



POWER PLANTS

1 AND 2

WATER QUALITY REPORT 2013



The 2013 Water Quality Report for Power Plant 1 and Power Plant 2 was prepared by the Los Angeles Department of Water and Power (LADWP). The report is required by California Department of Public Health (CDPH) and was prepared in accordance with CDPH guidelines. The report gives information about drinking water supplied to Power Plants 1 and 2 during the 2013 calendar year. The data are compared to the current State and Federal Standards. Only those constituents that were detected are listed.

THE BOTTOM LINE

The following substances which have primary standards were detected at low levels in the treated water supplied to Power Plants 1 and 2: fluoride, chlorine, radionuclides (alpha, beta, and uranium), haloacetic acids, trihalomethanes, and turbidity. Results of all tested substances were far below the established maximum contaminant levels (MCLs), which are the health protective standards or action levels (AL) set by the United States Environmental Protection Agency (USEPA) and notification levels (NL) set by the California Department of Public Health (CDPH).

For more information on these substances, please refer to Table 1, "Health-Based Primary Drinking Water Constituents Found in Water". The reported data for lead and copper on this table are the results of at-the-tap monitoring conducted in 2013 as required by the Lead and Copper Rule.

**Este informe contiene información muy importante sobre su agua potable.
Tradúzcalo o hable con alguien que lo entienda bien.**

The term “source water” describes where LADWP obtains the water you drink. In general, all drinking water, tap or bottled, comes from either surface water or groundwater sources. Surface water sources include rivers, lakes, streams, ponds, or reservoirs. Groundwater sources are springs or wells.

Power Plant 1 and Power Plant 2 receive surface water from the Los Angeles Aqueduct (LAA). Prior to entering the distribution system, the water is treated at one of two filtration units of each plant and then chlorinated. In addition, each of the homes and power plants is equipped with point-of-entry filters to further treat the water prior to usage.

WHY IS DRINKING WATER MONITORED AND TREATED?

As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or human activity.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling EPA’s Safe Drinking Water Hotline (1-800-426-4791).

In order to ensure that tap water is safe to drink, USEPA and the CDPH prescribe regulations that limit the amount of certain contaminants in water provided by public water system. CDPH regulations also establish limits for contaminants in bottled water that must provide the same protection for public health. Contaminants that may be present in source waters include:

Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

Inorganic contaminants, such as salts, and metals, which can be naturally-occurring or result from urban storm run-off, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water run-off, and residential uses.

Organic chemicals, including synthetic and volatile organics, which are by-products of industrial processes and

petroleum production, and can also come from gas stations, urban storm water run-off, and septic systems.

Radioactive contaminants, which can be naturally occurring or be a result of oil and gas production and mining activities.

SPECIAL NOTICE TO IMMUNO-COMPROMISED CONSUMERS

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risks from infections. These people should seek advice about drinking water from their health care providers. USEPA/Center for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800 426-4791).

TERMS USED IN THIS REPORT

AL (Action Level) - Federal: The concentration of a contaminant that, if exceeded, triggers treatment or other requirements a water system must follow.

MCL (Maximum Contaminant Level): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the PHGs and MCLGs (see below) as economically or technologically feasible. For certain contaminants, compliance with the MCL is based on the average of all samples taken throughout the year.

MCLG (Maximum Contaminant Level Goal): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.

Maximum Residual Disinfectant Level (MRDL): The level of a disinfectant added for water treatment that may not be exceeded at the consumer’s tap.

MONITORING OF UNREGULATED CONSTITUENTS

Maximum Residual Disinfectant Level Goal (MRDLG):

The level of a disinfectant added for water treatment below which there is no known or expected risk to health. MRDLs are set by the U.S. Environmental Protection Agency.

NL (Notification Levels) - State: Health-based advisory levels established by CDPH for chemicals in drinking water that lack maximum contaminant levels (MCLs). When chemicals are found at concentrations greater than their notification levels, certain requirements and recommendations apply.

PHG (Public Health Goal) - State: The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

Primary Drinking Water Standard: MCLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

Secondary Drinking Water Standards: These standards are based on aesthetic qualities such as taste, odor, and appearance, which affect customer acceptance. They are not considered a health risk if exceeded.

TT (Treatment Technique): A required treatment process, which will reduce the level of a contaminant in drinking water. For example, the filtration process is a treatment technique used to reduce turbidity (the cloudiness of water) and microbial contaminants from water. High turbidities may be indicative of poor or inadequate filtration.

There are constituents found in drinking water that are not yet regulated by the USEPA and CDPH. Some of these “unregulated constituents” are monitored because they could be candidates for future regulations, or are of interest to our consumers.

WATER QUALITY UPDATE

Operations, treatment and monitoring in PP1 and PP2 are regularly performed. All samples from both plants were in compliance with all water quality regulations that include maximum contaminant levels (MCLs), notification levels (NLs), bacteriological, turbidity, and disinfection by-products requirement.

