

ILLINOIS POLLUTION CONTROL BOARD  
April 8, 1976

CITY OF RED BUD, )  
 )  
 Petitioner, )  
 )  
 v. ) PCB 75-458  
 )  
 ENVIRONMENTAL PROTECTION AGENCY, )  
 )  
 Respondent. )

OPINION AND ORDER OF THE BOARD (by Mr. Young):

This matter comes before the Board on the amended variance petition filed January 22, 1976 by the City of Red Bud seeking relief from the chlorination and the finished water quality requirements as established by the Board in Rules 305 and 304(b) of Chapter 6: Public Water Supplies, and from Section 18 of the Act. An Agency Recommendation was filed with the Board on March 12, 1976.

The City of Red Bud, with a population of 2900 people, owns and operates a public water system which presently consists of ten wells, two elevated storage tanks, and a distribution system. The only treatment currently being provided the water is fluoridation. Seven of the wells are active; one is retired; and two (wells #9 and #10) have not yet been put into service. Because of the future needs of Red Bud, Petitioner now plans to abandon the present well system after constructing new wells on the Kaskaskia River and transmitting the finished water some five miles to the City. Petitioner estimates that the new system will not be operational until September 30, 1978.

Petitioner was made aware of the inadequacy of the existing water supply sources to supply future requirements in December of 1972 when the Southwestern Illinois Metropolitan Area Planning Commission released its reports detailing improvements that Red Bud and other municipalities in the area should make in order to meet future population needs. In addition to this report, the Illinois State Water Survey released studies which emphasized that this particular area of the State was subject to limited water resources. The City of Red Bud funded several studies directed toward locating adequate future water sources, the last one being completed in December of 1975. After careful consideration of these studies and reports, Petitioner has decided to construct

a well system on the Kaskaskia River. The City's consultant estimates that it will cost \$1,700,000 for this system, which includes a one million gallon per day treatment plant and pumping facility, two wells, five miles of transmission line, and an elevated storage facility.

In order to presently meet the chlorination requirements of Rule 305, Petitioner alleges that it would be necessary to treat each of its existing wells separately at a capital cost per well of \$1,500.00. Chlorination is not the sole problem however. Petitioner notes that water from its existing wells has measured iron content of 0.6 to 1.2 mg/l and a manganese content up to .04 mg/l. After January 1, 1978 the City is also required by Rule 304(b) to limit iron concentration to a maximum of 0.3 mg/l and manganese concentration to a 0.05 mg/l. It appears Petitioner would have to provide filtration equipment at each well in order to meet the standards for iron and possibly manganese. While the iron standards do not have to be met until January 1, 1978, the high iron concentration would present a problem if chlorination were undertaken at this time. The Petitioner's consultant states there is a strong possibility that the oxidation of the iron in the water may cause serious operational and esthetic problems. To meet the chlorination requirements the Petitioner would be forced to provide for iron removal as well. Although Petitioner makes no estimate of the cost of installing iron and manganese removal equipment, the Agency estimates the cost for installing iron removal equipment would be at least \$200,000.00, even if the treatment were concentrated at one central point. Since the present wells will not be part of the planned new system, Petitioner claims that it will suffer an unreasonable hardship if it is required to make these substantial short-term investments to achieve compliance.

The Agency recommends the grant of this variance subject to several conditions. Agency records indicate that well #9 has had a pattern of bad samples ever since it was drilled. While the Petitioner has not placed this well on line because of the failure to obtain good samples, in addition to the fact that the well has been pumping sand; the Agency, nonetheless recommends that good samples on two consecutive days should be required prior to placing the well on line. If the well is placed on line, bacteriological samples should be submitted to the Agency for the next six months. If any of these samples indicate contamination continues to exist in the well, Petitioner must either take the well off line or provide continuous chlorination so long as the well is in line.

The Agency also recommends that the absence of continuous chlorination at the supply for the time period requested makes necessary the adoption of an active cross-connection program to further assure that contaminants will not inadvertently enter into the system.

The various studies and reports that were done recommended alternative methods of updating the water facilities. Some of the alternatives considered in depth by Petitioner were as follows. One plan Petitioner considered was the purchase of 275 acres of land to be used for the construction of reservoirs, including solicitation of the existing land-owners. Another plan involved the purchase of water from the Summerfield-Lebanon-Mascoutah water system which was discarded when it was determined that although a connection with the (SLM) system would be a quick and easy solution to the problem, the water supplied by this means would also be the most costly. A third plan involved the construction of the well system on the Kaskaskia River. Other alternatives were also considered and the final study was completed in December of 1975. Faced with this important and expensive decision, Petitioner thoroughly investigated each alternative before choosing the Kaskaskia River well system as the long-term solution to its problems. Petitioner estimates that this system will be completed in September 1978 and is expected to serve the community for the next forty to fifty years at an estimated capital cost of \$1,700,000.00. In consideration of these factors, we find that Petitioner has established a legitimate and adequate reason for its delay. Any compliance program chosen by the City naturally depended upon which particular water supply system was finally chosen, and it would have been irresponsible for the Petitioner to proceed in any other fashion. The Board finds the Petitioner has established a hardship sufficient for a grant of this variance.

While samples reveal that the iron concentration exceeds the standards as established by Rule 304(b), the same is not true for manganese. For this reason it will not be necessary to grant a variance from Rule 304(b) as it concerns manganese. The Board agrees with the Agency that it will not be necessary to grant a variance from the general requirements of Section 18 of the Act which requires that owners and operators of public water supplies provide water which is "assuredly safe in quality and adequate in quantity." A variance from the provisions of Rules 304(b) and 305 is sufficient to meet Petitioner's needs.

This Opinion constitutes the Board's findings of fact and conclusions of law in this matter.

#### ORDER

1. Petitioner, City of Red Bud, is granted variance from the chlorination requirements of Rule 305 of Chapter 6: Public

Water Supplies from December 21, 1975 until September 30, 1978.

2. Petitioner, City of Red Bud, is granted variance from the finished water quality standard for iron set by Rule 304(b) of Chapter 6 from January 1, 1978 until September 30, 1978.

3. Petitioner, City of Red Bud, shall follow the water sampling program for well #9 as detailed in this Opinion.

4. Petitioner, City of Red Bud, shall adopt a cross-connection control program and submit such program to the Agency for approval within sixty days of the date of this Order.

5. Petitioner, City of Red Bud, shall file a satisfactory project completion schedule with the Agency within 35 days of this Order and thereafter file bi-monthly progress reports with the Agency until completion of the facilities.

6. Petitioner, City of Red Bud, shall complete and send within 35 days of the date of this Order the following certification to the following address:

Environmental Protection Agency  
Division of Public Water Supplies  
2200 Churchill Road  
Springfield, Illinois 62706

I, (We), \_\_\_\_\_ having read the Order of the Illinois Pollution Control Board in PCB 75-458, understand and accept said Order, realizing that such acceptance renders all terms and conditions thereto binding and enforceable.

\_\_\_\_\_  
SIGNED

\_\_\_\_\_  
TITLE

\_\_\_\_\_  
DATE

7. Those portions of the petition seeking variance from Section 18 of the Act and Rule 304(b) as it concerns manganese are dismissed.

IT IS SO ORDERED.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify the above Opinion and Order were adopted on the 8<sup>th</sup> day of April, 1976 by a vote of 5-0.

  
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Christan L. Moffett, Clerk  
Illinois Pollution Control Board