

ILLINOIS POLLUTION CONTROL BOARD
November 8, 1984

CENTRAL ILLINOIS PUBLIC)	
SERVICE COMPANY,)	
)	
Petitioner,)	
)	
v.)	PCB 84-105
)	
ILLINOIS ENVIRONMENTAL)	
PROTECTION AGENCY,)	
)	
Respondent.)	

OPINION AND ORDER OF THE BOARD (by B. Forcade):

This matter comes before the Board on an appeal of permit denial filed by Central Illinois Public Service Company ("CIPS") on July 24, 1984. On April 2, 1984, CIPS applied for a construction permit for a new unlined fly ash pond to be built at their Hutsonville Power Station. The Illinois Environmental Protection Agency ("Agency") denied the permit on June 27, 1984 on the basis that the proposed facility would not meet the requirements of 35 Ill. Adm. Code 302.201 and 304.124. CIPS filed a permit appeal and a hearing was held on September 13, 1984, in Springfield. In addition to the testimony presented in the Petitioner's and Respondent's cases, a public comment was received from David P. Rubner, an engineer with Commonwealth Edison.

The CIPS Hutsonville power station ("Station") is a coal burning facility, located adjacent to the Wabash River. The proposed fly ash pond at issue would be part of the wastewater treatment system used to treat fly ash transport water. Water is taken from the Wabash River and used to clean and convey fly ash from the station's electrostatic precipitators. Because of high levels of total suspended solids (TSS), the wastestream cannot be discharged directly to public waters (Permit Appeal, p. 3). CIPS plans to sluice fly ash to the proposed pond. Overflow from the proposed pond will be routed to an existing fly ash pond from where it will ultimately discharge into the Wabash River through the currently permitted NPDES outfall (R. 67).

The existing fly ash pond occupies 18 acres, is unlined, and is built with silty, clayey, fine to coarse sand and small gravel native to the site (R. 24, 67). It receives a number of wastestreams in addition to fly ash and is nearing its capacity (R. 25-26). Data from nine recently installed (February, 1984) groundwater monitoring wells clearly indicates that the existing unlined fly ash pond is leaking into the underlying aquifer and is entering

the groundwater. The groundwater monitoring data shows values consistently higher than the general use water quality standards for boron, manganese, sulfate and total dissolved solids (TDS). The relevant well data is shown below:

<u>Parameter</u>	<u>Concentration (mg/l)</u>	<u>General Use Standard (mg/l)</u>	<u>Date</u>	<u>Monitoring Well No.</u>
Boron	11.5	1.0	2/16/84	M-6
Boron	9.4		2/23/84	M-6
Boron	21.		2/29/84	M-6
Boron	1.6		2/29/84	M-7
Boron	7.9		3/1/84	M-8
Boron	9.8		3/7/84	M-6
Boron	23.8		3/7/84	M-8
Boron	16.4		3/15/84	M-6
Boron	1.4		3/15/84	M-7
Boron	22.5		3/15/84	M-8
Boron	23.2		3/19/84	M-6
Boron	14.3		3/19/84	M-8
Total Dissolved Solids	1044	1000.0	2/16/84	M-6
Total Dissolved Solids	1160		2/23/84	M-6
Total Dissolved Solids	1213		2/29/84	M-6
Total Dissolved Solids	1012		3/15/84	M-6
Manganese	1.091	1.0	2/29/84	M-7
Sulfate	519	500.0	2/16/84	M-6
Sulfate	522		2/23/84	M-6
Sulfate	564		2/29/84	M-6

(Record of Permit Application, Item 5, Attachment 3.)

Radial flow under the existing pond is estimated to be 50 to 100 feet beyond the borders of the pond (R. 70). The contaminating leachate then generally flows east with the groundwater towards the Wabash River where it ultimately discharges (R. 83). In times of high water levels in the Wabash River, groundwater flow is subject to reversal of direction (R. 108-108). Because of the great dilution potential of the Wabash River, there is little or no adverse environmental impact on the river itself from the contaminated groundwater (R. 54-55).

