ILLINOIS POLLUTION CONTROL BOARD
January 12, 1984

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,	)	
Complainant,	)	
v.	)	PCB 79-142
CITIZENS UTILITIES COMPANY OF ILLINOIS,	)	
Respondent.	)	

MSSRS. PHILLIP L. WILLMAN, DEAN HANSELL AND DOUGLAS KARP, ASSISTANT ATTORNEYS GENERAL, APPEARED ON BEHALF OF THE COMPLAINANT.

MR. DANIEL J. KUCERA, CHAPMAN AND CUTLER, APPEARED ON BEHALF OF THE RESPONDENT.

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

On July 16, 1979, the Illinois Environmental Protection Agency ("Agency") filed a four count complaint against Citizens Utilities Company of Illinois ("Citizens"). The complaint alleged that Citizens, at its West Suburban Wastewater Treatment Plant #1 in Bolingbrook ("WSB No. 1"), violated various provisions of the Illinois Environmental Protection Act, Ill. Rev. Stat., Ch. 111½, ("Act"), regulations adopted by the Board, and NPDES Permit IL0032727 issued to WSB No. 1. On February 7, 1980, the Board affirmed the hearing officer's order denying amendment of the complaint to expand the time frame of alleged violations and add a count covering ammonia nitrogen violations. On April 3, 1980, the Board affirmed the hearing officer's order granting Citizens' motion to sequester Agency expert witnesses during cross-examination.

Hearings were held in this matter on March 29; April 14, 15, 16, 28, 30; May 1, and May 2, 1980. On September 2, 1982, the Board denied Citizens' motion to dismiss. On September 15, 1982, the Board reconsidered and reaffirmed denial of the motion to dismiss. Final Briefs were submitted by the Agency on November 23, 1982, and January 4, 1983, and by Citizens on December 20, 1982, and January 12, 1983.

REGULATIONS INVOLVED

OLD BOARD RULE	PRESENT 35 ILL. ADMIN. CODE
401(c)	304.104
404(f)	304.120
404(h)	304.120
405	304.121
601(a)	306.102
901	309.102
910(k)	309.151

FACILITY

The facility in question, Citizens' WSB No. 1, is an activated sludge plant of the contact stabilization type designed for a dry weather flow of 1.28 MGD. The plant consists of (1) manually cleaned bar screens, (2) a comminutor, (3) a wet well, (4) pump rooms, (5) two primary rectangular clarifiers with chain dragout mechanisms for sludge removal and skimming and pipe skimmer for scum removal, (6) contact aeration section with spiral roll aeration, (7) reaeration stage with spiral roll aeration, (8) five rectangular secondary clarifiers with chain dragout mechanisms for sludge removal and pipe skimmer for scum removal, (9) a seven day polishing lagoon, (10) a baffled chlorine contact tank, (11) a final effluent composite sampler (12) two aerobic digesters fed sludge, (13) eight sludge drying beds, and (14) a blower building with seven centrifugal blowers (Ex. 9, ¶ 3). The final effluent from the facility is discharged to Lily Cache Creek. On November 11, 1975, Citizens' WSB No. 1 was issued NPDES Permit No. IL0032727 (Ex. 1). That permit established certain interim effluent limitations until December 31, 1976 (Ex. 1, p. 2), and lower final effluent limitations (Ex. 1, p. 3) until the permit's expiration on June 1, 1979. The terms and conditions of this permit remained in effect beyond the expiration date, pursuant to Ill. Rev. Stat., Ch. 127, Sec. 1016(b), because Citizens applied for a new NPDES permit (Complaint, ¶.5). For purposes of clarity the claims in this case will be discussed in three parts: deoxygenating wastes, bacteria, and the final claim-operation and maintenance.

DEOXYGENATING WASTES

Deoxygenating wastes are five-day biochemical oxygen demand (BOD_5) and suspended solids (SS). The concentrations of these wastes, in mg/l, are tested on 24-hour composite samples of the effluent. The NPDES permit for WSB No. 1 established maximum

limitations for the arithmetic mean of the test results for any samples collected over 30 consecutive days and for the arithmetic mean of any samples collected over 7 consecutive days (Ex. 1, pp. 2-3). Of relevance to this proceeding are two different levels of limitation, 20/25 and 10/12. The 20/25 limitation requires that the 30-day mean of test results not exceed 20 mg/l of BOD_5 or 25 mg/l of SS and the 7-day mean not exceed 30 mg/l of BOD_5 or 38 mg/l of SS. The 10/12 limitation requires the 30-day mean of test results not exceed 10 mg/l of BOD_5 or 12 mg/l of SS and the 7-day mean not exceed 15 mg/l of BOD_5 or 18 mg/l of SS. Determining which standard applies, 20/25 or 10/12, is of central importance to the case. The following table lists the effluent limits applicable to WSB No. 1 at various times.

