

## • Water System Operations March 2005 Activity Report

### Summary

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

### Detailed Report

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#### Security Update

Security improvements are proceeding according to schedule and budget. Johnson Controls, Inc. (JCI) completed installation of conduits and cables at Black Metal Communication site, Intake Pumping Plant, Gene Pumping Plant, Covina Pressure Control Structure (PCS), Palos Verdes second inlet, Palos Verdes Reservoir, Deodora PCS, Lake Mathews tunnel drain, Chemical Unloading Facility (CUF), Temescal Power Plant (PP), PC-1, Perris PP/PCS, Red Mountain PP/PCS and West Portal/San Jacinto Tunnel. Installation started at Union Station and OC-88 service connection. JCI submitted the final site acceptance plans for Eagle Rock and Weymouth Plant (the two proof-of-concept sites) and installed a vehicle gate at Eagle Rock that will separate Metropolitan facilities from other site users (Southern California Edison (SCE), Los Angeles Department of Water and Power (LADWP), local residents, and guests).

#### Water Quality Update

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

##### *Trihalomethane Levels*

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 April 11, 2005, were:

	<u>THM Levels</u>		
	4-week Average	4-week High	Percent SPW Blends
Mills	31 ppb	33 ppb	100%
Jensen	51 ppb	56 ppb	100%
Diemer	55 ppb	59 ppb	45%
Skinner	70 ppb	73 ppb	59%
Weymouth	59 ppb	62 ppb	45%

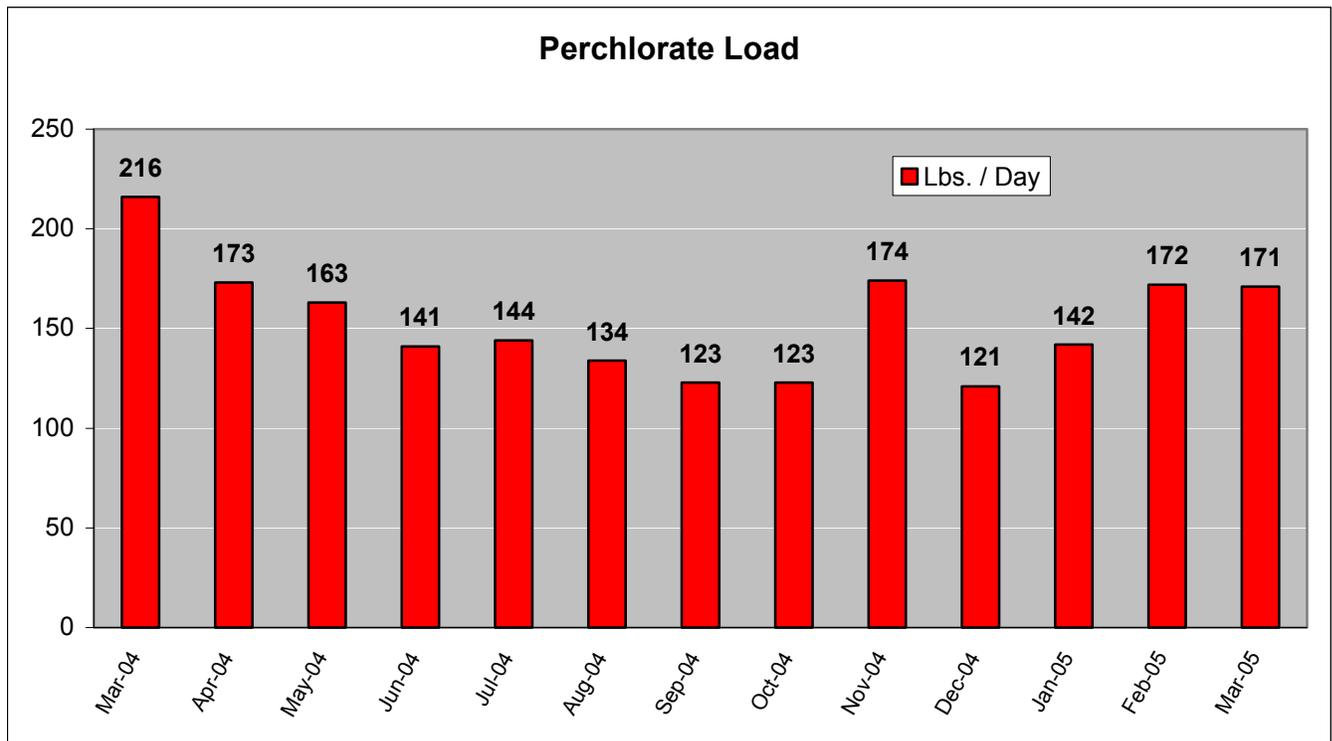
The total organic carbon (TOC) four-week average at the Mills influent has continued to increase and is currently 5.9 parts per million (ppm), up from 5.6 ppm reported last month. This increase in TOC in the east branch SPW is due to seasonal trends and higher than normal organic input into the Sacramento/San Joaquin Delta from storm runoff. However, the TOC values leaving the Delta appear to have peaked and have begun to drop over the last several weeks. This will result in a drop of TOC at the Mills influent over the next several weeks. Jensen influent TOC four-week average has increased slightly to 3.6 from 3.4 ppm reported last month. Distribution system THM levels in parts of Orange County and the central pool were as high as 66 ppb, and the 4-week average ranged from 51 to 70 ppb. The target SPW blend at the Diemer and Weymouth plants was reduced to 35 percent beginning the week of March 28, 2005 to help decrease the THM levels in the distribution system. The elevated THM levels at Skinner were due to the high SPW blends and the use of plant influent chlorination, which was necessary to meet required disinfection credit due to the high turbidity and low plant flows.

