

ILLINOIS POLLUTION CONTROL BOARD
July 27, 1989

IN THE MATTER OF THE PETITION)
OF THE CITY OF HAVANA FOR A) R88-25
SITE-SPECIFIC RULE CHANGE TO THE)
COMBINED SEWER OVERFLOW)
REGULATIONS)

PROPOSED RULE. FIRST NOTICE.

OPINION AND ORDER OF THE BOARD (by M. Nardulli):

This matter comes before the Board from a September 1, 1988 petition for site-specific relief filed on behalf of the City of Havana (Havana). Havana is seeking regulatory relief for two locations from 35 Ill. Adm. Code Sections 306.305(a) and 306.306(c) which require all combined sewer overflows to be given sufficient treatment to meet applicable effluent standards for all dry weather flows and the first flush of storm flows as determined by the Agency by December 31, 1975.

The Board's CSO regulations are contained in 35 Ill. Adm. Code, Part 306. They were amended in R81-17, 51 PCB 383, March 24, 1983. Sections pertinent to the instant matter are Sections 306.305 and 306.361(a). Section 306.305 provides as follows:

All combined sewer overflows and treatment plant bypasses shall be given sufficient treatment to prevent pollution, or the violation of applicable water standards unless an exception has been granted by the Board pursuant to Subpart D.

Sufficient treatment shall consist of the following:

- a) All dry weather flows, and the first flush of storm flows as determined by the Agency, shall meet the applicable effluent standards; and
- b) Additional flows, as determined by the Agency but not less than ten times average dry weather flow for the design year, shall receive a minimum of primary treatment and disinfection with adequate retention time; and
- c) Flows in excess of those described in subsection (b) shall be treated, in whole or in part, to the extent necessary to prevent accumulations of sludge deposits, floating debris and solids in accordance with 35 Ill.

Adm. Code 302.203, and to prevent depression of oxygen levels; or

- d) Compliance with a treatment program authorized by the Board in an exception granted pursuant to Subpart D.

The following site-specific rule was proposed by the petitioner in its petition:

Section 306.503 Havana Site-Specific Discharges

The two discharges from the combined sewer system of the City of Havana, as described below, shall not be subject to the treatment requirements of Section 306.305(a) nor the compliance date of Section 306.306(c). The Washington Street discharge is located at the foot of Washington Street in the Northwest Quarter, Section 1, Township 21 North, Range 9 West of the Third Principal Meridian and can further be defined as being located at West 90°, 4 minutes 0 seconds longitude and North 40°, 17 minutes 55 seconds latitude. The Illinois Street discharge is located at the foot of Illinois Street in the Southwest Quarter, Section 1, Township 21 North, Range 9 West of the Third Principal Meridian and can further be defined as being located at North 40°, 17 minutes 35 seconds latitude and West 90°, 4 minutes 5 seconds longitude.

Hearing was held in this matter on November 30, 1988 in Havana, Mason County. At the hearing, two witnesses were called and were examined by representatives of Havana, the Illinois Environmental Protection Agency ("Agency") and the Department of Energy and Natural Resources ("DENR"). No members of the public were present at the hearing. On December 5, the City of Havana notified the Board that it did not intend to file post-hearing comments. The Agency filed its post-hearing comments on January 19, 1989. In its post-hearing comments the Agency states that Havana has several serious deficiencies in its petition and has not adequately explored alternative options and costs. Havana responded to the Agency's post-hearing comments on March 14, 1989 by submitting its engineering consultant's responses to the Agency's claims of deficiencies. The petitioner's response to the post-hearing comments of the Agency was admitted to the record of this case as public comment #2.

On December 27, 1988, DENR filed a negative declaration stating its determination that the preparation of a formal economic impact study was not necessary in this proceeding. The

negative declaration was based on DENR's finding that the net economic impact of the regulation was favorable and the costs of compliance are small or are borne entirely by the proponent of the regulation. Thus, DENR found that the cost of making a formal study is economically unreasonable in relation to the value of the study of the Board. After consideration of DENR's negative declaration, the Board issued an order on March 2, 1989 stating that an economic impact study was not necessary.

BACKGROUND

The City of Havana is located on the Illinois River approximately 40 miles downstream of the Peoria Lock and Dam. The city has a population of approximately 4300 people. The majority of Havana is served by a combined sewer system. There are no significant industrial discharges into the combined sewer system. The industries within Havana that produce industrial waste are presently processing and disposing of their own wastes.

Havana presently operates one wastewater treatment facility -- an activated sludge process with a rated capacity of 0.7 MGD and a peak capacity of 3.0 MGD. In addition to the main discharge at the treatment plant, there are four combined sewer overflow points in the collection system. Havana is currently authorized to discharge from the overflows under an NPDES permit. The wastewater treatment plant is currently in compliance with effluent limitations. The major needs to achieve compliance are related to the combined sewer overflows.

