ILLINOIS POLLUTION CONTROL BOARD
October 2, 1980

ILLINOIS POWER COMPANY, (Hennepin Power Plant), Petitioner,	)	
v.	)	PCB 79-243
ENVIRONMENTAL PROTECTION AGENCY, Respondent.	)	

MR. SHELDON A. ZABEL AND MS. CAROLYN A. LOWN, SCHIFF, HARDIN & WAITE, APPEARED ON BEHALF OF THE PETITIONER.

MR. WILLIAM J. BARZANO, ASSISTANT ATTORNEY GENERAL, APPEARED ON BEHALF OF THE RESPONDENT.

OPINION AND ORDER OF THE BOARD (by D. Satchell):

This matter comes before the Board upon a petition for review of NPDES permit No. IL0001554 filed by Illinois Power Company (IPC) on November 21, 1979. The permit was reissued by the Environmental Protection Agency (Agency) on October 23, 1979 for the Hennepin Power Plant, a coal-fired steam electric power plant located in Hennepin, Putnam County. The Agency's answer was filed December 19, 1979. The Board has previously entered four Orders concerning stay of permit conditions (January 10, 1980, 37 PCB 153; February 7, 1980, 37 PCB 289; March 6, 1980, 37 PCB 479 and June 18, 1980). The procedural history is further detailed below. A public hearing was held on May 8, 1980 in Hennepin. Members of the public did not attend and the Board has received no public comment (R. 8, 105).

The petition for review originally contained fifteen objections. On December 17, 1979 the petition was amended to correct a typographical error. On March 10, 1980 IPC filed a specification of errors with respect to paragraph fifteen of the petition. On June 6, 1980 the parties filed a proposed settlement of many of the issues raised by the petition for review. The parties requested that, after reaching decision on the unsettled issues, the Board remand this case to the Agency for issuance of a permit in accordance with the parties' settlement. The unsettled issues are as follows:

CHLORINATION: Attachment B1, Table and paragraphs five and seven. This condition specifies a limitation of 0.2 mg/l total chlorine residual for discharge 001.

Attachment B1, paragraph seven. This condition requires that a concentration curve for total chlorine residual be developed weekly and submitted with the discharge monitoring report.

FILTER BACKWASH: Attachment B1B, paragraph one and Attachment H, standard condition no. 22. These conditions involve the discharge of debris in other than trace amounts into the cooling water flume as a result of screen washing operations.

RESPONSE TO COMMENTS: Paragraph fifteen of the petition for review objects in general to the failure of the Agency to follow regulations which require it to respond to all significant comments and objections which were made to the draft permit and to indicate which provisions, if any, of the permit have been changed and the reason for the change.

MISCELLANEOUS: Attachment B2, paragraph four. This condition would require that oils, fats and greases be sampled for discharges 002 and 005, ash lagoons nos. 1 and 3. IPC contends that there is a redundant sampling requirement in the table portion of Attachment B2.

Attachment B3, paragraph four. This objection is essentially the same as that with respect to paragraph four of Attachment B2 except that it involves discharge 003, ash lagoons nos. 2 and 4.

Attachment H, standard condition no. 27. This condition would allow the permit to be modified, revoked and reissued with provisions for more stringent limitations or for additional controls or for incorporation of an approved 208 plan.

RESIDUAL CHLORINE

The Hennepin plant draws non-contact cooling water from the Illinois River. Nutrients in the water cause inside the cooling system the growth of slime which tends to block the pipes and reduce the efficiency of heat exchange (R. 28). To alleviate this problem the cooling water is periodically chlorinated. The table and paragraphs five and seven of Attachment B1 specify a limitation of 0.2 mg/l total chlorine residual for discharge 001.