Date	Source	Limitation
11/5/75	NPDES permit establishes interim limits	20/25
1/1/77	Final NPDES permit limits effective	10/12
7/20/78	Variance PCB 78-123 becomes effective	20/25
12/31/78	Variance PCB 78-123 expires	10/12
3/5/81	Variance PCB 78-313 becomes effective	20/25

The Complaint and exhibits in this case allege violations of the deoxygenating wastes permit limitations of 10/12 for the months of April, 1979 (Ex. 2B), May, 1979 (Ex. 2A), June, 1979 (Ex. 2C), and July 1979 (Exs. 2D and 2J). Those exhibits are the Discharge Monitoring Reports (DMR's) for the respective months, as submitted by Citizens to the Agency. They show the following values:

		30-day	7-day
April 1979	BOD_5	18	45
(Ex. 2 B)	SS	14	56
May, 1979	BOD_5	17	30
(Ex. 2 A)	SS	11	23
June, 1979	BOD_5	8	19
(Ex. 2 C)	SS	6	13
July, 1979	BOD_5	14	31
(Ex. 2 D & 2 J)	SS	8	12

The complaint in this case was filed July 18, 1979. On February 7, 1980, the Board affirmed the Hearing Officer's order denying an amendment of the complaint to enlarge the time frame of alleged violations. Thus the time frame for potential violations terminates on July 18, 1979. This precludes a 30-day violation for July, and precludes a 7-day violation for July absent evidence that any 7-day violation occurred prior to July 18. No such evidence was introduced.

The DMR's show and the Board finds violations of the 10/12 NPDES limitation for the following: April (BOD_5, 30-day and 7-day; SS, 30-day and 7-day), May (BOD_5, 30-day and 7-day; SS, 7-day), and June (BOD_5, 7-day).

Citizens' raises four arguments against a finding of violation of the deoxygenating wastes effluent limitations: (1) the subsequent 20/25 variance granted Citizens in PCB 78-313 was retroactive, (2) previous and subsequent variances granted to Citizens preclude a finding of violation as a matter of law, (3) the Agency failed to present evidence concerning factors in Section 33(c) of the Act, and (4) Citizens could not comply with 10/12 without spending $3.63 million.

Citizens is in error concerning the retroactive application of a variance. First, Citizens did not file its variance petition in a timely manner. The variance in PCB 78-123 was granted on July 20, 1978, to expire on December 31, 1978 - a duration of over 5 months. Citizens waited until two days before that variance expired to apply for a new variance. Section 38 of the Act requires the Board to act on a variance within 90 days of the filing of a request. If Citizens had filed in a timely fashion, more than 90 days before December 31, 1978, Citizens could have required Board action on the relief, 20/25, they now seek under a "retroactive application" theory. Second, the variance subsequently granted to Citizens in PCB 78-313, is not retroactive as a matter of law. People ex.rel. Scott v. Continental Can, 28 Ill. App. 3rd 1004, 329 N.E. 2nd 362 (1st Dist., 1974) does not hold subsequently issued permits or variances are either retroactive or a defense in an enforcement action. Third, the Board did not specifically grant the variance in PCB 78-313 retroactively. Fourth, a subsequent variance need not be construed as "approving and continuing" any previous variance. The five-month variance in 78-123 was granted to allow completion of a study and development of a compliance plan. In granting the variance in PCB 78-313 the Board found, "The hardship so alleged is self-imposed to the extent that it is occasioned by delays, including the dilatory prosecution of this case" (41 PCB 16, March 5, 1981). Citizens now asks the Board to encourage dilatory prosecution by developing a theory of retroactive application. The Board holds that the variance in PCB 78-313 was not in effect, as a matter of law or as a matter of fact, during the time period raised in the Complaint.

Citizens second argument is that prior and subsequent variances preclude a finding of violation in the time period between them (Citizens Br., p. 6). Section 35(a) of the Act requires a finding of arbitrary or unreasonable hardship before the Board may grant a variance. Section 31(c) makes arbitrary or unreasonable hardship a defense to a finding of violation. Citizens asserts that the hardship findings under Section 35(a), in PCB 78-123 and 78-313, are "res judicata" on that issue for Section 31(c). This argument strains the statutory language and the findings in the variance cases.