In the petition, the petitioner proposed a two-phase project to come into compliance. The actions to be taken under Phase I would be:

1. Permanently seal the Tremont Street overflow with concrete to eliminate overflows and prevent river backflow. This outlet was temporarily plugged throughout 1986 with no reported problems of sewer backups or basement flooding.
2. Remove the existing sanitary flow from the Market Street combined sewer by installing approximately 250 ft. of 8" sanitary sewer and new service connections. The Market Street overflow would then become strictly a storm sewer.
3. Submit site specific rule change request supported by the results of the river sediment study and the first flush study. It is anticipated that no additional improvements

will be required.

Phase 2 will include improvements as may be directed by the Illinois Pollution Control Board order in response to the site specific rule change request. If no site specific regulatory relief is granted by the Board, the Phase 2 improvements would call for the construction of off-line storage facilities at the Illinois and Washington Street overflow locations. Neither the Phase I nor Phase II changes are expected to impact treatment operation or plant capacity, but would bring them into compliance with the first flush requirements as well as the requirements for ten times the dry weather flow.

TECHNICAL FEASIBILITY AND ECONOMIC REASONABLENESS

Among the factors considered by the Board in reviewing a request for a site-specific rule is whether compliance with the general rule is technically feasible or economically reasonable. Central Illinois Light Company v. Illinois Pollution Control Board, 511 N.E. 2d 269, 271, 110 Ill. Dec. 434, 436 (1987), Proposed Amendments to 35 Ill. Adm. Code 212.209, Village of Winnetka Generating Station, R86-41 (November 3, 1988). The Board must also be convinced that the petitioner has evaluated other alternative compliance plans and that the proposal presented for consideration represents the best mode of compliance. Proposed Site Specific Rule Change for City of Mendota: 35 Ill. Adm. Code 306.304, R88-6 (April 6, 1989).

The engineering study presented by Havana does not claim that compliance with the general rule is not technically feasible. The study details a plan by which Havana could come into compliance. Therefore, technical feasibility is not at issue in this proceeding. Havana bases its argument for site-specific relief on the economic reasonableness of complying with the regulation. Havana argues that full compliance, as proposed in Phase 2, would cost over \$5.5 million or a total user charge of approximately \$41.45/month. Havana also relies on the Illinois State Water Survey at Havana to argue that the overflows have no detrimental environmental impact.

In 1986, Havana retained Randolph and Associates to prepare a Municipal Compliance Plan to investigate means by which Havana could achieve compliance with the regulations involving combined sewer discharges. Randolph and Associates also performed a first flush study to determine the quantity and composition of the combined sewer overflow discharges. Havana also commissioned the Illinois State Water Survey to assess the sediment conditions in the vicinity of the outfalls and to observe apparent impacts of overflows. The alternatives for compliance considered by the city included partial separation, peak storage at the plant and full compliance. The partial separation was included in Phase I

to the extent that was considered practical. Because of the large first flush flowrates and volumes, it was not considered reasonable to transport all of these flows directly to the plant for treatment. The engineers determined that the most cost effective approach for achieving full compliance would be to provide storage for the first flush volumes and ten times the dry weather flow at each overflow location.

Havana's plan for full compliance would require the construction of off-line storage facilities at the Washington and Illinois Streets overflow locations. Havana's engineers determined that the Washington Street overflow would require 272,000 cubic feet of storage and 95,000 cubic feet of storage would be required at Illinois Street. Based on the cost of similar projects, the engineers determined that the construction of the collection system would cost approximately four millions dollars. The total construction cost, including engineering, land acquisition and unspecified contingencies, would be approximately \$5.6 million. As a result, full compliance would result in a total user charge of about \$41.50 per month.

The medium annual household income in Havana is \$14,561. The petitioner cites an Agency affordability range of \$18 to \$24 per month for a user in a community with this level of medium annual household income. Consequently, Havana argues achieving full compliance does not appear feasible. Havana also states that the project would require all of the city's available funds and all of its practical debt allowance, restraining the city's ability to issue debt for any other improvements. At hearing, representatives from Havana stated that only about \$300,000 would be available from the State for the required improvements (R. 25). In its post-hearing comments, the Agency clarified the issue of funding by stating that a grant of approximately \$225,000 would be available to Havana.

The city also maintains that requiring full compliance with the regulations is unreasonable because the detrimental environmental impact, as a result of the discharges, is minimal. The engineering study estimated that the annual overflow volume would be approximately 1.515 million cubic feet at Illinois Street and 4.527 million cubic feet at Washington Street. The engineers collected overflow samples in Havana during storms on September 11 and September 26, 1986. The analysis of these samples showed that only one sample had a BOD concentration above the normal dry weather base of 160 mg/l. However, a number of suspended solid level values were above the base level of 190 mg/l.