*Perchlorate*

Perchlorate was not detected at or above the California Department of Health Services’ (CDHS) detection limit for purposes of reporting (4 ppb) in any of the monitoring locations in April 2005. The most recent six-month running averages (November 2004 – April 2005) for the Weymouth, Diemer and Skinner plants were also less than 4 ppb. Currently, there is no regulatory standard for perchlorate.

Perchlorate clean-up efforts in Henderson, Nevada continue. Metropolitan staff met with the Nevada Department of Environmental Protection (NDEP) to discuss current remediation efforts. Staff visited the site where PEPCON is planning to deploy an in-situ bioremediation system to mitigate the leading edge of the plume near the Las Vegas Wash. This system is expected to be operational by fall 2005. Based on our weekly monitoring data and the real-time flow data provided by the NDEP, the average loading at North Shore Road for March 2005 was calculated to be 171 lbs/day. The average load measured for March 2005 falls above the NDEP’s model predicted 95 percent confidence level value of 106 lbs/day, due to the after-effects of elevated storm flows and wash-out of perchlorate from local soils.

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



The Office of Environmental Health Hazard Assessment (OEHHA) announced on April 1, 2005 that the perchlorate public health goal (PHG) of 6 ppb set last year is consistent with the recent findings by an expert panel from the National Academy of Sciences (NAS) on the health implications of perchlorate ingestion. The PHG is the basis for the standard (maximum contaminant level or MCL), which the California Department of Health Services (CDHS) plans to propose this year.

### *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 and protected against potential contamination emanating from the Pacific Gas and Electric (PG&E) Topock Gas Compressor Station site along the Colorado River. The DTSC has directed PG&E to install an additional extraction well closer to the Colorado River than the current extraction well. This new extraction well was completed and in operation as of March 15, 2005. PG&E is also planning to construct an on-site treatment plant to avoid off-site disposal costs. The treatment plant is expected to begin operation in May 2005. This will allow for a higher pumping rate of contaminated groundwater to be extracted.

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 April.

Currently, there is no drinking water standard for chromium 6. The CDHS MCL for total chromium is set at 50 ppb. OEHHA is working on a public health goal (PHG), which will be used by CDHS to set an MCL for chromium 6 in the upcoming year.

### *Moab Uranium Mill Tailings*

In November 2004, the U.S. Department of Energy (DOE) issued a draft Environmental Impact Statement (DEIS) for the remediation of the Moab uranium mill tailings for public comment. The DEIS draft includes four remediation alternatives, including on-site disposal of the contaminated materials (capping pile in-place) and off-site disposal at one of three alternative locations in Utah using one or more transportation options: truck, rail or slurry pipeline. The DEIS also analyzes a no-action alternative, under which DOE would not implement any surface or groundwater remedial actions.

On April 6, 2005 the U.S. Department of Energy announced the department's preferred alternative for remediation of the site. The preferred alternative is for off-site disposal to the Crescent Junction disposal site, which is located approximately 30 miles north. A Final EIS for the site is in preparation.

### *Taste-and-Odor*

There are no taste-and-odor problems in any of our source waters or treatment plants at this time.