In PCB 78-123 and 78-313 the Board found arbitrary and unreasonable hardship only as related to the specific time periods granted in the variance, and conditioned such extensions on various actions.

The scope and focus of the "arbitrary or unreasonable hardship" issues cannot be equated in Section 31(c) enforcement and Section 35(a) variance proceedings. The parties and their roles are distinctly different. The point in the proceedings at which the hardship issue is addressed is different. And, indeed, the nature of the relief is such that hardship is scrutinized and weighed differently.

In a variance proceeding, the petitioner needs to show arbitrary or unreasonable hardship only to the degree necessary for a temporary reprieve from the otherwise applicable Act or Board regulations. (See Sec. 35(a) and 36(c).) The Agency acts as respondent party in a evaluative capacity. It is to investigate the petition, consider the views of others, and, most important, recommend to the Board as to the petition's disposition. The Agency's recommendation may range from full support to outright opposition. The proceeding may or may not involve a hearing. Neither the Agency nor, obviously, the petitioner need prove past violations, since the Board is not considering issues leading to a punitive determination before a variance can be granted. Though it is essential that the hardship issue be addressed, it is weighed along with the potential for environmental harm. Most important, it is weighed "up front" by the Board, prior to any other determinations. Essentially, a variance is not a waiver, it does not involve findings of "guilt", and does not address "forgiveness".

Under 31(c) in an enforcement proceeding, only if the Agency--or other complainant--has proved the violation does the respondent assume the burden of showing the Board that compliance, under the particular circumstances of the case, would impose a hardship to such a degree that failure to actually forgive the past violation would be arbitrary or unreasonable. (This process must be distinquished from the aggravating and mitigating factors affecting sanctions considered after a finding of violation.)

In this accusatory setting, proof of arbitrary or unreasonable hardship takes on a different hue. The Section 31(c) language empowers and, indeed, mandates the Board on the "back end" to forgive the lack of compliance itself should the respondent submit adequate proof. (This is not simply an academic discussion. The cloud of a finding of violation can haunt an operation, even though mitigating circumstances might be such that sanctions, such as penalties or other onerous conditions, are not imposed. For an obvious example, see Sec. 21(f) and 22(b) of the Act.)

Unlike in a variance proceeding, the hardship issue stands alone. Environmental and other like issues are weighed when considering sanctions, a step that takes place after the finding of non-compliance. Obviously, the hardship circumstances of the case must be compelling. And once the "deed is done", excuses are viewed with even less magnanimity than if "permission" could have, but was not, sought in the first place. And should the hardship circumstances be temporary in nature, the forgiveness would not be permanent. For example, if the governing body of a Sanitary District was uaware that its treatment plant was operating without a permit because a former operator had shown them a copy of a permit with dates altered, this Board might forgive the non-compliance under such circumstances, but expect prompt subsequent compliance. If subsequent non-compliance problems arise, a subsequent variance can be sought, as would be the case with or without "forgiveness" for past non-compliance.

Citizens' argument leads to the absurd conclusion that, in a variance proceeding, the Board can only order a schedule for compliance with the Act and regulations after finding hardship that would prove Citizens is not in violation of the Act or regulations.

Citizens did not prove in this action that ultimate compliance with a 10/12 limitation would impose Section 31(c) arbitrary or unreasonable hardship. The only evidence introduced was the Economic Impact of Proposed Regulation R81-19 for Site-Specific Water Pollution Rules Applicable to Citizens Utilities Company Discharge to Lily Cache Creek (the EcIS) (Ex. F). If all statements and conclusions in the EcIS are true, a question the Board need not answer in this case, that document shows, at best, that economic considerations, taken alone, favor a 20/25 limitation rather than 10/12. This is hardly sufficient.

The Board is required to restore, maintain and enhance the purity of Illinois waters, Section 11(b) of the Act. Economics is but one factor to be considered in establishing standards to achieve that purity. A showing of poor economics alone, even if true, is inadequate to show arbitrary and unreasonable hardship as a defense for violation of limitations designed to restore, maintain and enhance water purity. The Board also notes several shortcomings of that document were pointed out in the regulatory opinion (R81-19, pg. 4, May 5, 1983). The technical feasibility of Citizens compliance with a 10/12 limitation has never been questioned. Moreover, Citizens did not challenge, on any basis, the validity of Board regulations establishing a 10/12 standard when they were promulgated, nor did Citizens question the application of that limitation, in Citizens' 1975 NPDES permit, via permit appeal.

