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ORIGINAL

Decision No. 79711

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

WILLIAM VOLKER & COMPANY, Complainant, vs. CALIFORNIA WATER SERVICE COMPANY, Defendant.	Case No. 9225 (Filed May 14, 1971)

Steinhart, Goldberg, Feigenbaum & Ladar, by James T. Fousekis, Attorney at Law, for William Volker & Company, complainant.
McCutchen, Doyle, Brown & Enerson, by Herman H. Howerton, Attorney at Law, for California Water Service Company, defendant.

O P I N I O N

Paragraph A.4. of Rule 16, subtitled Pumps and Boosters appearing on Revised Cal. P.U.C. Sheet No. 337-W, effective October 1, 1956, of the filed tariff of defendant California Water Service Company's tariff reads as follows:

"4. Pumps and Boosters.

"When a customer receiving service at the Utility's main or service connection must by means of a pump of any kind elevate or increase the pressure of the water received, the pump shall not be attached to any pipe directly connected to the Utility's main or service pipe. Such pumping or boosting of pressure shall be done from a sump, cistern or storage tank which may be served by but not directly connected with the Utility's distribution mains or service pipes."

On May 14, 1971, complainant William Volker & Company filed the complaint herein alleging that defendant California Water Service Company under Paragraph A.4. of said Rule 16 refused to allow

complainant to connect booster pumps directly to defendant's mains in order to increase the water pressure to the existing fire sprinkler system at the roof of its warehouse and to serve an additional fire sprinkler system which complainant proposes to install at the intermediate level of its carpet racks. Complainant further alleged that substantially all other water companies allow pumps to be directly connected to a utility's main or service pipe without the necessity of a sump, cistern or storage tank and in these circumstances where the booster pumps would only be used to activate the sprinkler system in case of a fire, Paragraph A.4. of defendant's Rule 16 is unjust and unreasonable within the meaning of Section 761 of the Public Utilities Code.

Complainant requests the Commission to issue an order holding that Paragraph A.4. of said Rule 16 is unjust and unreasonable within the meaning of Section 761 insofar as it prohibits complainant from directly connecting booster pumps to its proposed expansion of its fire sprinkler system.

On June 7, 1971, defendant filed its answer denying, among other denials of plaintiff's allegations, that where booster pumps would only be used to activate a sprinkler system in case of fire, Paragraph A.4. of defendant's Rule 16 is unjust and unreasonable within the meaning of Section 761 of the Public Utilities Code and should not be applied.

Defendant in its answer alleged that Paragraph A.4. of its Rule 16 is just, reasonable and necessary. It further alleged that if complainant were allowed to attach a booster pump to any pipe directly connected to defendant's main or service pipe serving complainant's premises, it would be detrimental and injurious to defendant and to the water service furnished to other customers of defendant for the following reasons:

(a) Booster pumps so attached, when activated, could cause severe surges in pressure within defendant's pipes serving complainant's premises, which surges could result

in damage to the water service system of defendant, and of other customers of defendant.

(b) Operation of a booster pump so attached at a time when the water supply is limited or restricted for any reason could result in a negative pressure in defendant's water service, which would cause damage to defendant's water service system, and which could result in the contamination of water in defendant's main and service pipes.

Defendant further alleged that the pumping or boosting of water from a sump, cistern, or storage tank served by, but not directly connected with, defendant's distribution facilities would make available to complainant increased water pressures, and that such increased water pressures would make possible complainant's alleged desired expansion of its sprinkler system without any necessity for attaching a booster pump directly to any pipe directly connected with defendant's distribution facilities.

Defendant requests that the complaint herein be dismissed.

Public hearing on the matter was held before Examiner Cline in San Francisco on October 15 and 20, 1971. The matter was taken under submission upon the filing of the last transcript on November 23, 1971.

Based upon a consideration of the record in this proceeding the Commission finds as follows:

1. Complainant is a wholesale distributor of home furnishings and interior furnishings both for residential and commercial use, including floor coverings, carpets, resilient floor products, cartoned furniture and window shade material.

2. One of complainant's 28 warehouses is located at Cabot, Cabot & Forbes Industrial Park in South San Francisco. This warehouse was built in 1964 on a five acre parcel of land and is 315 feet by 362 feet in dimensions. It is 25 feet high with storage room 21 feet high. There is room to expand the warehouse by a

126 foot frontal section addition which would increase the warehouse space by one-third. There would be 60 feet of open space around the warehouse building and the proposed addition.

3. Complainant's South San Francisco warehouse is protected by an ordinary hazard automatic fire sprinkler system that provides sprinkler heads in all areas of the building along the roof line which will individually go off and spray an area when the heat reaches a certain temperature. The water for the sprinkler system is brought into the building through an 8-inch main which is connected to defendant's 12-inch main in Eccles Avenue in front of the building. The sprinkler system cost about $40,000 to install. The sprinkler system is connected to the American District Telegraph Company in San Francisco so that if there is a water flow in the sprinkler line at anytime, that water flow is transmitted to the central 24-hour a day switchboard in San Francisco and relayed within seconds to the South San Francisco Fire Department which will respond to the water flow notification on the assumption that there is a fire within the building. The fire protection service is certified by the fire underwriter as being adequate to justify certain fire insurance premium reductions.