The aquifer that underlies the station is composed of highly permeable sands and gravels and is geologically desirable for development of a water supply well (R. 122). In addition to the nine groundwater monitoring wells, there are two deep wells in this aquifer, 70 to 80 feet deep, that provide drinking water for

the Station employees, as well as boiler makeup in the steam generating cycle (R. 65-66). There are approximately 30 to 40 employees per shift. Three shifts per day are operated (R. 66). The groundwater monitoring wells are between 10 to 20 feet deep and capture groundwater from the upper part of the aquifer. The deep wells are finished at bedrock and draw water from the entire column of the aquifer (R. 66).

The proposed fly ash lagoon will occupy 8.8 acres, will be unlined and built with the same native sands and gravels as the existing pond (R. 27). It is undisputed that the proposed sand will leak in the same manner as the current pond. Loading of the proposed pond would be approximately 40,000 tons per year (R. 67-68).

The same general pattern of initial radial flow beyond the borders of the pond and eventual movement towards the river is expected to occur (R. 88). The anticipated effect of the proposed pond is to increase leachate migration into the groundwater (R. 143).

The Agency denied the permit to construct the new unlined fly ash pond on the basis that the proposed facility would not meet the requirements of 35 Ill. Adm. Code 302.201 and 304.124. The Agency specified the parameters that would not be in compliance under the proposed construction application: Boron, sulfate, manganese and TDS. The denial letter also stated that the Agency would require the use of a liner for the proposed fly ash pond bottom and side walls in order to adequately protect groundwater. The Agency, however, did not specify what type of liner would be required (Agency Record, Item 20).

The Agency argues that the effluent standards in §304.124 are applicable to subsurface leachate. Specifically, the level of manganese in the leachate exceeds the 1.0 mg/l limitation in §304.124. The issue of whether leachate is an effluent, is a matter of first impression. Section 301.275 defines effluent as:

Any wastewater discharged, directly or indirectly to the waters of the State or to any storm sewer, and the runoff from land used for the disposition of wastewater or sludges, but does not otherwise include nonpoint source discharges such as runoff from land or any livestock management facility or livestock wastehandling facility subject to regulation under Subtitle E.

The Agency argues that under §301.325 all terms used in connection with the state NPDES program that have been defined in the Clean Water Act ("CWA") or regulations shall have the meaning specified therein. Because the term "point source" is used in connection with the state NPDES program in §309.102(a), the Agency reasons that the federal definition found in §502(14) of the CWA should be utilized in determining whether or not subsurface

leachate from a fly ash lagoon emanates from a point source or a nonpoint source. The CWA defines "point source" at §502(14) as:

...any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operating, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture. (33 U.S.C. 1362 (14)).

The Agency asserts that the proposed fly ash pond as a whole would be a "discernible, confined and discrete conveyance" which is a "container" from which pollutants would be discharged to the groundwater. Therefore, it would be a point source to which the Board's effluent limits would apply. The Agency cites no authority in support of this interpretation.

CIPS argues that leachate from a fly ash pond is nonpoint source of contaminants and does not fall within the definition of leachate. CIPS also argues that the Board, when adopting control standards, must consider the economic reasonableness and technical feasibility of controlling or reducing a particular type of pollution in order to comply with §27(a) of the Act. CIPS asserts that the use of liners as a control technology for manganese was never evaluated under the §27(a) criteria during the Part 304 rulemaking and that any application of the 1.0 mg/l effluent limitation for manganese would violate the Act.

Subsurface leachate is produced when liquids present in the fly ash impoundment migrate down through the waste and out the bottom and sides of the facility into the underlying soil. Leachate emanates from the entire pond area and radiates out beyond the entire perimeter of the facility. This is a classic nonpoint source of pollution. The Board's definition of effluent clearly excludes nonpoint sources from the Part 304 limitations. This interpretation is supported by the Board's Opinion and Order In The Matter of Effluent Criteria, R 70-8, 3 P.C.B. 401, (January 6, 1972), where the 1.0 mg/l manganese standard was adopted. The Board evaluated the technological feasibility and economic reasonableness of lime precipitation and various types of filtration to remove manganese prior to discharge, 3 P.C.B. at 416-417. The Board clearly contemplated "end of the pipe" technology as it relates to surface discharge and did not intend the standard to apply to nonpoint subsurface leachate. The Board finds that this basis for the Agency denial was incorrect and must be reversed.

