

Decision No. 80488

ORIGINAL

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Investigation on the Commission's own motion into the operations, service, maintenance, facilities, equipment, practices, rates, rules, tariff schedules, accounting practices and financial condition of A. AUGENSTEIN, an individual, dba BUCKINGHAM PARK WATER SYSTEM.

Case No. 9290
(Filed November 9, 1971)

Alfred E. Augenstein, for himself;
Bruce B. Bruchler, Attorney at Law,
and Clyde F. Norris, for A. Augenstein;
respondent.
Harry J. Boyle, Attorney at Law, for
Buckingham Park Water System;
A. Kvorning, for Buckingham Homes
Association; Edwin A. Balcer, M.D.,
for Home Owners Associations;
Serge V. Spiridonoff, for Bureau of
Sanitary Engineering, State Department
of Public Health, interested parties.
B. A. Peeters, Attorney at Law, for the
Commission staff.

O P I N I O N

This is an investigation on the Commission's own motion into the operations, service, maintenance, facilities, equipment, practices, rates, rules, tariff schedules, accounting practices and financial condition of A. Augenstein, an individual, dba Buckingham Park Water System. Public hearing was held before Examiner Porter at Clear Lake Highlands on May 25, 26, 1972 and the matter submitted.

Testimony was presented by the Commission staff and the Lake County Health Department concerning this water system.

Beginning with the fall of 1969, the Commission received numerous complaints regarding the poor quality of the water supply and the service outages of the Buckingham Park Water System. The specific nature of these complaints refers to dirty water, water having a bad odor and taste, unsanitary water, and water outages for extended periods during which no responsible person was available to correct the water crisis.

A petition signed by 32 water consumers was received by the Commission on June 8, 1971. The petition repeated the complaints made by various individual customers and concluded by requesting the Commission to investigate and examine the Buckingham Park Water System.

Over the past years the staff and the Lake County Health Department have made suggestions to Mr. Augenstein as to how the service and water quality could be improved.

Field investigations of the utility's facilities were made by the staff engineer in July and September, 1971 and January and April, 1972.

As of December 31, 1971 the utility reports that 190 metered customers were connected to the water system. The staff estimates that 37,518 feet of main between 2-inch and 6-inch in size is in service. Because the service area is located on a hilly peninsula projecting out into Clear Lake there are two pressure zones, each served from a 25,000-gallon storage tank.

The source of water for the system is Clear Lake. A 5-hp pump draws water from a 200-foot length of 4-inch steel pipe located on the bottom of the lake and discharges through one or both of two sand filters into a small steel drum having an approximate capacity of 200 gallons. A 10-hp booster pump draws water from the steel drum and discharges into the lower pressure zone which supplies the majority of the consumers. At elevation 245 feet above the treating plant a 25,000-gallon steel storage

tank provides a floating pressure head for the lower pressure zone. Approximately 4,000 feet of 4-inch main separates the treating plant and the storage tank which is located on Lot 23 of block N.

A 25,000-gallon redwood storage tank is located at a 45-foot higher elevation (Lot 16 block P). This tank is the supply for the upper pressure zone, which supplies most of the customers on Westlake Drive. A 3-hp booster pump on manual control is used to transfer water from the lower to the upper tank.

The water treatment method consists of adding alum coagulant ahead of the filters and adding chlorine gas at the filter outlet. The October, 1971 report by the Bureau of Sanitary Engineering, State Department of Public Health provides a detailed analysis of the poor condition of the water produced by this water treating plant. It was observed that this treating plant has had practically no maintenance for many years. The packing glands on pumps and valves need to be renewed. The floor of the treating plant is thoroughly wetted whenever the plant is in operation. The filter tanks and piping appear to have never been painted. A county sanitarian and a staff engineer made a joint inspection of the No. 1 filter on September 13, 1971. The filter sand was found to be channeled to the sides of the filter, with a high mound in the center and a 3-inch wide crack in the sand extending across the top of the surface. The filters should have a clean source of water supply to clean them with a backwash rate of 600-800 gallons per minute. The present operating method used is to backwash with lake water. By observation it was estimated that approximately 100 gallons per minute is the backwash rate under current conditions. Since the pump should have a capacity of 200 gallons per minute, the low backwash flow rate may be caused by either a worn-out pump impeller or by the sand and gravel of the filter being plugged with mud balls.

The current filter plant capacity is not known since there are no flow meters and the old pressure gauges are unreliable. However, it is possible to estimate the capacity by using two factors, the discharge pressure of the treating plant booster pump and the known pumping head. It is estimated that the booster pump should have a capacity of approximately 100 gpm. According to the company records the water treating plant was operated 24 hours a day during July, 1971 except for backwash time and the system almost failed to supply the demand. The recorded water sales for the month of July was 199,000 cubic feet while 596,000 cubic feet, less backwash water, should have been delivered by the pump from the treating plant. This would indicate that a substantial quantity was lost through leaking pipes, a worn-out booster pump or a combination of the two possibilities.