More important to the issue of arbitrary or unreasonable hardship is the order and certification in the 1981 variance (PCB 78-313). Paragraphs 4,5 and 6 of that order provide as follows:

4. On or before January 2, 1983 Petitioner shall submit to the Illinois Environmental Protection Agency a permit application including plans and specifications for upgrading WSB Plant No. 1 to meet Chapter 3 limitations.

5. On or before July 1, 1983 Petitioner shall commence such design, engineering, procurement of major equipment items, contract letting and construction as may be necessary for WSB Plant No. 1 to be in compliance with then applicable effluent limitations before July 2, 1985.

6. On or before July 2, 1985 Petitioner shall be in compliance with applicable effluent limitations for five day biochemical oxygen demand, total suspended solids and ammonia nitrogen. Compliance with this condition before July 2, 1985 shall be excused by delays arising from acts of God or causes not within control of the Petitioner.

By signing the certification in that order Citizens committed to ultimately upgrade the WSB No. 1 plant to meet the then applicable effluent limitations. During the variance Citizens intended to and did seek site-specific regulatory relief from the 10/12 limitation. In the opinion to that variance order the Board stated, "In the event the Board rejects the regulatory proposal, Citizens Utilities will be expected to comply with the generally applicable standards by the 1985 date" (41 PCB 16). Citizens signed the Certification knowing that the regulatory relief might be denied and that it would then need to achieve a 10/12 limitation. The regulatory relief was denied (R81-19, May 5, 1983). Citizens cannot now argue, within the context of an enforcement case, that ultimate compliance with a 10/12 limitation is unreasonable.

Lastly, the Board Order in the instant case does not require compliance with the 10/12 limit. No cease and desist order is entered as to this rule.

Citizens' third argument against a finding of violation for deoxygenating waste discharges is that the Agency failed to present evidence concerning factors in Section 33(c) of the Act which provides in relevant part:

c. In making its orders and determinations, the Board shall take into consideration all the facts and circumstances bearing upon the reasonableness of the emissions, discharges, or deposits involved including, but not limited to:

1. the character and degree of injury to, or interference with the protection of the health, general welfare and physical property of the people;

2. the social and economic value of the pollution source;

3. the suitability or unsuitability of the pollution source to the area in which it is located, including the question of priority of location in the area involved; and

4. the technical practicability and economic reasonableness of reducing or eliminating the emissions, discharges or deposits resulting from such pollution source.

These factors have relevance in determining a nuisance violation as in Wells Mfg. Co. v PCB 73 Ill. 2d 226, 383 NE 2d 148 (1978). There, a violation could be found only where there was, "unreasonable interference with the enjoyment of life or property," Section 3(b) of the Act. Section 33 (c) provides guidance on what factors the Board must consider in determining the reasonableness or unreasonableness of the emissions. As a result, proving the emissions are unreasonable, within the context of Section 33(c), is an element of the cause of action the complainant must prove to establish a nuisance violation. This is appropriate because the nuisance theory does not provide specific previously articulated standards of performance for the pollution source to achieve in order to avoid liability.

The situation in this case is different. Citizens is charged with violating a specifically articulated standard of performance, a 10/12 effluent limitation, that was placed in its NPDES permit in 1975. It is an inadequate defense for Citizens to claim that the Agency has failed to prove all elements of a nuisance count, i.e. the Section 33(c) factors.

Citizens' fourth argument against a deoxygenating wastes discharge violation is that WSB No. 1 is incapable of achieving a 10/12 limitation without additional plant improvements estimated to cost approximately $3.63 million. There is no dispute that in its present condition WSB No.1 cannot meet a 10/12 limitation consistently (R.723). Although the exact amount may be questioned, it is certain that plant improvements to reliably achieve a 10/12 limitation will cost money. However, the Board is not aware of any legal theory that precludes a finding of violation against a facility simply because its present pollution control equipment is not sufficient to meet existing regulatory standards and additional equipment costs money.

The Board finds that Citizens' arguments and evidence do not present an adequate defense to the previous findings of violation of the deoxygenating wastes effluent limitations. The Board will not order Citizens to cease and desist from discharging above the 10/12 limitation. Paragraphs 4 and 5 of Citizens' present variance (PCB 78-313) requires planning and construction of plant improvements by certain dates, that will achieve the applicable effluent limitations (10/12) no later than July 2, 1985. Paragraph 6 of that order requires compliance with those effluent limitations not later than July 2, 1985. A cease and desist order would be redundant. The Board will not impose a fine on Citizens for the deoxygenating wastes discharge violations.