The original NPDES permit issued by USEPA in 1975 contained a chlorine limitation to which IPC objected. In settlement the old condition was stayed while IPC installed equipment to provide chlorine injection right at each condenser and to study the levels of chlorine which would be required. The modification cost $34,000, but reduced IPC's chlorine consumption from 21,000 to 15,000 kg/yr (from 46,000 to 32,000 pounds per year) (R. 25). IPC requested modification of the old permit to contain the limitation noted above, but this request was never acted upon (R. 26). IPC has met this standard since 1976 (R. 27, 37).

The Board's rules contain no standard for chlorine in this discharge. At the time the old permit was issued the United States Environmental Protection Agency (USEPA) had promulgated no applicable limitations; however, a limitation has been adopted in the interim (R. 28). This is contained in 40 CFR Part 423. The parties have not specified which section and the Board is not able to determine which on the basis of the facts before it. The applicable limitation appears to be 0.5 mg/l daily maximum and 0.2 mg/l thirty day average free available chlorine [40 CFR Section 423.12(b)(7)]. Other sections contain similar rules applicable under different circumstances. For purposes of this discussion, these rules are identical.

IPC does not treat for chlorine in its discharge; the level is controlled by the amount of chlorine used. This depends on the chlorine demand of its intake water (R. 27). Because of the cost of chlorination IPC would have an incentive to minimize its chlorine discharge apart from any permit condition.

In its permit application IPC requested the chlorine limitation which the Agency imposed. However, prior to permit issuance IPC requested that the Agency instead impose the less stringent federal limitation (R. 26, 36). Although IPC has no present indication that it will have to increase its level of chlorination, it requested the federal limitation out of fear that it would be unable to obtain modification of the permit in the future should the need arise (R. 27). During the pendency of the application USEPA adopted the "no backsliding" rule which could be construed as limiting such modification [40 CFR Section 122.15(i); 44 FR 32,854, 32,964 (1979); 40 CFR Section 122.62; 45 FR 33,290, 33,450 (1980)]. (Since the old permit contained no chlorine limitation, the "no backsliding" rule does not operate to preclude issuance of this permit with the higher limitation.)

In writing an NPDES permit the Agency may impose effluent limitations based on the Board's regulations or upon federal limitations [Rule 910(a) of Chapter 3: Water Pollution (Rules); Section 301(b)(1)(C) of the Federal Water Pollution Control Act (FWPCA)]. Under Rule 910(a)(6) the Agency is authorized to impose effluent limitations such as "are necessary to carry out the provisions of the FWPCA" prior to promulgation of limitations by the Administrator of USEPA. Rule 910(a)(6) is inapplicable now that limitations have been promulgated. The Board is aware of no other provision which would authorize the Agency to actually set an effluent limitation in a permit. The conflicting Appellate Court cases which have construed Rule 910(a)(6) support the proposition that under the Act the Agency's authority to set effluent limitations is non-existent or at most very limited [Peabody Coal Co. v. PCB, 36 Ill. App. 3d 5; (5th Dist. 1976); U.S. Steel v. PCB, 52 Ill. App. 3d 1 (2d Dist. 1977)]. Upon remand the Agency shall reissue the permit with a chlorine limitation giving consideration to the applicable federal limitations.

CHLORINE MONITORING

Paragraph seven of Attachment B1 provides for monitoring and reporting of chlorine in outfall 001. It requires IPC to monitor total chlorine residual and to submit weekly a concentration curve for total chlorine residual. Reporting and monitoring are discretionary permit conditions imposed pursuant to Rule 910(f).

IPC presented testimony that development of the concentration curve required it to take twenty-two samples which took a minimum of two hours. It takes another hour to plot the results. Weekly curves might require employment of additional personnel (R. 30). Weekly curves developed during February and March, 1980 show only insignificant deviation. However, past experience indicates that chlorine levels vary somewhat on a seasonal basis (R. 31; Ex. A to the testimony of James C. Schmitt).

