

• Water System Operations October 2005 Activity Report

Summary

Following is a summary of Water System Operations Group activities for the period following the October 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 command center testing at the end of the project when all sites are connected and command center testing is feasible. Staff identified some technical anomalies with the programming of the video system servers and brought this to JCI's attention for priority resolution. JCI completed specific testing at Eagle Rock, demonstrating their resolution of the video programming issue. Metropolitan and JCI agreed to restart site acceptance at all sites, including the ones accepted prior to the video programming issues, to ensure proper setting and operation of all system components. 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 October 31, 2005 were:

	<u>THM Levels</u>		
	4-Week Average	4-Week High	Percent SPW Blends
Mills	29 ppb	58 ppb	100%
Jensen	18 ppb	23 ppb	100%
Diemer	33 ppb	36 ppb	66%
Skinner	50 ppb	53 ppb	32%
Weymouth	37 ppb	45 ppb	70%

The total organic carbon (TOC) four-week average at the Mills influent has decreased to 2.6 parts per million (ppm) in October, down from 3.0 ppm reported in September. Jensen influent TOC four-week average has decreased to 3.3 ppm in October from 3.5 ppm reported in September.

During the week of October 24, the Mills plant was on plant influent chlorination due to loss of ozone feed caused by technical problems with the ozone generation system. This extended chlorine contact time caused an increase in THM levels for that week. However, the THM 4-week average at Mills effluent was 29 ppb and still well below 40 ppb.

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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 48 ppb, and the 4-week average ranged from 24 to 47 ppb. The low levels of THMs in the central pool are due to ozone and biologically active filtration at the Jensen plant. The Skinner distribution system sites have ranged from 49 to 60 ppb for the 4-week period ending October 31, 2005. The Skinner SPW blend was 32 percent as of October 31. The Skinner plant is no longer on by-pass with water from the San Diego Canal and is using 100 percent Lake Skinner water.

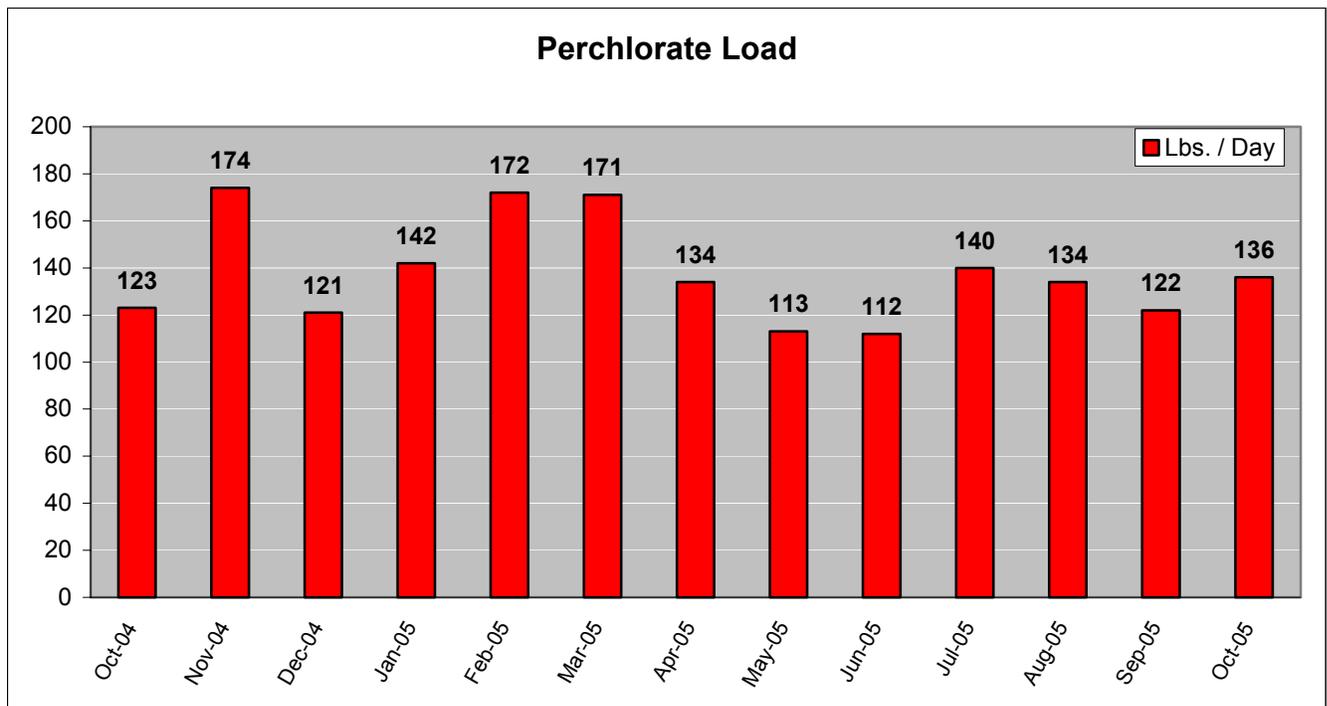
Perchlorate

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 October, perchlorate was detected at 2.0 ppb at the Lake Mathews headworks. 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 October 2005 was calculated to be 136 lbs/day.

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



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 752 ppb from April 4 through October 25, 2005. 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 October.