BACTERIA

In Count III of the complaint the Agency charges that Citizens, in March, 1979, violated the terms of its permit relating to the seven day standard for fecal coliform bacteria. Paragraph 4 of Citizens NPDES permit effluent limitations (Ex. 1, pp. 23) provides as follows:

> The geometric mean of the fecal coliform bacteria values for effluent samples collected in a period of 30 consecutive days shall not exceed 200 per 100 milliliters. The geometric mean of these values for effluent samples collected in a period of seven consecutive days shall not exceed 400 per 100 milliliters.

The Agency provided Citizens' DMR for March, 1979 (Complaint, Appendix 2A), which shows a 7-day geometric mean of 3600 per 100 ml. However, Citizens provided testimony (R.748) and evidence (Ex. E) showing the DMR value was improperly computed. Although one of the twice-weekly samples showed 3600 per 100ml, a proper calculation of the maximum 7-day geometric mean for March, 1979, is 224.5, (Ex. E), which is below the permit limitation of 400 per 100 ml. The Agency did not respond to Citizens' testimony and exhibit on proper calculation of the 7-day geometric mean. Therefore, the Board finds Citizens did not violate the 7-day geometric mean fecal coliform NPDES permit limitation in March, 1979. The Board expresses no opinion on whether the March 5, 1979, fecal coliform value of 3600 per 100 ml violated the last sentence of Rules 401(c) or 404(h) as no such violations were claimed in the complaint. Absent an express finding of violation, the Board will not order Citizens to cease and desist, nor impose a penalty.

OPERATION AND MAINTENANCE

In Count IV of the complaint, the Agency alleges that Citizens has violated the operation and maintenance (O&M) provisions of the Board Rules and its NPDES permit. The relevant Board Rule, 601(a), provides:

601 Systems Reliability

(a) Malfunctions.

All treatment works and associated facilities shall be so constructed and operated as to minimize violations of applicable standards during such contingencies as flooding, adverse weather, power failure, equipment failure, or maintenance, through such measures as multiple units, holding tanks, duplicate power sources, or such other measures as may be appropriate.

In relevant part, the NPDES permit (Ex.1, p.5) provides:

3. Facility Operation and Quality Control

All waste collection, control, treatment and disposal facilities shall be operated in a manner consistent with the following:

(a) At all times, all facilities shall be operated as efficiently as possible and in a manner which will minimize upsets and discharges of excessive pollutants.

* * *

(d) The permittee must provide optimum operation and maintenance of the existing waste treatment facility to produce as high quality of effluent as reasonably possible.

These permit conditions are specifically required by Board Rule 910(k) and basically repeat its language.

To establish violations of these provisions the Agency provided testimony and exhibits relating to inspections of WSB No. 1 by Agency personnel on February 28, June 25, and July 2-3, 1979. The Agency also provided testimony by Citizens' lead wastewater treatment plant operator, as an adverse witness.

To understand the claimed errors in O&M the general operations of the facility must be reviewed. Screened influent sewage goes first to the two primary tanks where solid materials settle to the bottom and floatable materials rise to the top (R.488). Long pieces of wood called flights are moved by chains along the bottom and top of the primaries; they push the settled solids or sludge along the bottom to hoppers for further handling, then rotate up to skim the surface of the liquid in the tank pushing the scum to one end for removal (R. 491). The sewage, now reduced in strength moves to the contact aeration

tank where it is bubbled with air (R. 235) and the biomass metabolizes the sewage (R. 490). Sewage flows then to the five clarifiers or secondary tanks that settle sludge from the treated sewage (R. 490). The secondary tanks also have flights to move bottom sludge and surface scum for removal from the tanks (R.491). Effluent from the secondary tanks is essentially treated to the efficiency of the system at that point (R. 490). Flows from the clarifiers may pass to the polishing lagoon (Ex. B) or directly to the chlorine contact tank for disinfection prior to discharge to Lily Cache Creek (R. 491). The sludge removed from the primary or secondary tanks may be transferred to the aerobic digesters or returned to earlier parts of the process to provide further treatment (Ex. B, R. 490).