4. Factory Insurance Association, complainant's insurer, has recently recommended that complainant improve its fire protection system by installing an intermediate level of sprinklers at the 10-foot level so that the sprinklers would have an earlier opportunity to wet down and cool off a fire if one started in the lower part of the storage racks. The insurer further recommended that additional sprinkler heads and some oversized piping be brought in at the ceiling level to reinforce the already existing sprinkler heads, and that a pressure pump be installed to increase the existing water pressure from the present 55 psi to 125 psi. A 2,500 gpm pump would be required, if the pump is connected to a 300,000 gallon storage tank. A 2,000 gpm pump to provide pressure of 80 psi would

be adequate if it is connected directly to defendant's water system without the intervening storage tank. The cost of installing a 2,500 gpm pump would be $40,000. A 2,000 gpm pump would cost about $2,000 less than a 2,500 gpm pump. The cost of installing the 300,000 gallon ground tank would be $44,700 and it would occupy a space 80 feet by 80 feet in dimension.

5. A rail spur prevents placing the water storage tank at the rear of defendant's warehouse in South San Francisco. The storage tank cannot be placed at the south side of the building because a 60-foot setback is required for a fire lane. The parking setback area in front of the building and the space required for expansion on the north side of the building prevent the installation of the storage tank elsewhere on complainant's parcel of land. Solid rock rules out the construction of an underground storage tank. To place the storage tank on a tower would require a tremendous support system and would add considerably to the cost and it would not look very attractive. If the booster pump has to be connected to a storage tank complianant would have to decline the insurance recommendation for a booster pump which in turn would have some negative effect on its insurance program and on the level of fire protection at the South San Francisco warehouse.

6. The following is a list of industrial consumers whose booster fire pumps have been directly connected to the water mains of a municipal or privately owned utility:

Name and Address of Customer	Number of and Size of Pump	Name of Water System	Size of Main
Joseph George Distributors Santa Clara, California	One 2,500 gpm	City of Santa Clara	12-inch
Lockheed Missiles and Space Company Sunnyvale, California	Two 1,000 gpm	City of Sunnyvale	12-inch
Pan American World Airways San Francisco International Airport	Three 2,500 gpm	City of San Francisco	18-inch
Trans World Airlines San Francisco International Airport		City of San Francisco	
Roos-Atkins San Francisco, California	One 1,500 gpm	City of San Francisco	8-inch
Glen Arden Company Fresno, California	One 1,500 gpm	City of Fresno	10-inch
Container Corporation of America Fresno, California	One 1,000 gpm	City of Fresno	10-inch
International Paper Company Modesto California	One 1,500 gpm	Del Este Water Company	16-inch
Procter and Gamble Modesto, California	One	Del Este Water Company	
W. R. Grace & Company Modesto, California	One 2,000 gpm	Del Este Water Company	16-inch
General Tire and Rubber Company Burlingame, California	One 1,500 gpm		10-inch
Louis Roth Company Chicago, Illinois			
Luminal Points Chicago, Illinois			
Coca-Cola Bottling Co. Salt Lake City, Utah	One 750 gpm	Hunter Granger Water Co.	8-inch

7. Village Water Company in Thousand Oaks and Lesser Water Company in Newberry Park do not have a rule preventing the direct connection of booster pumps to their water mains.

8. A rule substantially similar to defendant's Rule 16.A.4. has been in effect with respect to public utility water service in South San Francisco since 1946. Prior to the filing of the complaint herein Paragraph A.4. of defendant's Rule 16 had not been the subject of a complaint proceeding.

9. The following public utility water corporations have rules identical to defendant's Rule 16, Paragraph A.4.: Campbell Water Company, San Jose Water Company, Del Este Water Company, and Pacific Gas and Electric Company (Angels Water System).

10. The following concerns in Cabot, Cabot & Forbes Industrial Park have fire protection systems with booster pumps connected to storage tanks on their premises:

Name of Concern	Size of Tank	Description of Booster Pumps
Woolworth	300,000 gallons	2,500 gpm at 125 psi
Merck Chemical	11,000 gallons	1,000 gpm at 100 psi
Fuller-O'Brien Paint Company	400,000 gallons	Two gasoline engine driven

11. The Du Pont plant in the low zone near the complainant's South San Francisco warehouse has a 150,000 gallon underground storage tank to which are connected two fire pumps, one of which is operated by a diesel engine and the other by an electric motor.

12. The installations in findings 10 and 11 above comply with Paragraph A.4. of defendant's Rule 16. None of defendant's customers in the South San Francisco service area have failed to comply with Paragraph A.4. of defendant's Rule 16.