The Agency's second basis for the permit denial was that the construction permit application did not provide for adequate groundwater protection in that general use water quality standards

for boron, manganese, sulfate and TDS would be violated. The Agency denial letter cites §302.201 along with the four specified parameters in §302.208. Monitoring data clearly shows that leachate from the existing fly ash lagoon causes pollutant concentrations above the general use water quality standards in the groundwater underlying the Station. Because the proposed pond would be built with the same native sands and gravels and be unlined, it is undisputed that the proposed pond would leak and further contaminate the groundwater. The issue before the Board is whether, under these circumstances, the general use water quality standards apply to groundwater underlying the Station.

Under §302.101(a) the Part 302 schedules of water quality standards are to be applied "as designated in Part 303." Section 303.201 states that : "Except as otherwise specifically provided, all waters of the State must meet the general use standards of Subpart B of Part 302." Section 3(00) of the Act provides:

"WATERS" means all accumulations of water, surface and underground, natural, and artificial, public and private, or parts thereof, which are wholly or partly within, flow through, or border upon the State. (Ill. Rev. Stat. 1983, Ch. 111½, par. 1003(00)).

The Agency argues that these sections provide for comprehensive application of the general use water quality standards to all waters of the State where there is no specific designation. The Agency also asserts that §303.203, Underground Waters, provides for the specific application of the general use standards to the underlying groundwater.

The Board need not address today whether Part 302 general use water quality standards are applicable to all groundwater of the State. Section 303.203 provides a more specific basis for application of these standards to the groundwater underlying the Station. Section 303.302 provides:

The underground waters of Illinois which are a present or a potential source of water for public or food processing supply shall meet the general use and public and food processing water supply standards of Subparts B and C, Part 302, except due to natural causes.

The facts before the Board show that CIPS currently draws potable water from the aquifer presently being contaminated by the fly ash lagoon leachate for use by its employees. CIPS operates three shifts per day of 30 to 40 employees. Section 3(u) of the Act defines "public water supply" as:

all mains, pipes and structures through which water is obtained and distributed to the public, including wells and well structures, intakes and cribs, pumping stations, treatment plants, reservoirs, storage tanks and appurtenances, collectively or severally, actually used or intended for purpose of furnishing water for drinking or general domestic use and which serve at least 15 service connections or which regularly serve at least 25 persons at least 60 days per year. A public water supply is either a "community water supply" or a "non-community water supply."

Under the terms of this section, CIPS operates a public water supply of the "non-community" type. Therefore, §303.302 provides for application of the general use standards. These standards are currently being violated by CIPS and the construction of a nearly identical unlined fly ash pond would further violate the Board's regulations.

CIPS argues that the use of groundwater by CIPS for CIPS' employees does not constitute operation of a "public water supply." This interpretation is clearly erroneous. There is no "employment" exception to the Act's definition. The definition of "public water supply" is broad in order to protect people, regardless of whether they are employed by the entity supplying the potable water.

CIPS further argues that because they own the property overlying the aquifer and because they have no plans to develop a "public water supply" in the future that they are free to contaminate the groundwater. This interpretation of §303.203 is equally erroneous. Section 303.203 protects present and potential underground water resources from contamination. It is clear from the adopting Opinion for this provision that the Board intended to protect all underground waters except natural brines or waters utilized for deep-well disposal that could never be utilized as a public water supply. In the matter of Water Quality Standards Revisions, R71-14, March 7, 1972, p. 11. Even if CIPS did not currently provide drinking water to over "25 people at least 60 days per year," the burden of proving that the groundwater underlying the Station is not a potential public water supply has not been met. In fact, testimony at hearing supports the position that the aquifer in question is a potentially productive source of potable water (R. 122).

CIPS has failed to prove that operation of the proposed unlined fly ash pond will not result in violation of the Board's general use water quality standards in the underlying groundwater. The Agency decision to deny the construction permit was proper and is affirmed.

ORDER

1. The Agency decision to deny CIPS a construction permit for a proposed unlined fly ash pond on the basis that §304.124 effluent standards would be violated is reversed.
2. The Agency decision to deny CIPS a construction permit for a proposed unlined fly ash pond on the basis that Part 302 general use water quality standards would be violated is affirmed.

IT IS SO ORDERED.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order of the Board was adopted on the 8th day of November, 1984 by a vote of 6-0.

Dorothy M. Gunn

Dorothy M. Gunn, Clerk
Illinois Pollution Control Board