The Agency's claims of improper operation and maintenance are most easily reviewed by evaluating each unit process on a step by step basis. The first unit process is the primary settling tanks. During a February 28, 1979 inspection by Agency personnel both primary settling tanks were out of operation due to breaks in the chains that move the flights (R. 19, Ex. 4A). During a June 25, 1979 inspection, both primaries were still not in operation (R. 24). During a July 2-3, 1979 inspection one primary tank was not in operation due to a chain break (R. 66, Ex. 4C). Citizens lead treatment plant operator testified that both primaries were out of service the week of February 18, 1979, the week of March 4, 1979, and the week of March 18, 1979 (R. 385, 318, 327). Thus, the best information in the record is that primary tank number one went out of operation sometime prior to February 18, 1979 due to a chain break and remained out of service until late August or early September, 1979 (R.383) a period of seven months. Primary tank number two was out of operation, for unknown reasons, from before February 18 to sometime between Agency inspections of June 25 and July 2, over four months.

During the week of February 18, 1979, Citizens' lead operator and an engineer attempted to drain the primary tanks to estimate the needed repairs (R. 385). During that process they noticed turbulence in the number two primary tank and believed there was a hole between that tank and the aeration tank (R.389). When they did dewater the primaries and aeration tanks in July of 1979, they found the turbulence was caused by equalization holes between the two primary tanks (R. 388). These holes were designed into the tanks to equalize flows (R. 390). There were ample spare parts on hand to repair the primary tank number one broken chain in February but the job was postponed until sufficient parts arrived to completely redo both primary units (R. 384), because of the major job it would be to drain both primaries and the aeration tank (R. 385). The tank could have been repaired in February if the operator knew the primary tanks had been designed with equalization holes between them (R. 394). There was no testimony on why primary tank number two was out of operation for four months or whether it could have been repaired more quickly.

When one primary tank is out of operation it results in higher loadings on the secondary portion of the treatment plant and increased difficulty in wasting or removing sludges from the system (R. 493). Both primaries being out of service would further increase loadings to the secondary portion of the plant, reduce sludge wasting capacity, may increase BOD_5 and SS being discharged to Lily Cache Creek, and deprive the operator of information on the amount of sludge being wasted which is important for efficient operation of the plant (R. 494).

The next unit process is the aeration process. During the July 2, 1979, inspection by Agency personnel the contact aeration tank and reaeration tank had excessive foam, covering most of the surface of the tank (R. 168, Ex. 4c). Excessive foam in an aeration tank would be more than 50% of the surface covered with foam (R. 169, 236).

The next unit process is the final settling basins or clarifiers. During the February 28, 1979, inspection Agency personnel found one of the five clarifiers out of operation due to broken flights (R. 21, Ex. 4A). The lead operator informed the inspector that a rake or something had been dropped into the tank, lodged in the bottom, broken the flights, and plugged a port at the bottom of the tank (R. 22, Ex. 4A). During an inspection on June 25, 1979, Agency inspectors saw excessive scum on the clarifiers (R. 24) and took pictures of this scum (Ex. 3). The excessive scum was on more than one of the clarfiers (R. 127). During a July 2 inspection there was excessive scum on the clarifiers (R. 28), flights on the clarifiers were short, broken and missing (R. 27), and some of the flights did not touch the surface of the liquid (R. 237). One of the clarifiers may not have been operational (R. 291). Solid material was being carried over the clarifier weirs (R. 29, Ex. 4c) on the July 2 inspection and on the June 25 visit (R. 24, Ex. 3).

The polishing lagoon was out of service during the July 2, 1979 visit due to an algae problem (R. 26, Ex. 4c). It may also have been out of operation the week of March 4, 1979, (R. 379).

The last step in the treatment process is the chlorine contact tank. During the June 25 visit, Agency inspectors observed and photographed scum accumulations on the tank (R. 24, Ex. 3). During the July 2 inspection, inspectors observed much scum on the surface of the tank, also the tank was quite dark possibly from sludge deposits on the bottom and algae (R. 28, Ex. 4c).

Citizens provided no direct testimony to refute the above observations. However, Citizens raised the possibility that some of the excess scum may have resulted from sewer cleaning operations (Ex. 3).

The Agency argues that the prior facts demonstrate violations of NPDES permit conditions 3a and 3d (Ex. 1, p. 5), and Rule 601(a). Citizens argues that: (1) as a matter of law equipment failure or operations per se cannot be a violation of any statute or rule, only effluent exceeding a standard may constitute a violation, and (2) even if equipment failure or operations could constitute a violation, it could do so only when such condition has a proven adverse impact on effluent quality. The Board rejects both of Citizens' arguments.

