

• Water System Operations December 2005 Activity Report

Summary

Following is a summary of Water System Operations Group activities for the period following the December 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 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: Skinner Plant, Mills Plant, Lake Mathews Reservoir, Lake Mathews Forebay, DVL, Covina Pressure Control Structure, Puddingstone Channel Spillway, Jensen Plant, Pleasants Peak Communication Site, and Union Station. Desert sites are scheduled to be recommissioned in January, when we will also start accepting individual sites recommissioned successfully for over 30 days. JCI has proposed training dates and submitted an outline of their recommended system training for Metropolitan's security system administrators, special agents, and security 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.

Regulatory Update

Three new regulations became effective in January 2006: 1) Arsenic – the new maximum contaminant level (MCL) of 10 parts per billion (ppb) replaces the MCL of 50 ppb; 2) Stage 2 Disinfectants/Disinfection By-Products (DBP) Rule; and 3) Long Term 2 (LT2) Enhanced Surface Water Treatment Rule. Arsenic levels in State project water (SPW) and Colorado River water (CRW) are typically below 4 ppb. In addition, arsenic is removed in the coagulation process at the treatment plants. The Stage 2 DBP rule requires conversion of the distribution system-wide average for compliance to a locational running annual average for trihalomethanes and haloacetic acids. An initial monitoring program is required to select proper sites for the Stage 2 monitoring. LT2 requires monitoring for the pathogen *Cryptosporidium*. Typically, levels of *Cryptosporidium* entering our treatment plants have been below detections (less than 100 cyst per 10 liters). No treatment changes are anticipated for all three of these new rules.

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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 December 26, 2005 were:

| | <u>THM Levels</u> (Plant Effluent) | | |
|----------|---------------------------------------|-------------|--------------------|
| | 4-Week Average | 4-Week High | Percent SPW Blends |
| Mills | 23 ppb | 36 ppb | 100% |
| Jensen | 15 ppb | 24 ppb | 100% |
| Diemer | 32 ppb | 34 ppb | 53% |
| Skinner | 41 ppb | 44 ppb | 29% |
| Weymouth | 32 ppb | 35 ppb | 58% |

The total organic carbon (TOC) four-week average at the Mills influent was 3.4 parts per million (ppm) in December, up from 2.9 ppm reported in November. The Mills plant continued to use water from Lake Perris instead of Silverwood Lake through the week of December 11, which caused the increase in the TOC four-week average. The Mills plant was shutdown for two days during the week of December 18, 2005 following completion of repairs to the Santa Ana Valley Pipeline.

Jensen influent TOC four-week average has decreased slightly to 2.9 ppm in December from 3.0 ppm reported in November. The Jensen plant remained on ozone as the primary disinfectant for the entire month of December, therefore the THM levels remained low in the Jensen service area. Diemer and Weymouth plants remained on delayed chlorination throughout December. Distribution system THM levels in parts of Orange County and the central pool were as high as 49 ppb, and the 4-week average ranged from 17 to 40 ppb. The Skinner distribution system sites have ranged from 32 to 51 ppb for the 4-week period ending December 26, 2005. The Skinner SPW blend was 38 percent as of December 26.