On March 13, 2013, the PP2 distribution system was shut down due to low chlorine residual caused by a pinhole leak in the system. LADWP staff dewatered the distribution system, increased chlorine in the tank, took bacteriological samples, issued boil water notice to the residents, and informed CDPH. Repairs were successfully done. All CDPH directions were followed. Negative bacterial results were reported on March 15. The boil water directive was rescinded after the distribution system showed strong chlorine residual of at least 1 ppm. The system is carefully monitored through regular inspection, maintenance and sampling.

MONITORING OF REGULATED CONSTITUENTS

There are over 110 constituents and contaminants required for monitoring. Utilities monitor for each constituent at varying frequencies based on the type of constituent and the type of source water. For example, groundwater sources are generally sampled once every three years. Those constituents that pose acute risk require more frequent monitoring. Nitrate sampling is required annually, and bacteriological sampling is required monthly. Since most constituents are not detected in our water, only those constituents that are detected are listed in the tables.

POWER PLANTS 1 and 2 – 2013 CALENDAR YEAR

TABLE 1

HEALTH-BASED PRIMARY DRINKING WATER CONSTITUENTS DETECTED IN TREATED WATER

Power Plants 1 and 2 Water Quality							
Constituents/ Contaminants	Units	Range	Average	State or Federal Primary Standard (MCL or MRDL)	MEET PRIMARY STANDARDS ?	State PHG or (Federal MCLG or MRDLG)	Major Source in Drinking Water
Power Plant 1							
Fluoride	mg/L	0.851	0.851	2	YES	1	Erosion of natural deposits
Gross Alpha Particle Activity	pCi/L	4.88	4.88	15	YES	(0)	Erosion of natural deposits
Uranium	pCi/L	4.15	4.15	20	YES	0.43	Erosion of natural deposits
Power Plant 2							
Fluoride	mg/L	0.816	0.816	2	YES	1	Erosion of natural deposits
Gross Alpha Particle Activity	pCi/L	5.94	5.94	15	YES	(0)	Erosion of natural deposits
Gross Beta Particle Activity	pCi/L	4.76	4.76	50	YES	(0)	Decay of natural deposits
Uranium	pCi/L	3.55	3.55	20	YES	0.43	Erosion of natural deposits

Gross Alpha and Gross Beta Particle Activities were analyzed from samples collected in 2009 from Power Plants 1 and 2 raw water. Radionuclides are collected on a 6-year frequency cycle, as determined by the California Department of Public Health (CDPH). Gross Beta Particle Activity was not detected in Power Plant 1.

NOTE: Both PP1 and PP2 draw water from the LAA system and are essentially the same water. Any slight differences in concentrations are due to each treatment plant's efficiency and the allowed variability in analytical methods.

TABLE 1 (continued)
**HEALTH-BASED PRIMARY DRINKING WATER CONSTITUENTS
DETECTED IN TREATED WATER**

Constituents/ Contaminants	Units	Power Plants 1 and 2 Water Quality					Major Source in Drinking Water
		Range	Average	State or Federal Primary Standard (MCL or MRDL)	MEET PRIMARY STANDARDS ?	State PHG or (Federal MCLG or MRDLG)	
Power Plant 1 Distribution System							
Copper (at-the-tap) (a)	ug/L	number of samples exceeding AL = 0 out of 5	90 th Percentile value = 180	AL=1300	YES	300	Internal corrosion of household water plumbing systems
Chlorine Residual, Total	mg/L	1.02 – 2.05	1.57	4.0	YES	4.0	Disinfectant
Haloacetic Acids, Total (HAA5)	µg/L	15.0 – 30.2	17.3	60	YES	(0)	Disinfection by-product
Lead (at-the-tap) (a)	µg/L	number of samples exceeding AL = 0 out of 5	90 th Percentile value = 6.3	AL=15	YES	0.2	Internal corrosion of household water plumbing systems
Trihalomethanes, Total (TTHMS)	µg/L	22.0 – 39.4	27.9	80	YES	(0)	Disinfection by-product
Turbidity (b)	NTU	99.2%	1.29	(0.3) TT	YES	none	Soil runoff
Power Plant 2 Distribution System							
Copper (at-the-tap) (a)	µg/L	number of samples exceeding AL = 0 out of 5	90 th Percentile value = 120	AL=1300	YES	300	Internal corrosion of household water plumbing systems
Chlorine Residual, Total	mg/L	0.61 – 2.30	1.34	4.0	YES	4.0	Disinfectant
Haloacetic Acids, Total (HAA5)	µg/L	6.5 – 25.5	15.9	60	YES	(0)	Disinfection by-product
Lead (at-the-tap) (a)	µg/L	number of samples exceeding AL = 1 out of 5	90 th Percentile value = 15.3	AL=15	YES	0.2	Internal corrosion of household water plumbing systems
Trihalomethanes, Total (TTHMS)	µg/L	13.7 – 47.6	29.9	80	YES	(0)	Disinfection by-product
Turbidity (b)	NTU	99.8%	0.49	(0.3) TT	YES	none	Soil runoff