The Board Rules governing effluent standards and the discharge limitations placed in NPDES permits are maximum values never to be exceeded. They are not, however, the only rules established by the Board or conditions imposed by the Agency to restore, maintain, and enhance the purity of Illinois waters. The O & M rules and conditions are designed to ensure discharge of the highest quality effluent a facility can reasonably and reliably attain even if that quality might not constitute a violation of specific numerical standards. The O & M provisions are also designed to restore, maintain and enhance water purity, and absent some specific legal argument as to their invalidity the Board cannot hold them inoperative, as a matter of law, simply because legally applicable effluent limitations are being met. The Board notes however that Citizens was not meeting its effluent limitations.

Next Citizens argues that a showing of direct adverse impact on effluent quality from poor operations or maintenance is necessary for an O & M violation. Because of the manner in which treatment plants function and the substantial variations in flow and strength of the sewage they must treat, this argument would require evaluation of the plant on two occasions with all factors being exactly the same except the O & M violation alleged. Only then could the impact of the O & M failure on effluent quality be properly determined and that determination would apply only to the unique combination of flow, sewage strength, temperature, and other factors chosen for the test. This would place an unreasonable burden to establish compliance or non-compliance with the O & M provisions. The Board rejects this argument and holds that the O & M conditions in Citizens permit are legally binding and mean exactly what they say. The unit processes within WSB No. 1 were placed there to effectively and efficiently treat sewage. Once the Agency has established that those processes are not being operated or maintained as they were designed to be and as efficiently as possible, the burden shifts to Citizens to show compliance with such O & M would be an arbitrary or unreasonable hardship. The Agency need not demonstrate adverse impact on effluent quality or the environment, nor does the Agency need to demonstrate non-compliance with general O & M procedures in other similar facilities. However, such facts could be introduced to show aggravation or mitigation.

The facts in this case demonstrate substantial non-compliance with the intended functioning of WSB No. 1. For example, during the July 2 visit by Agency inspectors one of the two primary tanks, one of the five clarifiers and the polishing lagoon were out of service. Of the remaining units each had excess scum, foam or sludge. Also there were many broken or short flights on the remaining clarifiers and solids were bulking over the weirs of the clarifiers and chlorine contact tank. The Board finds these facts do not constitute optimum operation and maintenance of the facility to produce as high quality of effluent as possible, nor do these facts constitute operation as efficiently as possible. Therefore Citizens is in violation of conditions 3(a) and 3(d) of its permit for its operation of WSB No. 1 on July 2, 1979.

The facts also demonstrate that both primary tanks were out of operation as of February 18, 1979. This falls within the time period of the complaint, on or about February 28 (Comp. p. 9, R13). Both tanks remained out of service until after June 25, a period of over 127 days. The Board finds that because these tanks could have been put into operation on February 18, if the operator had known or had investigated the plant design, the failure to investigate and repair constitutes a violation of providing optimum operation and maintenance, permit condition 3(d) and a violation of operating as efficiently as possible, permit condition 3(a).

In mitigation, Citizens has raised the possiblity that some of the sludge and scum resulted from sewer cleaning. Citizens provided no direct testimony that the sewers were being cleaned on any specific dates, nor did Citizens provide evidence that influent concentrations for BOD_5 and SS were higher than normal for those dates, or adversely affected plant performance. Without such information the Board cannot find that the exess scum or solids were partly resulting from sewer cleaning.

Citizens also introduced testimony and exhibits showing the BOD_5 and SS values for WSB No. 1 effluent on an annual basis for the preceeding four years (R. 745, Ex. C) and SS values for the contact and reaeration tank for 1979 on a monthly basis (R. 746, Ex. D). As previously discussed, the actual concentration of any parameter at any time of alleged O & M violation is of little practical value standing alone because the Board cannot determine what that concentration might have been with all unit processes operating correctly. The Board notes that the contact and reaeration tank SS concentrations were higher during primary tank outage (until late August or early September) than during the last one-third of 1979, a point that does not favor Citizens' arguments of no adverse impact. However, those values are influenced by SS concentrations in the influent sewage, primary tank efficiency, the rate sludge is wasted prior to the secondary process, aeration rate, and other factors. With so many

variables and so few facts, the Board cannot make a judgment that higher SS values were caused by primary tank outage. Similarly the generally improving quality of the effluent from 1975 to 1979 says very little about what impact O & M failures may have had because of the multitude of factors influencing the final effluent quality. The Board notes that the March, 1979 fecal coliform effluent value of 3600 per 100ml (Ex.E) is suggestive that some O & M failure in the plant had a dramatic adverse impact on effluent quality, especially since this value occurred after both primaries went out and prior to Agency inspections showing O & M violations in the chlorine contact tank. The general theory behind Board Rule 910(k) and the corresponding NPDES permit conditions is that each unit process serves a function and, all other factors being equal, the quality of the effluent will be better with all processes operating than it will be with some or many unit processes out of operation.