Although there are planktonic geosmin-producing blue-green algae growing within Lake Perris, the Department of Water Resources (DWR) and Metropolitan have taken appropriate actions to mitigate potential taste-and-odor problems. On April 26, 2005 the DWR performed an algae control treatment of copper sulfate. Because a blend of Lake Perris water is flowing into Lake Skinner, the deliveries from the outlet tower has been changed to a deeper zone (below the impact of the geosmin).

### *Pyramid Lake Oil Spill*

On March 23, 2005, at about 1:00 p.m., approximately 126,000 gallons of oil spilled into a canyon adjacent to Pyramid Lake due to a landslide that severed a 14-inch pipeline moving light crude oil from the southern San Joaquin Valley to Los Angeles area refineries. A large percentage of the total spill flowed onto the lake. Multiple agencies responded to the spill including: Pacific Pipeline Systems (owner), DWR, CDHS, LADWP, U. S. Environmental Protection Agency (USEPA), Department of Fish and Game, Los Angeles County Fire Department, County Parks and Recreation, and Metropolitan. Pacific Pipeline Systems performed oil cleanup from the lake.

Monitoring indicated that low levels of crude oil compounds were analytically detectable in the upper zone of the water column, but no compounds exceeded regulatory limits. However, oily odors (as analyzed by Flavor Profile Analysis [FPA]) were unacceptable in the upper 40 meters of the lake. The odor characteristics have changed from petroleum aroma (heavy motor oil type aroma) to oily (e.g., gasoline type aroma) aroma. Water quality has been improving in the surface of the lake as clean-up progresses. Water is being drawn from the deep zone unaffected by the oil.

*Total Dissolved Solids (TDS) Levels*

The April 2004 through March 2005 twelve-month flow-weighted average TDS levels for the Diemer, Skinner, and Weymouth plants were 442, 476, 451 ppm, respectively. These levels meet Metropolitan's water quality objectives for TDS.

**Water Treatment Update**

The Jensen Water Treatment Plant's ozone retrofit project is in the final stages of construction. The ozone equipment supplier, Ozonia, completed the loading of the generator dielectric tubes and began generating ozone for testing on April 25, 2005. It is expected that the contractor will meet the scheduled operational date of July 1, 2005. Both the Skinner and Mills plants experienced an unusual period of very low flow demands created by the wet weather and scheduled outages within the member agencies' systems. The low demands resulted in the Skinner plant being removed from service as flows through the plant reduced to only 11 million gallons per day (mgd). The plant remained shut down for two days and supplied the agencies from the 110 million gallon finished water storage reservoir. This is the lowest flow condition experienced by the Skinner plant in recent history. The Mills plant continues with the complete replacement of the filter media in modules 3 and 4. The media replacement will allow the plant to convert the filter operation to biological filtration to assist in meeting the Disinfectants / Disinfection By-Products Rule. The contractor has completed 26 of the 32 filters and is expected to complete work in mid-May.

The Engineering and Operations Committee visited each of the water treatment plants during the inspection trip held on April 21 and 22. The Committee received an update on the capital projects scheduled and in progress at each of the plants, along with information on the operations of each plant.

**Conveyance & Distribution Update***Shutdowns*

The primary shutdown activity for this period was the March 16-April 5 shutdown of the Colorado River Aqueduct (CRA). This was the second total shutdown of the CRA this year, and permitted the completion of several major rehabilitation projects that were started during the previous three-week shutdown in January. Work included the replacement of approximately 40,000 square feet of concrete canal lining, the replacement of the remaining 230 kilo-volt circuit breakers at the five pump plants, rehabilitation of the headgate operators at the Intake, Eagle, and Hinds pump plants, continuation of the project to convert cast-iron blowoff structures to pump wells, and several other rehabilitation and inspection activities. All planned work that required zero-pump flow in the CRA was completed on schedule, and the contractor will continue through May with additional work that can be done with a reduced aqueduct flow.

The Palos Verdes Feeder was shut down for four days for removal and replacement of several valves. The Upper Feeder was taken out of service for four days downstream of the Weymouth plant, primarily to allow inspection of the gates in the San Gabriel Tower. This was in preparation for a future capital project to rehabilitate this structure. Finally, during the week of April 11, 2005, the portion of the Orange County Feeder from Willits St. to Newport Back Bay was taken out of service for inspection. A video camera system was used to inspect the entire length of this steel pipeline, which was constructed of refurbished pipe materials in the early 1940s. The inspected section included the location at Bristol and Sunflower in Costa Mesa where a leak repair was completed in 2004. Preliminary results of the video inspection indicated no additional serious problems.