POWER PLANTS 1 and 2 – 2013 CALENDAR YEAR

TABLE 2
AESTHETIC-BASED SECONDARY DRINKING WATER CONSTITUENTS
DETECTED IN TREATED WATER

Constituents/Contaminants	Units	Power Plants 1 and 2 Water Quality				
		Level Detected		Federal & State Secondary Standard (SMCL)	MEET SECONDARY STANDARD?	Major Source in Drinking Water
		Power Plant 1 9/17/13	Power Plant 2 9/18/13			
Chloride	mg/L	49.2	49.0	500	YES	Runoff/leaching from natural deposits
Color	ACU	3.0	3.0	15	YES	Naturally-occurring organic materials
Specific Conductance, field	uS/cm	466	479	1600	YES	Substances that form ions when in water
Sulfate	mg/L	24.2	25.6	500	YES	Runoff/leaching from natural deposits
Total Dissolved Solids [TDS]	mg/L	257	253	1000	YES	Runoff/leaching from natural deposits
Turbidity, field	NTU	0.15	0.12	5	YES	Soil runoff

Odor Threshold was analyzed in Power Plants 1 and 2 but was not detected.

NOTE: Both PP1 and PP2 draw water from the LAA system and are essentially the same water. Any slight differences in concentrations are due to each treatment plant's efficiency and the allowed variability in analytical methods.

POWER PLANTS 1 and 2 – 2013 CALENDAR YEAR

TABLE 3

UNREGULATED DRINKING WATER CONSTITUENTS DETECTED IN TREATED WATER

Constituents/Contaminants	Units	Power Plants 1 and 2 Water Quality			
		Level Detected		Notification Level	Major Source in Drinking Water
		Power Plant 1 9/17/13	Power Plant 2 9/18/13		
Alkalinity, Total (as CaCO ₃)	mg/L	137	129		Natural hot springs; erosion of natural deposits
Boron	µg/L	712	662	1000	Erosion of natural deposits
Calcium	mg/L	27.2	28.0		Natural constituent
Magnesium	mg/L	7.42	7.46		Natural constituent
pH, field	Units	7.38	7.24		Naturally-occurring gases and minerals
Potassium	mg/L	6.07	5.94		Natural constituent
Silica	mg/L	17.9	17.1		Erosion of natural deposits
Sodium	mg/L	52.7	53.5		Natural constituent
Total Hardness (as CaCO ₃)	mg/L	98	101		Natural constituent
Total Organic Carbon (TOC)	mg/L	1.40	1.23		Natural constituent

Abbreviations for Tables

AL = Action Level: The concentration of Lead and Copper at the tap. If exceeded, the AL triggers treatment or other requirements that a water system must follow. ALs are set by the USEPA.

NL = Notification Level: The health-based advisory level established by CDPH for chemicals in drinking water that lack maximum contaminant levels (MCLs). When chemicals are found at concentrations greater than their NLs, certain reporting requirements and operational recommendations apply.

mg/L = milligrams per Liter (equivalent to parts per million)

NTU = Nephelometric Turbidity Units

pCi/L = picoCuries per Liter (a unit of radioactivity)

TON = Threshold Odor Number

TT = Treatment Technique: A prescribed process to reduce the level of a contaminant in drinking water; alternative to an MCL

µg/L = micrograms per Liter (equivalent to parts per billion)

µS/cm = micro Siemens per centimeter

< = less than (example: for aluminum, <50 means the analytical value reported is less than 50 micrograms per liter of sample, the detection limit for aluminum)

Footnotes for Tables

- (a) = At-the-tap monitoring was conducted in 2013, as required by the Lead and Copper Rule. A system is out of compliance if the Action Level exceeds the 90th percentile of all samples at the customers' tap. Samples from PP1 and PP2 were in compliance in 2013.
- (b) = Turbidity is a measure of the cloudiness of the water and is a good indicator of water quality and filtration performance. The Primary Drinking Water Standard for turbidity at the treatment plant is less than or equal to 0.3 NTU in at least 95% of the measurements taken in any month and must not exceed 1.0 NTU at any time. High turbidity can hinder the effectiveness of disinfectants harbor pathogens.

The reporting requirement for treatment plant turbidity is: report the highest single measurement in the calendar year and the lowest monthly percentage of measurement that are less than or equal to 0.3 NTU. The high turbidity reading reflects a single reading taken out of some 9,000 readings in each plant. Turbidity is monitored in 15 minute intervals all year round.

For more information regarding this report, please call Ms. Josefa V. Esparrago at (213) 367-0287 of the Water Quality Division