage to the SAVP in November while preparing for this shutdown, the shutdown started eight days early on November 29, 2005, and was completed in less time than originally planned. The SAVP, Box Springs Feeder, and the Mills plant were returned to full service on December 20, 2005.

Water System Update

As of December 19, 2005, total State Water Project (SWP) in-basin deliveries, for the calendar year (CY), were 1,524,500 acre-feet (AF). These deliveries include 162,000 AF through the San Bernardino Valley Municipal Water District/Inland Feeder Interconnection. All SWP deliveries to-date are from CY 2004 carryover accounts, Article 21 and Table A.

On October 14, 2005, the Bureau of Reclamation increased Metropolitan's Colorado River gross diversion for CY 2005 from 747 thousand acre-feet (TAF) to 830 TAF. Then on November 17, 2005, the Bureau of Reclamation increased the CY 2005 gross diversions from 830 TAF to 878 TAF. Through December 19, 2005, CY Colorado River Aqueduct (CRA) gross deliveries were 886 TAF, or 101 percent of the current approved gross diversion target of 878 TAF. Any amount above Metropolitan's final approved diversion total will reduce payback of historic obligations.

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Reservoir levels are indicators of water supply conditions of the SWP, CRA and Metropolitan's service area. The following storage levels for key reservoirs reflect monthly data as of December 19, 2005:

	<u>Storage To-Date</u>	<u>Percent of Capacity</u>
<u>Metropolitan Reservoirs</u>		
Diamond Valley Lake	797,600 AF	98%
Lake Mathews	154,400 AF	85%
Lake Skinner	36,800 AF	84%
<u>SWP Reservoirs</u>		
Lake Oroville	2.70 MAF	77%
San Luis Reservoir Total	1.75 MAF	86%
San Luis State Share	1.06 MAF	100%
<u>Colorado River Reservoirs</u>		
Lake Powell	11.7 MAF	48%
Lake Mead	15.0 MAF	58%
<u>SDCWA Reservoirs</u>		
24-Reservoir Total	346,800 AF	58%

As of December 19, 2005, the San Gabriel Valley Groundwater Basin key well elevation was 242 feet above sea level. At 250 feet and above, spreading of imported-water is curtailed.

Sales and Deliveries

The official final water sales for November 2005 were 166 TAF. This amount is 13 TAF, or 8 percent, more than the budgeted amount of 153 TAF for November of this year. The current sales projection for December 2005 is 190 TAF, which is 55 TAF greater than the budgeted amount for December of this year.

Precipitation

For the current water year (October 1, 2005 to September 30, 2006) through December 19, 2005, total precipitation for four southern California cities and the Eight Station Index (a measure of precipitation in the SWP's watershed) is:

<u>Weather Station</u>	<u>Precipitation</u>	<u>Percent of Normal</u>
Los Angeles Civic Center	1.69 inches	66%
Santa Ana (John Wayne Airport)	0.80 inches	30%
San Diego Airport	0.66 inches	29%
Riverside Airport	1.40 inches	81%
Eight Station Index	12.40 inches	95%

The Colorado River Basin experienced five consecutive years of extreme drought during water years 2000 through 2004. Unregulated inflow into Lake Powell during this five-year period was only 50 percent of normal. These years of low inflow resulted in significant drawdown of the Colorado River reservoirs. However, improved hydrologic conditions were observed in water year 2005 which eased the five-year drought.

For water year 2006, the National Weather Service's Colorado River Basin Forecast Center has developed a most probable Lake Powell inflow scenario, which is 11.4 million acre-feet, or 95 percent of average. As of December 19, 2005, precipitation was 110 percent of normal, and the projected unregulated inflow into Lake Powell was 105 percent of normal.

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Power Update

During November, Metropolitan purchased 31,393 Megawatt-hours (MWh) of firm energy from energy traders and utilities throughout the western United States at an average rate of \$55.15 per MWh for a total purchase cost of \$1,731,183. Metropolitan received 21,472 MWh of exchange energy from Southern California Edison (SCE). As of November 30, 2005, Metropolitan owes SCE 49,149 MWh and owes DWR 2,888 MWh of exchange energy. The DWR exchange energy will be returned to DWR by December 31, 2005 and the SCE exchange energy will be returned to SCE by September 30, 2006.

In November, Metropolitan sold 954 MWh of DVL generation to DWR at an average rate of \$75.67 per MWh for total revenue of \$72,192. During November, the other 15 hydroelectric power plants generated about 39,960 MWh for total revenues of about \$2.4 million.

There were no requests to curtail pump loads for either DWR or Metropolitan during the month of November.