13. In Redondo Beach there is a 2-inch pump that puts out no more than 100 gpm directly connected to defendant's water system

which is used to boost the pressure for a sprinkler system that supplies water to a planting strip for the City of Redondo Beach along one of the expressways. The pump runs continuously.

14. In Marysville at the courthouse there is a directly connected hydro-pneumatic type pump which starts and stops and which has created a surge problem in defendant's system. The necessary changes are under construction to provide a storage tank to bring it into compliance with Paragraph A.4. of defendant's Rule 16.

15. In Bakersfield a pump which runs 24-hours a day is directly connected to defendant's water system to provide adequate water pressure to the top floors of a high rise hospital. It is very dangerous for a hospital to be out of water completely. If the pump drew water through a suction tank, there would be no water at all on the top floors in case of a pump power failure. With the direct connection there will be a minimum amount of water on the top floors if the pump fails to operate. To protect against a backflow which could cause a dangerous contamination condition defendant has required the hospital to install and regularly test approved backflow equipment. One of the two 15 hp pumps regularly runs and the other is a standby.

16. Fire pumps directly connected to defendant's system by the City of South San Francisco Fire Department do not cause trouble because they are normally operated by and are under the direction of a qualified operating engineer at all times. The fire truck hoses would be turned off when the pressue is reduced to 20 psi.

17. General Order No. 103 in part provides as follows:

"3. Pressures

"a. Variations in Pressure. The utility shall maintain normal operating pressures of not less than 25 psig nor more than 125 psig at the service connection, except that during periods of hourly maximum demand the pressure at the time of peak seasonal loads may be not less than 20 psig and that during

periods of hourly minimum demand the pressure may be not more than 150 psig. Variations in pressures under normal operation shall not exceed 50% of the average operating pressure...."

18. Recent tests of operating pressures of defendant's South San Francisco water service taken near complainant's warehouse show the following:

Date of Test	Static Pressure	Residual Pressure
Oct. 14, 1971	54 psi	50 psi with one 2-½-inch fire hose connection producing a flow of 1,068 gpm.
Oct. 14, 1971	54 psi	46 psi with two 2-½-inch fire hose connection producing a flow of 1,401 gpm.
Sept. 23, 1970	53 psi	40 psi with an observed flow of 2,780 gpm.

19. Defendant's South San Francisco water system has received a No. 2 rating by the Pacific Fire Rating Bureau. A No. 1 rating is the highest given by the Bureau.

20. If a booster pump is directly connected to a utility's water main a positive or negative surge will occur in the water main when the pump is turned off or on. If the surge exceeds the safety limits, the utility's water system may be damaged and the flow of water may be impaired. If a negative pressure is produced in the main by the operation of the booster pump backflow may cause contamination of the water supply.

21. Flow protectors, flow controllers, pump control valves, and pressure switches can be installed on booster pumps to prevent surges and negative pressue which can cause damage to the defendant's water system.

22. Devices which are installed on booster pumps to prevent dangerous surges and negative pressure can fail.

23. The operation of one 2,000 gpm booster pump connected to defendant's 12-inch main which serves complainant's plant would not cause damage to defendant's water system if the pressure in such main were normal, as there is enough water normally to provide a supply for one such pump. If the supply were impaired, there might not be enough water to supply the pump and damage could result if the control device failed to operate properly.

24. If Rule 16, Paragraph A.4., were held to be unreasonable, and if other customers in the same service area as defendant's South San Francisco warehouse connected booster pumps which operated at the same time as defendant's booster pump, a dangerous negative pressure could be created without any malfunction of the control equipment or any interruptions of defendant's service. There is not enough water available fully to supply two 2,500 gpm booster pumps. No damage would result, however, if the booster pumps were connected to storage tanks and not directly to the defendant's service main.

25. Every water system which depends upon mechanical equipment for its operation must plan for outages of certain equipment for repair, replacement and maintenance. These will occur sometimes unscheduled, and mains are shut down from time to time for breaks or repairs or tie-ins.

26. Defendant's main 18-inch pipeline from which complainant's warehouse is served has been broken more than once and has been out of service for periods of hours at a time.

27. Many times in emergency conditions resulting in an impairment of the water supply in defendant's mains, defendant does not have the manpower to notify its customers, such as complainant, of such impairment in the water supply.

28. Paragraph A.4. of defendant's Rule 16 is necessary to avoid the possibility of damage to its water system and those of its customers, contamination of its water supply, and impairment of its service to complainant and its other customers.

Based upon the foregoing findings the Commission concludes as follows:

1. Paragraph A.4. of defendant's Rule 16 is just and reasonable and should be applied to complainant.
2. The complaint herein should be dismissed.

O R D E R

IT IS ORDERED that the complaint herein is dismissed.

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

Dated at San Francisco, California, this 15th day of FEBRUARY, 1972.

Chairman

Commissioners

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