NPDES permits should contain those terms and conditions which may be required to accomplish the purposes and provisions of the Act [Section 39(b) of the Environmental Protection Act (Act)]. IPC has established that the concentration curves do not vary significantly from week to week within a given season. A quarterly curve would therefore accomplish equally well the purpose which the weekly curve serves. The latter is therefore not required to accomplish the result and the less expensive quarterly alternative should be imposed.

The Board has above required substitution of a chlorine limitation based on federal guidelines which are written in terms of free available chlorine rather than total residual chlorine. The Board is aware of no rule requiring or proscribing monitoring by either method. Upon remand the Agency will be given the option of either modifying the residual chlorine monitoring condition to provide for quarterly concentration curves, or of substituting a condition based upon another method of measuring chlorine.

FILTER BACKWASH DISCHARGE

As noted above, the Hennepin plant draws non-contact cooling water from the Illinois River. To protect the condensers the water is first passed through racks and intake screens to remove debris. Large items are removed from the racks by hand and landfilled. The one-half inch mesh screens catch smaller items such as leaves, twigs and fish. The screens are periodically backwashed to remove these items. The screens are raised to a spray mechanism which uses water to force the impinged materials off the screen and into a trough. The trough channels the spray water and dislodged materials to the circulating water discharge flume which returns the material to the river (R. 32).

Paragraph one of Attachment B1B contains the following condition: "There shall be no discharge of debris in other than trace amounts into cooling water flume as a result of screen washing operations" (R. 58). The Agency's position is that this permit condition is mandated by Rule 403 (R. 73)*:

> In addition to the other requirements of this Part, no effluent shall contain settleable solids, floating debris, visible oil, grease, scum, or sludge solids. Color, odor and turbidity shall be reduced to below obvious levels.

IPC contends that the Agency is without power to impose a permit condition which would require it to remove pollutants which are already in the river. The FWPCA only prohibits the addition of pollutants to navigable waters [Appalachian Power Co. v. Train, 545 Fed 2d 1351, 1377 (4th Cir. 1976)]. However, the Agency's authority is based in part on Sections 12(f) and 39(b) of the Act. The condition in question is based on a more stringent state limitation in accordance with Section 301(b)(1)(C) of the FWPCA. IPC has cited no law restricting the Board's jurisdication to adopt regulations requiring removal of background contaminants. However, Rule 401(b) states that it is not the intent of the Board to require users to clean up contamination caused essentially by upstream sources.

At the hearing the Agency clarified the intent of the permit condition: It was to cover only the discharge of dead or dying fish above a certain unspecified level (R. 76, 79, 81, 84, 87). It was not intended to cover leaves and twigs and other inert material (R. 76, 81). These limitations should be included in the language of the condition.

Many fish are alive and are killed or merely damaged when impinged on the intake screens (R. 75, 79, 82, 100). These live fish do not constitute "background" within the meaning of Rule 401(b). The dead fish which are discharged are contaminants which result from IPC's process. The burden of proof is upon IPC and it has not demonstrated that the fish are dead when taken in (Section 40 of the Act). The fact that the permit condition might incidentally require IPC to remove a few already dead, background fish from its discharge would not serve to invalidate the condition.

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*In a previous Order on a motion to stay the Board characterized this condition as discretionary (March 6, 1980; 37 PCB 479). Being now fully apprised of the facts the Board will reverse that finding.

Prior to this permit application IPC demonstrated pursuant to Section 316(b) of the FWPCA that its "intake structures reflect the best technology available for minimizing adverse environmental impact" (R. 32, 52, 90). On December 29, 1978 the Agency approved the demonstration (R. 32; Ex. B attached to transcript). IPC contends that the Agency is therefore barred from now questioning its dead fish discharge. The employee who wrote the permit was actually unaware of the 316(b) demonstration (R. 58, 96). The Agency contends that the 316(b) study concerned whether the structure minimized fish impingement without regard to whether impinged fish were properly disposed of (R. 64, 93).