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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 concurrently preparing comments for the draft EIS and meeting with the CWC to express our desire for additional treatment prior to discharge.

Taste-and-Odor (T&O)

MIB producing blue-green algae occurred in Lake Perris. Several species of algae were involved in the Perris taste-and-odor event that was caused by both benthic and planktonic algae. The principal attached benthic species was *O. curviceps* and the principal planktonic species was *Synechococcus*. The Department of Water Resources conducted a copper sulfate treatment on October 17, 2005. The drawdown of Lake Perris was suspended on October 10 because of the high levels of MIB and was restarted on October 25. The lake is currently being evaluated for additional treatments.

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

Total Dissolved Solids (TDS) Levels

The November 2004 through October 2005 twelve-month flow-weighted average TDS levels for the Diemer, Skinner, and Weymouth plants were 471, 506, 449 ppm, respectively.

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 continued on January 12. 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.

Conveyance & Distribution Update

Shutdown activities were a major focus in November, with schedule changes on two projects impacting preparations. The start of the West Valley Feeder No. 1 shutdown was postponed at the request of the Los Angeles Department of Water and Power due to contractor scheduling problems. The new start for this 12-day outage was moved to November 29. A scheduled shutdown of the Box Springs Feeder and Mills plant was commenced 8 days early at the request of the Department of Water Resources (DWR). In preparation for repairs to DWR's Santa Ana Valley Pipeline, a contractor damaged a section of the prestressed concrete cylinder pipe. DWR was concerned that the pipe's strength was potentially compromised as a result of the damage and, in consultation with Metropolitan, started the scheduled shutdown early. During the 30-day outage of the Santa Ana Valley Pipeline, the Mills plant will be supplied exclusively by Metropolitan's Perris Pumpback Facility, which will deliver water from Lake Perris and, if necessary, the Colorado River Aqueduct.

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Water System Update

As of November 27, 2005, total State Water Project (SWP) in-basin deliveries for the calendar year (CY) were 1,368,000 acre-feet (AF). These deliveries include 1,220,400 AF on the East and West Branches and 147,600 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 net diversion for CY 2005 from 743 thousand acre-feet (TAF) to 825 TAF. Then on November 17, 2005, the Bureau of Reclamation increased the CY 2005 net diversions from 825 TAF to 873 TAF. Through November 27, 2005, CY Colorado River Aqueduct (CRA) deliveries were 823 TAF, or 94 percent of the current approved net diversion target of 873 TAF.

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 November 27, 2005:

	<u>Storage To-Date</u>	<u>Percent of Capacity</u>
<u>Metropolitan Reservoirs</u>		
Diamond Valley Lake	785,400 AF	97%
Lake Mathews	160,100 AF	88%
Lake Skinner	36,700 AF	83%
<u>SWP Reservoirs</u>		
Lake Oroville	2.63 MAF	75%
San Luis Reservoir Total	1.62 MAF	80%
San Luis State Share	1.03 MAF	97%
<u>Colorado River Reservoirs</u>		
Lake Powell	12.0 MAF	49%
Lake Mead	14.9 MAF	58%
<u>SDCWA Reservoirs</u>		
24-Reservoir Total	344,700 AF	58%

As of November 27, 2005, the San Gabriel Valley Groundwater Basin key well elevation was 241 feet above sea level. At 250 feet, spreading of imported-water is curtailed.

Sales and Deliveries

The official final water sales for October 2005 were 183 TAF. This amount is 1 TAF, or 1 percent more than the budgeted amount of 182 TAF for the month. The current sales projection for November 2005 is 151 TAF, which is 2 TAF less than the budgeted amount for November of this year.

Precipitation

For the current water year (October 1, 2005 to September 30, 2006) through November 27, 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	1.57 inches	119%
Santa Ana (John Wayne Airport)	0.69 inches	51%
San Diego Airport	0.58 inches	41%
Riverside Airport	1.33 inches	136%
Eight Station Index	5.30 inches	90%

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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 November 27, 2005, precipitation was 96 percent of normal, and the projected unregulated inflow into Lake Powell was 105 percent of normal.

Power Update

During October, Metropolitan purchased 23,565 Megawatt-hours (MWh) of firm energy from energy traders and utilities throughout the western United States at an average rate of \$72.55 per MWh for a total purchase cost of \$1,709,680. Metropolitan sold 5,170 MWh of on-peak energy to DWR at an average rate of \$88.02 per MWh for total revenue of \$450,070. As of October 31, 2005, Metropolitan owes DWR 2,888 MWh of exchange energy that will be cleared by December 31, 2005. Metropolitan received 27,677 MWh of exchange energy from Southern California Edison (SCE). The SCE exchange energy will be returned to SCE by September 30, 2006.

In October, Metropolitan sold 1,383 MWh of DVL generation to DWR at an average rate of \$94.72 per MWh for total revenue of \$130,997. During October, the other 15 hydroelectric power plants generated about 39,864 MWh for total revenues of about \$2.3 million.

In October, Metropolitan did not receive any requests from SCE to curtail Gene and Intake pumps. DWR was asked by the California Independent System Operator (ISO) to reduce pumping loads of up to 90 MW for a total of 2 hours 45 minutes over five days. This reduction was anticipated by DWR and is part of their strategy to increase revenues by obtaining payment for utilizing the flexibility of the SWP to shift pumping loads.