Perchlorate

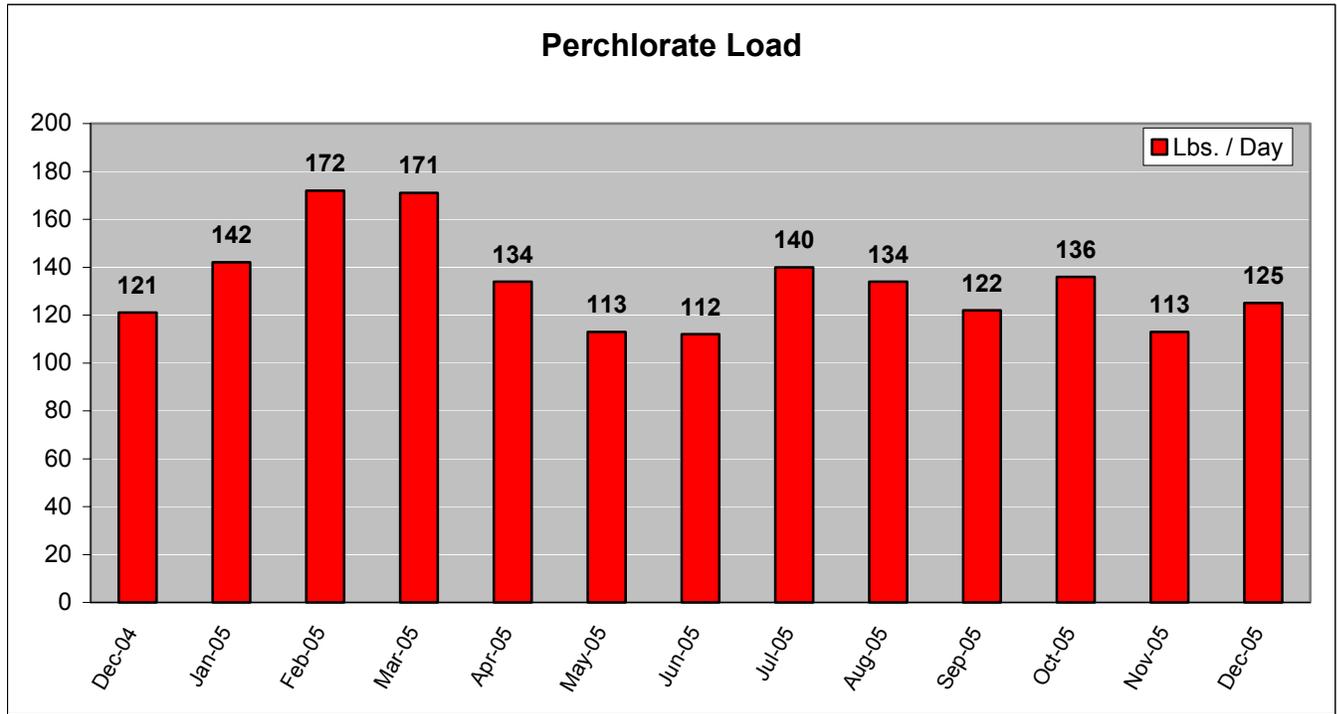
Since January 2005, perchlorate levels in the Colorado River source water locations (Lake Havasu at Intake, San Jacinto Tunnel West Portal, and Lake Mathews) have ranged from non-detect (<2 ppb) to 3.4 ppb. For the month of December, perchlorate levels at all monitoring locations were below detection.

Currently, there is no regulatory standard for perchlorate. California Department of Health Services (CDHS) plans to establish an 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 December 2005 was calculated to be 125 lbs/day.

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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's) 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 808 ppb from April 4 through December 28, 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 December.

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 are described in a draft environmental impact study (EIS). Metropolitan submitted comments for the draft EIS 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)

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

Total Dissolved Solids (TDS) Levels

The November 2004 through December 2005 twelve-month flow-weighted average TDS levels for the Diemer and Weymouth plants were 466 and 446, respectively. The twelve-month flow-weighted average

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TDS for Skinner was 513 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. Metropolitan is experiencing volatility in our normal construction bidding environment for engineering construction projects. This volatility has affected the District's ability to competitively bid projects and ultimately award construction contracts based on approved policies. To comply with these policies and to meet contractual obligations to the California Dental Association, Metropolitan has requested a six-month extension for the fluoridation project. The projected on-line date is now July 1, 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. CDHS has approved the conceptual design and has confirmed approval in writing. The permit amendment application form was submitted to CDHS and approval is pending completion of implementation milestones.

Conveyance & Distribution Update

During January 8 - 19, 2006, the raw water systems in the Skinner service area were shutdown. The primary purpose of the shutdown was to meet a request from the San Diego County Water Authority (SDCWA) to enable SDCWA to perform inspections and repairs on parts of their system. This also provided an opportunity for Metropolitan to carry out a number of inspections and repairs on our own facilities. The Metropolitan facilities taken out of service were the Lake Skinner Outlet Conduit, San Diego Pipeline Nos. 3 and 5, and the portion of San Diego Pipeline No. 4 known as the East Lake Skinner Bypass Pipeline. The activities included electromagnetic eddy current inspection of portions of San Diego Pipeline Nos. 4 and 5, as well as the Lake Skinner Outlet Conduit. In addition, there were inspections of the Lake Skinner Outlet 144" butterfly valve and the location at which San Diego Pipeline No. 6 ties into the Outlet Conduit. Visual inspections revealed no significant problems, and results of the eddy current inspections should be received in the next few weeks. Other activities included carbon-fiber repair at one location on Pipeline No. 5, and repairs to two sleeve valves at the Auld Valley Control Structure. All repair activities were completed as planned.

