

ILLINOIS POLLUTION CONTROL BOARD
December 16, 1976

VILLAGE OF INA,)
)
) Petitioner,)
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)
)
) v.) PCB 76-254
)
)
) ENVIRONMENTAL PROTECTION AGENCY,)
)
) Respondent.)

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

Petition for Variance from Rules 203(c), 402 and 404(f)(i) of the Water Pollution Regulations of the Board was filed on October 6, 1976. The Illinois Environmental Protection Agency ("Agency") filed its Recommendation on November 12, 1976. No public hearing was held.

The Village of Ina has a population of 333 and is located in Jefferson County. It presently has no public sanitary sewage system or treatment facility. A grant offer from the Agency dated May 21, 1976 has been received.

The proposed 50,000 gpd waste treatment facility will discharge to an unnamed tributary of Gun Creek which drains to Rend Lake, some 2.2 miles away. The facility will consist of a conventional third stage waste stabilization pond system followed by a slow sand filter system for additional solids removal and by chlorination. The planned construction would begin July 1, 1977 and be complete on July 1, 1978.

Rule 203(c) is the water quality standard and holds phosphorus to 0.05 mg/l in streams where they enter a reservoir or lake. Rule 402 requires that effluent discharges not cause a water quality standard violation. Rule 404(f)(i) sets standards for third stage treatment lagoons but prohibits water quality standard violations.

The Petition gives the average phosphorus concentration in Rend Lake as 0.07 - 0.08 mg/l based upon U.S. Environmental Protection Agency Working Paper #313. The Village asserts that 0.05 mg/l of phosphorus is "virtually impossible" to attain and that a 1.0 mg/l treatability level for phosphorus is generally accepted. Rend Lake

presently receives a total of 164,075 lbs. of phosphorus per year. The Village of Ina would add 1,218 lbs. per year or 0.7% more. The phosphorus from non-point sources is estimated to be 130,750 lbs. per year.

The cost alternatives are given as follows:

	Capital Cost	Annual Cost
1. Lagoon System	\$376,905	\$ 48,180
2. Same as above with physical-chemical treatment for phosphorus removal	530,920	68,471
3. Land application system	744,288	89,380

The Agency's Recommendation gives the Village of Ina's phosphorus contribution to Rend Lake at 1,522 lbs. per year rather than the 1,218 lbs. per year estimated by the Petitioner. The Agency feels that aquatic biota in the stream will transform some of the soluble phosphorus to organic phosphorus in biomass and then eventually into the stream sediments. This phenomenon is expected to mitigate the impact of soluble phosphorus upon the eutrophic state of Rend Lake.

Because the major amount (80%) of phosphorus going to Rend Lake is from non-point sources and because phosphorus removal from the Petitioner's effluent would have a minimal effect on the total phosphorus loading, the Agency recommends a grant of the variance.

The Board notes that the subject of phosphorus levels in effluents from small sources is now being thoroughly examined in R76-1. The Petitioner states that the Inter-City Water Treatment Plant has the "best available technology for handling problems of algae production, taste, or odor problems..." This "available technology" does not necessarily mean that the water treatment burden should be placed upon the water users rather than upon the dischargers to a water supply.

The Board will grant the variance but require that provision be made for phosphorus removal treatment to 1.0 mg/l should it be later required.

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

ORDER

Variance is granted from Rules 203(c), 402 and 404(f)(i) as regards phosphorus only until December 15, 1981 subject to the

to the following conditions:

- a. The waste treatment facility shall be designed and constructed with provision for phosphorus treatment to 1.0 mg/l or to whatever alternative level is set by the Board at some future date.
- b. The provisions of R76-1, when decided, shall govern if applicable to this discharger.

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 16th day of December, 1976 by a vote of 5-0.


Christan L. Moffett, Clerk
Illinois Pollution Control Board