**Water System Update**

On April 1, 2005, the current calendar year (CY) State Water Project (SWP) allocation was increased from 60 to 70 percent, or about 1.3 million acre-feet (MAF). Since then, the allocation has been increased to 80 percent. There is a good chance that the final allocation in May will be higher. As of April 19, 2005, total SWP in-basin deliveries for the CY were 377,675 acre-feet (AF). These deliveries include 324,210 AF on the East and West Branches and 53,465 AF through the San Bernardino Valley Municipal Water District/Inland Feeder Interconnection and the San Gabriel Valley Municipal Water District. All SWP deliveries to date are from CY 2004 carryover accounts, Article 21, and Table A, which Metropolitan began taking in early April.

Through April 19, 2005, CY Colorado River Aqueduct (CRA) deliveries were 126,000 AF, which is 21 percent of the current approved diversion target of 617,000 AF.

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

<b>Metropolitan Reservoirs</b>	<b>Storage to Date</b>	<b>Percent of Capacity</b>
Diamond Valley Lake	708,775 AF	89%
Lake Mathews	159,732 AF	88%
Lake Skinner	37,328 AF	85%
<b>State Water Project Reservoirs</b>		
Lake Oroville	2.72 MAF	91%
San Luis Reservoir Total	2.01 MAF	95%
San Luis State Share	1.05 MAF	99%
<b>Colorado River Reservoirs</b>		
Lake Powell	8.0 MAF	33%
Lake Mead	16.1 MAF	59%
<b>SDCWA Reservoirs</b>		
24-Reservoir Total	449,899 AF	75%

As of April 19, 2005, the San Gabriel Valley Groundwater Basin key well elevation was 243 feet above sea level, which is a 10-foot increase since last month. The key well elevation is seven feet higher than the ten-year average of 236 feet.

Snow pack in the Sierra Nevada Mountains remains above normal. As of April 19, 2005, the snow pack was 162 percent of normal to date at Mammoth Pass and 109 percent of normal to date at Donner Summit.

#### *Sales and Deliveries*

As of April 2005 close of billing, water sales for March 2005 were 85 thousand acre-feet (TAF). This amount is 63 TAF, or 43 percent, less than the budgeted amount of 148 TAF. March 2004 sales were 177 TAF, and the high-sales record for the month of March occurred in 1990 when total sales were 212 TAF.

On April 7, 2005, the CRA went to a four-pump flow at the Copper Basin coming out of the 21-day shutdown on the CRA. The four-pump flow continued through April 11, 2005, when the CRA was increased to an eight-pump flow.

#### *Precipitation*

The Colorado River system has had five consecutive water years (October through September) of below normal rainfall. At almost six months into the current water year, the impact of the drought continues within the Colorado River system even though precipitation is at 106 percent of normal and snow pack is at 101 percent of normal.

For the current water year (October 1, 2004 through September 30, 2005) through April 19, 2005, total precipitation for four southern California cities and the Eight Station Index (a measure of precipitation in the SWP's watershed) is:

<b><u>Weather Station</u></b>	<b><u>Precipitation</u></b>	<b><u>Percent of Normal</u></b>
Los Angeles Civic Center	36.01 inches	259%
Santa Ana (John Wayne Airport)	23.85 inches	193%
San Diego Airport	21.77 inches	220%
Riverside Airport	20.24 inches	220%
Eight Station Index	43.86 inches	102%

As of April 19, 2005, the Los Angeles Civic Center has received 36.01 inches of rain, which is now the second highest year on record, and only 2.17 inches lower than the highest annual record of 38.18 inches, which was set in 1883-84.

**Power Update**

During March, Metropolitan returned 15,256 Megawatt-hours (MWh) of net exchange energy to SCE. As of March 31, 2005, Metropolitan owes SCE 72,690 MWh of exchange energy that will be returned to SCE by September 30, 2005.

Metropolitan sold 1,059 MWh of DVL generation to DWR at \$51.98/MWh for a total of \$55,051. The California Energy Commission bonus revenue for DVL generation in March will be calculated and accounted for in April 2005. The other 15 hydroelectric power plants generated about 21,838 MWh for total revenues of about \$1.1 million during the month of March 2005.

There were no pump curtailments for DWR or Metropolitan in the month of March.