Section 316(b) refers to "intake structures." IPC quotes: "The term design shall mean the arrangement of elements that make up the cooling water intake structure [40 CFR Section 402.11(c)] (R. 91, 96). The trough and channel from the backwashing operation to the return flume would be better described as "discharge" rather than "intake structures." The Board therefore holds that the Section 316(b) demonstration does not preclude the Agency from imposing conditions on the backwash discharge.

The Agency had no information before it at the time it issued the permit concerning rates of impingement or discharge of dead fish (R. 58, 63, 82, 86, 96). The condition was based upon the permit writer's general knowledge about this type of facility, gained in part from review of other permits (R. 82). The Agency should apply expertise and experience in writing permits. To require permit proceedings to be based on a formal record of the type suggested by IPC's objections to this would impose a large expense on the Agency and dischargers. Since the burden of proof is upon IPC, the Board will assume that a set of facts exists to support imposition of the condition, unless the permittee introduces facts to the contrary.

The Agency introduced over IPC's objection evidence comparing the fish impingement rates at Hennepin with two other power plants (R. 43, 59, 68; Exs. 5, 6, 7A and B). IPC criticized these studies since they did not allow for comparison of intake rates or level of operation of the plants or any comparison of aquatic communities in the vicinity of the intakes (R. 54). Since the issue is not the rate of impingement but the rate of discharge of dead fish, the studies are not very informative (R. 79). Furthermore, whether other power plants have a higher or lower rate of fish discharge would be only remotely related to whether the discharge is proscribed by Rule 403.

The impingement studies are not in the Agency record and were made after the permit was issued (R. 86). The Agency's findings of fact resulting in application of Rule 403 are presumed correct.

The Board is aware of no evidence introduced by IPC which tends to rebut this presumption. The exhibits and testimony concerning impingement rates will be stricken as irrelevant.

Rule 403 speaks of "floating debris" while the permit condition extends to "debris in other than trace amounts." The condition covers debris other than the floating variety, which may, or may not, fall within the other categories of Rule 403 such as settleable or sludge solids. In addition, the permit condition speaks of "trace amounts," a term not found in Rule 403. There is a question as to whether this is more or less stringent than the requirement of Rule 403.

Upon review of a mandatory permit condition the Board must determine whether the permit condition correctly incorporates the mandating rule into the permit. As noted in connection with the chlorine condition, the Agency's authority to impose effluent limitations is limited. However, in the case of application of an effluent limitation such as Rule 403, which is not simply a numerical limitation, the Agency has the authority to further define the rule as applied in the context of the permittee's situation. In this case the condition does not correctly state the Board rule and there appear to be unnecessary changes in language which do little to make the condition more specific than the rule. On remand the Agency will be authorized to replace this condition with one which correctly states Rule 403 as applied to this facility.

IPC contends that the only way to comply with the permit condition would be to install a debris catcher or collection basket in the path of the water returned to the Illinois River. An all weather access would have to be constructed. IPC estimates this would involve an investment of $250,000 and $12,000 in annual operating and maintenance costs (R. 34). The Agency says that IPC could comply with the condition by installation of "trash collection baskets" similar to those at IPC's new Clinton power plant (R. 97). It is not clear if this is the same as IPC's compliance plan. The Agency also mentions a catchment basin prior to discharge to the river (R. 77). IPC admits that it has not actually conducted studies of the feasibility of other methods of compliance (R. 39).

If the permit condition can be rewritten so that it is mandated by Rule 403, IPC's cost of compliance is irrelevant. Relief is available only through a variance from Rule 403 or by way of a rule change (Peabody Coal Co. v. EPA, PCB 78-296, May 1, 1980, p. 4).

IPC estimates that it will require some nineteen months to comply with the conditions (R. 34). When the Board or USEPA imposes a new requirement on dischargers there is usually a time provided for compliance. Rule 403 was in effect in its present form when the Agency certified the previous permit which contained

no similar provision (R. 88). Although the time for coming into compliance with Rule 403 has elapsed, IPC may have been misled by the Agency's previous interpretation. Therefore, any condition written on remand should include a reasonable time for compliance.

