



POWER PLANTS

1 AND 2

WATER QUALITY REPORT 2014



The 2014 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 the State of California Water Resources Control Board (State Board) and was prepared in accordance with the Division of Drinking Water (DDW) guidelines. The report gives information about drinking water supplied to Power Plants 1 and 2 during the 2014 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 primary standards arsenic, fluoride, chlorine, radioactivity, haloacetic acids, trihalomethanes, and turbidity were detected at low levels in the treated water supplied to Power Plants 1 and 2. A group of synthetic organic compounds (SOCs) that were not analyzed in 2014 will be sampled and analyzed in 2015; a list of these compounds is included in the notes. The 90th percentile value for lead at PP1 exceeded the lead Action Level. Results of all the other tested substances were far below established maximum contaminant levels (MCLs) or action levels (AL) set by the United States Environmental Protection Agency (EPA) and notification levels (NL) set by the Division of Drinking Water (DDW).

For more information on these substances, please refer to Table 1, "Health-Based Primary Drinking Water Constituents Found in Water". The presence of these constituents in the water does not indicate the water poses a health risk. The State Board allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of the data, though representative of the water quality, are more than one year old.

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

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 receives 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 constituents 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 (800-426-4791).

In order to ensure that tap water is safe to drink, USEPA and DDW prescribe regulations that limit the amount of certain contaminants in water provided by public water system.

DDW 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 can 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 (800-426-4791).

TERMS USED IN THIS REPORT

Regulatory AL (Action Level) - Federal: The concentration of a contaminant which, 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. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically or technologically feasible. Secondary MLCs are set to protect the odor, taste, and appearance of drinking water

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 (USEPA).

Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Notification Levels (NL) - 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.

Public Health Goal (PHG) - 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 (PDWS): MCLs and MRDL for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

Secondary Drinking Water Standards (SDWS): MCLs for contaminants that affect taste, odor, or appearance of the drinking water. Contaminants with SDWSs do not affect the health at the MCL levels.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

Variances and Exemptions: State Board permission to exceed an MCL or not comply with a treatment technique under certain conditions.

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.

MONITORING OF UNREGULATED CONSTITUENTS

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

NOTICE REGARDING LEAD IN DRINKING WATER

San Francisquito Power Plants 1 and 2 were sampled for lead and copper in 2014. Samples were collected after water was left to sit in the plumbing for at least 6 hours in order to obtain values representing a typical stagnation period. The 90th percentile results for both systems are displayed in the tables in this report.

The 90th percentile value for lead exceeded the Action Level for lead at PP1. Sampling for lead at PP1 will remain on an accelerated schedule, even while steps are being taken to correct the problem. We will continue to monitor the source water and work on improving controls to reduce the corrosivity of our water (corrosive water can cause lead to leach from plumbing materials that contain lead), in order to reduce the lead levels in our water.

We also continue to provide information to our customers in order to help them better understand the health effects of lead, the sources of lead and actions they can take to reduce their exposure to lead in drinking water.

WATER QUALITY UPDATE

Operations, treatment and monitoring in PP1 and PP2 are regularly performed. Nearly 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 requirements

For more information regarding this report, please call Lynn Kyin of the Water Quality Division at (213) 367-1276

POWER PLANTS 1 and 2 – 2014 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	0.9	0.9	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	4.36	4.15	20	YES	0.43	Erosion of natural deposits
Power Plant 2							
Fluoride	mg/L	0.9	0.9	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	1.07	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 samples. Radionuclides are collected on a 6-year frequency cycle, as determined by the DDW.

NOTES:

- While synthetic organic compound (SOC) analysis was conducted in 2014, the following compounds were missed and will be analyzed in 2015 – Chlordane, Endrin, Heptachlor, Heptachlor Epoxide, Hexachlorocyclopentadiene, Lindane, Methoxychlor, and Toxaphene. No SOC's—including the compounds listed—were detected in the water analysis conducted in 2011.
- 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					
		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							
Arsenic	µg/L	ND – 7	2.4	10	YES	0.004	Erosion of natural deposits
Copper (at-the-tap) (a)	ug/L	number of samples exceeding AL = 0 out of 5	90 th Percentile value = 601	AL=1300	YES	300	Internal corrosion of household water plumbing systems
Chlorine Residual, Total	mg/L	1.3 – 2.6	1.5	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 = 1 out of 5	90 th Percentile value = 15.8	AL=15	NO	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	99.8%	0.81	(0.3) TT	YES	none	Soil runoff
Power Plant 2							
Arsenic	µg/L	ND- 3.4	2.8	10	YES	.004	Erosion of natural deposits
Copper (at-the-tap) (a)	µg/L	number of samples exceeding AL = 0 out of 5	90 th Percentile value = 231	AL=1300	YES	300	Internal corrosion of household water plumbing systems
Chlorine Residual, Total	mg/L	1.1 – 2.0	1.45	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 = 0 out of 5	90 th Percentile value = 12.4	AL=15	YES	0.2	Internal corrosion of household water plumbing systems
Trihalomethanes, Total (TTHMS)		13.7 – 47.6	29.9	80	YES	(0)	Disinfection by-product
Turbidity (b)	NTU	99.9%	0.86	(0.3) TT	YES	none	Soil runoff

POWER PLANTS 1 and 2 – 2014 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 12/10/14	Power Plant 2 12/10/14			
Chloride	mg/L	44	49.1	500	YES	Runoff/leaching from natural deposits
Color	ACU	3	3	15	YES	Naturally-occurring organic materials
Specific Conductance, field	uS/cm	455	464	1600	YES	Substances that form ions when in water
Sulfate	mg/L	21	24	500	YES	Runoff/leaching from natural deposits
Total Dissolved Solids [TDS]	mg/L	241	236	1000	YES	Runoff/leaching from natural deposits
Turbidity, field	NTU	0.15	ND	5	YES	Soil runoff

Footnotes for Tables

a - At-the-tap monitoring was conducted in 2014, as required by the Lead and Copper Rule. A system is out of compliance if the 90th percentile value of all samples taken exceeds the Action Level of 15 µg/L and 1300 µg/L of lead and copper, respectively. Samples from PP2 were in compliance in 2014.

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 and can harbor pathogens. The reporting requirement for treatment plant turbidity is to report the highest single measurement in the calendar year and the lowest monthly percentage of measurements less than or equal to 0.3 NTU. Turbidity is monitored in 15 minute intervals all year round.

POWER PLANTS 1 and 2 – 2014 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	Power Plant 2		
Alkalinity, Total (as CaCO ₃)	mg/L	126	122		Natural hot springs; erosion of natural deposits
Bicarbonate	mg/L	154	149		Erosion of natural deposits
Boron	µg/L	727	746	1000	Erosion of natural deposits
Calcium	mg/L	20	22		Natural constituent
Chloride	mg/L	44	49		Natural constituent
Magnesium	mg/L	7.3	7.7		Natural constituent
pH, field	Units	7.7	7.6		Naturally-occurring gases and minerals
Potassium	mg/L	5.1	5.3		Natural constituent
Silica	mg/L	0.9	1.2		Erosion of natural deposits
Sodium	mg/L	56	58		Natural constituent
Total Hardness (as CaCO ₃)	mg/L	81	86		Natural constituent
Total Organic Carbon (TOC)	mg/L	1.8	1.3		Natural constituent

Abbreviations for Tables

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

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

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

µS/cm micro Siemens per centimeter

NTU Nephelometric Turbidity Units

ACU apparent color unit

ND None detected