As a defense to a finding of violation Citizens asserts that compliance with a rule which requires no mechanical malfunctions ever is an arbitrary and unreasonable hardship, and that the Agency failed to present evidence as to the factors in Section 33(c) of the Act. The Board need not reach a holding on Citizens' first argument for those facts are not presented in this case. The facts do not show an otherwise well maintained plant with one or two temporary breakdowns. On the contrary, the facts show major equipment or operational failures of every unit process at the plant. The most severe of these failures, primary tanks out of operation due to mechanical failures, lasted four months and seven months. The longest outage was due simply to operator ignorance of plant design and failure to investigate. The shorter outage was totally unexplained. As a result the Board need not reach a decision on whether the "optimum operation" and "efficiently as possible" conditions in the NPDES permit require absolute perfection; they clearly proscribe the failures presented in this case.

As previously discussed, Citizens' argument that the Agency failed to present proof of the Section 33(c) factors is not on point. The Agency has not claimed that the O & M failures created a water pollution nuisance. The Agency has claimed that Citizens violated two specifically articulated O & M standards of performance placed in Citizens' NPDES permit in 1975. The Section 33(c) factors are not a necessary element of proof for the Agency to establish a violation of those permit conditions.

The Board finds that Citizens was in violation of its NPDES permit conditions 3(a) and 3(d) regarding O & M, as previously noted. The Board today orders Citizens to cease and desist from such violations, and orders Citizens to pay a fine of $1,000.00. In reaching this determination the Board has considered each of the Section 33(c) factors. Concerning Section 33(c)(1) the Board finds the evidence inadequate to establish whether actual injury

to the health, welfare, or property of the people did occur. However, the O & M regulations are adopted to provide a level of protection above and beyond prevention of injury. Violation of the O & M regulations interferes with that protection. The 3600 fecal coliform value is suggestive of an actual threat to health and welfare. Concerning Section 33(c) (2) and (3), the Board finds that proper O & M increases the social and economic value of the pollution source as well as its suitability to the area. Conversely, improper O & M adversely affects those factors. Concerning Section 33(c)(4) the Board finds that proper O & M was a technical practicability and economically reasonable, in that all necessary parts and labor were available to remedy the problems. The only missing factors seem to have been incentive to know, to investigate, and to act.

Because of the pervasive nature of the O & M failures, the excessive delay in remedying the situation, and the failure to investigate and rectify on February 18, 1979, the Board imposes a fine of $1,000.00 to encourage future O & M compliance by Citizens and other NPDES permittes.

PROCEDURAL MATTERS

The Board finds that the rulings of the Hearing Officer were correct in all material aspects. The Agency could have alleged O & M violations prior to February 28, 1979, but did not do so. The Agency could have petitioned the Hearing Officer, in a timely manner, for leave to file an amended complaint to extend the time frame based on information revealed through discovery. Having failed to do so the Agency cannot now complain that information outside the time frame of the complaint was not admitted.

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

ORDER

1. The Board finds that Citizens Utilities Company of Illinois was in violation of Chapter 3, Water Pollution, Board Rules and Regulations, Rule 901 and the effluent limitations of NPDES permit IL0032727 during April, May, and June 1979.

2. The Board finds that Citizens Utilities Company of Illinois was in violation of Chapter 3, Water Pollution, Board Rules and Regulations, Rule 901 and conditions 3(a) and 3(d) of NPDES permit IL0032727 during February, March, April May, June and July, 1979.

3. Citizens Utilities Company of Illinois shall cease and desist from violations of conditions 3(a) and 3(d) of NPDES permit IL0032727.

4. Citizens Utilities Company of Illinois shall pay a penalty, for the violation noted in paragraph 2, in the amount of $1,000.00 within forty-five days of the date of this Order. Citizens Utilities Company of Illinois shall pay, by certified check or money order payable to the State of Illinois, the penalty of $1,000.00 which is to be sent to:

Illinois Environmental Protection Agency
Fiscal Services Division
2200 Churchill Road
Springfield, Illinois 62706.

IT IS SO ORDERED.

Board Chairman J. D. Dumelle concurred.

Board Member B. Forcade concurred.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order was adopted on the 12th day of January, 1984 by a vote of 7-0.

Christan L. Moffett, Clerk
Illinois Pollution Control Board