IPC also objects to standard condition twenty-two of Attachment H:

> Collected screenings, slurries, sludges, and other solids shall be disposed of in such a manner as to prevent entry of those wastes(or runoff from the wastes) into waters of the State. The proper authorization for such disposal shall be obtained from the Agency and is incorporated as part hereof by reference.

The Board interprets this as derived from Section 12(d) of the Act, deposit of contaminants upon the land so as to create a water pollution hazard. So construed the condition would not apply to the filter backwashing operation itself, but would apply to any screenings after they had been filtered or skimmed and collected for disposal outside the discharge structures. The condition should be modified to state this expressly.

RESPONSE TO COMMENTS

On or about August 17, 1979 the Agency issued a draft permit. On September 13, 1979 IPC mailed to the Agency its comments on the draft permit. On October 3, 1979 the Agency issued the permit (Answer items 1, 4, 8). Federal regulations applicable to state NPDES permit programs require that a response to comments be prepared along with the final permit. The response must contain reasons for changes in the draft permit and a description of and response to all significant comments [Rule 906(f); 40 CFR Sections 124.12 and 124.63]. The Agency states that it made response to comments through telephone conversations and through the act of issuing the permit (R. 65). No written response was ever prepared.

IPC contends that compliance with the response to comments provisions would have assisted the parties in framing the issues at an earlier stage of this proceeding. IPC concedes that there may be no appropriate remedy since it has now come to the Board with the ultimate issues (R. 18). It does, however, request a ruling. The Board agrees with IPC that the regulations require a written response to comments.

MISCELLANEOUS CONDITIONS

The table in Attachments B2 and B3, ash lagoon discharges 002, 003 and 005, provide for monitoring of oil and grease by grab samples twice monthly. Paragraphs four of each attachment require a

grab sample of oil, fats and greases at six month intervals. Monitoring and reporting are discretionary permit conditions imposed pursuant to Rule 910(f).

IPC contends that the duplicate conditions are ambiguous; however, there is an obvious clear meaning. Sampling is to be done twenty-six times per year as required by each condition.

On their face the conditions seem to relate to different parameters. IPC has not established that they are the same in order to show that the reporting is redundant. The Board could uphold the conditions on this basis. However, the Board will instead take official notice of Standard Methods for the Examination of Water and Wastewater, 14th Edition (1975), p. 513 (Attachment H, standard condition 18). "Grease and oil" includes "hydrocarbons, fatty acids, soaps, fats, waxes, oils . . . " The permit conditions therefore relate to the same parameters and involve the same analyses. The conditions involve only duplicate reporting every six months. IPC does not claim any ambiguity in the denomination of the parameters or method of analysis.

IPC has presented no evidence concerning the cost of the duplicate reporting. The Board therefore finds that it is required to accomplish the purposes of the Act. The conditions are affirmed as written.

Standard condition twenty-seven of Attachment H provides for permit modification in the event of promulgation of new effluent guidelines by USEPA and for modification in the event effluent guidelines will not be promulgated. The parties have specifically agreed to modifications providing time for compliance and a right to appeal in the event the permit is modified pursuant to this condition.

IPC argues that this condition is related to Rule 910(a)(6) and the Appellate Court decisions in Peabody Coal and U.S. Steel which are cited above. Under U.S. Steel the Agency may have some authority to set effluent standards in the circumstances contemplated. The Board will therefore allow the condition with no prejudice to IPC's rights to appeal any permit modified under it.

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

ORDER

NPDES permit IL0001554 is remanded to the Agency for further action consistent with the settlement agreement and not inconsistent with the Board's Opinion of this date.

IT IS SO ORDERED.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order were adopted on the 2ND day of October, 1980 by a vote of 5-0.

Christan L. Moffett

Christan L. Moffett, Clerk
Illinois Pollution Control Board