

The Dwight Correctional Center is located approximately two miles west of Dwight, Livingston County, Illinois, and houses female persons committed to the Illinois Department of Corrections. The total population, residents and staff, is about 440; the estimated water usage is 45,000 gallons per day (Pet. 1; Stip. 1). Water is supplied from either of two wells; TDS concentration in water drawn from Well #1 is 1810 mg/l, and from Well #2, most frequently used, 1200 mg/l (Stip. 1).

Raw well water is softened in a newly-installed zeolite industrial-type water softening unit; spent brine and filter backwash water are discharged daily through a storm sewer to the West Fork of the Mazon River. TDS concentrations of the effluent thus discharged are 5,325 mg/l from Well #2 and 9,226 mg/l from Well #1 (Stip. 2).

The Center has requested FY 1980 Capital Development Bond Act funds to install a storage tank to collect the spent brine and filter backwash and to discharge through the sanitary sewer. The present TDS concentration of the sewage treatment plant effluent is 1248 mg/l or approximately 48 mg/l above the raw water supply if water is being supplied by Well #2, as is the usual case. When the discharge from the water treatment facility is combined with the sewage treatment plant effluent, expected TDS concentration of the combined effluent is 1,492 mg/l or 292 mg/l over the Well #2 TDS background (Pet. 3; Rec. 2; Stip. 2, 3).

The Agency recommendation and the Stipulation of Fact report that at the nearest downstream monitoring station 23 miles downstream, no TDS water quality standard violations were reported in 1975 or 1976 and that a biological survey in 1976 indicated that the West Fork downstream is unbalanced, indicating a somewhat decreased level of intolerant organisms (Rec. 3; Stip. 12).

The Petitioner and the Respondent Agency state that no economical technology now exists for the removal of soluble salts from wastewater (Rec. 3; Stip. 12).

The Stipulation of Facts contains an examination and comparison of six different alternative methods to achieve compliance; only two of the candidate methods, reverse osmosis and distillation, would achieve compliance (Ex. H; Stip. 4, 12). The costs of presently available technology to achieve compliance are unreasonable in light of the minimal environmental benefit to be attained and the high background TDS concentrations in the raw water.

The Board finds that Petitioner has made a sufficient showing to justify a variance in this case and Petitioner would suffer an arbitrary and unreasonable hardship if the variance were denied at this time. Petitioner will be granted a variance from Rule 203(f) for a period of five years as that rule applies to total dissolved solids.

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

ORDER

1. The Dwight Correctional Center is granted a variance for the operation of its wastewater treatment plant from Rule 203(f) of Chapter 3: Water Pollution Regulations, as that rule pertains to total dissolved solids for five years from the date of this Order, subject to the following conditions:

- a) Petitioner shall install a spent brine and filter backwash storage tank and associated equipment to meter discharge to the sanitary sewer as soon as practicable after funds are authorized by the Capital Development Board and appropriated by the General Assembly.
- b) Petitioner shall submit to the Agency within four years of the date of this Order a study summarizing changes in technology which may achieve compliance and an investigation and cost analysis of the feasibility of utilization of another water supply.

2. The Agency, pursuant to Rule 914 of Chapter 3, shall modify Petitioner's NPDES permit consistent with the conditions set forth in this Order including such interim effluent limitations as may reasonably be achieved through the application of best practicable operation and maintenance practices in the existing and proposed facilities.

3. Within forty-five (45) days of the date of this Order, the Petitioner shall submit to the Manager, Variance Section, Division of Water Pollution Control, Illinois Environmental Protection Agency, 2200 Churchill Road, Springfield, Illinois, 62706, an executed Certification of Acceptance and Agreement to be bound to all terms and conditions of the variance. The forty-five day period herein shall be stayed during judicial review of this variance pursuant to Section 31 of the Environmental Protection Act. The form of said certification shall be as follows:

CERTIFICATION

I, (We), _____ having read the Order of the Pollution Control Board in PCB 78-2, understand and accept said Order, realizing that such acceptance renders all terms and conditions thereto binding and enforceable.

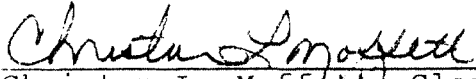
SIGNED

TITLE

DATE

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 14th day of December, 1978 by a vote of 3-0.



Christan L. Moffett, Clerk
Illinois Pollution Control Board