The treating plant filters have a rated capacity of 200 gallons per minute, the booster pump at the treatment plant a rated capacity of 100 gpm. During August of 1971 there were a total of 219,400 cubic feet of recorded sales. The peak day use can be estimated as twice the average day for the peak month or four times the annual average day. In this case both methods result in an estimated peak day requirement of 15,000 cubic feet or 112,200 gallons. The 4-day peak is estimated to be 448,800 gallons, while the treating plant output, as limited by the 100-gallon per minute booster pump, should deliver approximately 576,000 gallons. Therefore the treatment plant should be able to supply this present demand for the annual 4-day peak unless the booster pump has lost its efficiency or the system has leaks of significant magnitude. Mr. Augenstein claims the need of additional storage. As the customers increase more storage will be required. However, maintenance and treatment plant modernization are the first priority of capital expenditure. The old 25,000-gallon steel tank is in

poor shape, having many patches, but will probably last several more years. The combination inlet and outlet should be modified to allow for dirt accumulation.

The water supply is under the manual control of the operator who starts and stops the water treating pumps and the transfer pump to maintain the water level in the two storage tanks. Whenever the operator through misjudgment or inattention allows the tank levels to drop, the customers experience low pressure or water failure. The solids which have accumulated in the storage tank and at low points in the piping are agitated during the reestablishment of water pressure giving rise to customer complaints of high turbidity. The staff, in its report dated April 4, 1955, in Application No. 36575 recommended the installation of automatic controls to operate the pumps. At that time customers were complaining of periods of low pressure. Mr. Augenstein in his testimony in that proceeding estimated the cost of such automatic equipment at \$500 and indicated that he would provide the equipment.

The staff installed a recording pressure gauge on September 2, 1971 on the service line of a customer supplied from the upper zone. Water outages and low pressure periods were recorded as follows:

<u>Date</u>	<u>Time of Outage</u>	<u>Duration of Outage</u>
9-2-71	1500 to 1800	3 hours
9-17-71	2100 to 2230	1 1/2 hours
9-18-71	1830 to 2300	4 1/2 hours
9-19-71 1/	0600 to 2400	18 hours
9-21-71 1/	1730 to 2200	4 1/2 hours
10-4-71 1/	1300 to 1630	3 1/2 hours
10-5-71	0300 to 0630	3 1/2 hours
10-10-71	1230 to 1300	1/2 hour
10-30-71 1/	1230 to 1600	3 1/2 hours
11-22-71	1100 to 1300	2 hours
1-24-72	1200 to 1430	2 1/2 hours

1/ Low Pressure

The treatment plant and the 25,000-gallon steel tank are in poor physical condition. Many valve stem packings appear to have been leaking for a long time.

An engineering calculation was made for the year 1971 to derive the approximate magnitude of water leakage within the piping of the water system. Using the power bills and the pressure developed by the pumps and assuming a pump efficiency of 50 percent, it was estimated that twice as much water was pumped as was sold to customers for the year 1971. After allowing for the pumping of backwash water and blowdown of mains, it is estimated 9,000,000 gallons of water per year are being lost through leaks.

Users of the system testified as to outages, low pressure and high turbidity.

Mr. Augenstein testified that once in February, 1972 and twice in October 1971, an independent laboratory test showed no contamination of the water. Also, that he had discovered a faulty valve in the filter system.

While there are many items of this water system that need repair or improvement, for the Commission to order repair or improvement of each item would be a piece meal solution. Rather, it would be more logical that Mr. Augenstein prepare a master improvement plan for systematically improving the water system to the standards of General Order No. 103, along with a time schedule.

Set forth in the ensuing order are some of the items to be included in such plan.

Mr. Augenstein is placed on notice that the Commission expects and requires that this water system be improved to standard and that Mr. Augenstein proceed with diligence to effect this improvement.

The Commission finds that operations of this utility are poor, inefficient, inadequate and insufficient and not in keeping

with good water works practices; and concludes that this situation should be remedied.

O R D E R

IT IS ORDERED that:

1. A. Augenstein, doing business as Buckingham Park Water System, is to prepare a master improvement plan for systematically improving the water system with a time schedule and submit said plan and time schedule to the Commission within sixty days from the effective date of this order.

2. The following items shall be included in such plan:

- a. Rebuilding filters under the direction of Lake County Health Department.
- b. Making a leakage survey and repairing leaks.
- c. Investigating efficiency of booster pumps and repairing if necessary.
- d. Installing automatic controls for pumping operations to maintain tank levels.
- e. Modifying the inlet-outlet on the steel tank to allow for dirt accumulation.
- f. Installing a 10,000-gallon backwash tank, 800 gpm backwash pump and automatic backwash system.
- g. Installing a new chlorinator with new scales and automatic chlorine switchover from dual cylinders.
- h. Installing a chlorine contact tank to provide a minimum of thirty minutes contact.

3. All new water connections to premises not under construction before the effective date of this order are prohibited.

The effective date of this order shall be ten days after the date hereof.

Dated at San Francisco, California, this 12th day of SEPTEMBER, 1972.

Vernon L. Stinson
Chairman
William J. Quon
[Signature]
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Commissioners

Commissioner J. P. Vukasin, Jr., being necessarily absent, did not participate in the disposition of this proceeding.