Water System Update

Total State Water Project (SWP) in-basin deliveries, for the calendar year (CY) 2005, were 1,525 thousand acre-feet (TAF), which include 161 TAF through the San Bernardino Valley Municipal Water District/Inland Feeder Interconnection. All SWP deliveries were from CY 2004 carryover accounts and 2005 Article 21 and Table A accounts.

As of January 23, 2006, SWP in-basin deliveries for CY 2006 to date were 95 TAF and include 10 TAF of water from the San Bernardino Valley Municipal Water District/Inland Feeder Interconnection. All deliveries were from CY 2005 carryover accounts and Article 21.

For CY 2005, total Colorado River Aqueduct (CRA) gross deliveries were 901 TAF. For CY 2006 through January 23, 2006, CRA deliveries were 33 TAF, or 5 percent of the current approved diversion target of 652 TAF.

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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 January 23, 2006:

| | <u>Storage To-Date</u> | <u>Percent of Capacity</u> |
|---|------------------------|----------------------------|
| <u>Metropolitan Reservoirs</u> | | |
| Diamond Valley Lake | 791,600 AF | 98% |
| Lake Mathews | 146,100 AF | 80% |
| Lake Skinner | 36,500 AF | 83% |
| <u>SWP Reservoirs</u> | | |
| Lake Oroville | 2.77 MAF | 79% |
| San Luis Reservoir Total | 2.02 MAF | 99% |
| San Luis State Share | 1.17 MAF | 100% |
| <u>Colorado River Reservoirs</u> | | |
| Lake Powell | 11.3 MAF | 47% |
| Lake Mead | 15.3 MAF | 59% |
| <u>SDCWA Reservoirs</u> | | |
| 24-Reservoir Total | 342,900 AF | 58% |

As of January 23, 2006, 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 December 2005 were 179 TAF. This amount is 44 TAF, or 33 percent, more than the budgeted amount of 135 TAF for December 2005. The current sales projection for January 2006 is 132 TAF, which is 5 TAF greater than the budgeted amount for January of this year.

Precipitation

For the current water year (October 1, 2005 to September 30, 2006) through January 23, 2006, total precipitation for four southern California cities and the Eight Station Index (a measure of precipitation in the SWP’s watershed) was:

| <u>Weather Station</u> | <u>Precipitation</u> | <u>Percent of Normal</u> |
|--------------------------------|----------------------|--------------------------|
| Los Angeles Civic Center | 4.66 inches | 81% |
| Santa Ana (John Wayne Airport) | 1.83 inches | 34% |
| San Diego Airport | 1.19 inches | 26% |
| Riverside Airport | 2.01 inches | 52% |
| Eight Station Index | 41.40 inches | 172% |

For this current water year, 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 January 23, 2006, precipitation was 111 percent of normal, and the projected unregulated inflow into Lake Powell was 103 percent of normal.

Power Update

In November, Metropolitan purchased 16,400 Megawatt-hours (MWh) for delivery to the CRA in December at a rate of \$61.63 per MWh, or a total cost of \$1,010,650. This energy was purchased to reduce Metropolitan’s exposure to volatile winter energy prices if the Bureau of Reclamation dramatically increased Metropolitan’s diversion target from the Colorado River. When it was certain the CRA would not need the additional energy, Metropolitan sold 9,600 MWh at \$100 per MWh for total revenues of \$960,000.

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During December, Metropolitan returned 20,288 MWh of exchange energy to Southern California Edison (SCE). As of December 31, 2005, Metropolitan owes SCE 28,861 MWh that will be returned to SCE by September 30, 2006. The DWR exchange energy account was zero balanced as of December 31, 2005.

In December, Metropolitan sold 1,402 MWh of DVL generation to DWR at an average rate of \$107.95 per MWh for total revenues of \$151,350. During December, the other 15 hydroelectric power plants generated about 40,374 MWh for total revenues of about \$2.3 million from DWR, SCE and PG&E.

For CY 2005, Metropolitan’s hydroelectric power plants produced nearly 460,000 MWh of energy that was sold for \$24 million. These totals include 12,100 MWh from DVL for revenues of almost \$800,000.

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

From May 2001 through December 2005, Metropolitan has received over \$1 million in incentive payments from the California Energy Commission (CEC) for power produced at DVL (see figure below). This incentive program was created by the CEC during the energy crisis of 2001 as an inducement for potential power generators to bring new generation on-line as quickly as possible. The CEC pays a bonus of nearly \$11/MWh for energy produced at DVL. This is in addition to the revenues received from the sale of the power.

The incentive program will terminate May 30, 2006.

**DVL GENERATION - CEC BONUS REVENUE
(Cumulative \$)**