To confirm its belief that the level of discharges from the overflows was not detrimental to the environment, Havana commissioned a study to assess the Illinois River bottom sediments in the vicinity of Havana's combined sewer overflows. The Illinois State Water Survey Division of the DENR, in

cooperation with Randolph and Associates, collected and examined core and dredge samples from the area of the overflows on August 1, 4, 5 and 26, 1986. Persistent wet weather preceded the sampling and sufficient rainfall occurred during the early morning hours of August 4 to cause the Washington Street outfall to overflow during a short period of sampling. The study states that none of the core or dredge samples displayed a sewage or sewage-like odor. The study made the following conclusions:

1. Discharges from the combined sewer overflows at Havana do not appear to be creating either short-term or long-term sediment pollution problems. The bay-like area which historically received small discharges from the Tremont Street overflow is experiencing rapid siltation, but deep core samples taken in the area show no traces of sewage sludge or sewage-contaminated sediments. The sediment in the riverine areas around and below the Market, Washington, and Illinois Street outfalls consists of relatively clean sand and coarse material which show no evidence of sewage pollution.
2. Some sediments in areas around the Washington Street overflow exhibit organic contamination other than that originating from sewage discharges. A grain elevator and grain-loading facilities are centered around this outfall. Grain from spillage appears to settle to the bottom, raising the organic content of the sediments and causing relatively high sediment oxygen demand rates.
3. At no time during a study visit were aesthetic problems observed around any of the outfalls. No observations were made of accumulations of combined sewage overflow trash ... which are commonly observed on shores when CSO's chronically discharge above the water's edge, as do those at Tremont and Washington Streets.

Based on these studies, Havana argues that a site-specific rule should be granted not only because the cost of compliance is excessive but because it is unreasonable to require the expenditure of the money needed for full compliance when there is little evidence of detrimental environmental impact.

In its post-hearing comments, the Agency states that Havana has several serious deficiencies in its petition and has not adequately explored alternative options and costs. The engineers

for Havana responded to each of the Agency's point in its response to the Agency's comments. Each comment and its corresponding response it presented to illustrate the sufficiencies of the petition:

Comment

1. Havana has asked that the proposed regulatory relief be considered under the criteria for a Combined Sewer Overflow exception petition, as in 35 Ill. Adm. Code Part 306, Subpart D. An Agency review of such criteria indicates the following deficiencies in the petition:
 - a. The frequency and extent of overflows for the CSO's at Illinois and Washington Streets are not adequately documented. It would be helpful if the City could provide the estimated yearly occurrence and associated volumes of overflows at the Illinois and Washington Street outfalls. This information will also allow receiving stream ratios to be calculated.
 - b. Accessibility to the river and side land use activities have not been adequately explored. The Agency is particularly concerned about the CSO on Illinois Street. There is a boating dock directly over this outfall (Tr. 29-30). A visit to the outfall location by Agency personnel suggests that picnicing activities may be common in this area during summer months. The Agency would like the City to address this issue before the record closes.

Response

- 1a. The frequency and extent of overflows at Illinois and Washington Streets were presented in detail in EXHIBIT 2 of the petition. Specifically, on pp.8 and 9 of EXHIBIT 2, the volumes and frequency of overflows at each location were documented. Approximate receiving stream dilution ratios may be determined by comparing the river flow rate with the overflow rates. In Section 4.0 of the petition, the 7-day, 10-year low flow for the Illinois River of Havana is estimated to

be 3125 cfs. From Figure 3-2 of EXHIBIT 2, the peak overflow rate is approximately 38 cfs at Illinois Street and 53 cfs at Washington Street, for a total of 91 cfs. This results in a dilution ratio of at least 34 to 1 during the lowest river flows.

- 1b. Adjacent land uses were presented in Figure 2 of the petition and photographs of the outfall areas were included on pp. 18-19 of Appendix C of EXHIBIT 2. Although access to the river does exist at the boat dock on Illinois Street, public use activities are virtually non-existent during overflow events. There has been no evidence of public health problem due to this situation.

Comment

2. The Agency would also like the City to indicate whether the proposed separation projects in the Market and Jefferson Street areas will affect the frequency and volumes of the Illinois and Washington Street overflows.

Response

2. The proposed sewer separation in the vicinity of Market and Jefferson Streets will have a small beneficial effect on overflows at Washington Street and no effect on overflows at Illinois Street. Flows in the Market/Jefferson Street area are pumped by the Jefferson Street lift station up to the Washington Street lift station. Following completion of the separation project, there will be less flow entering the Jefferson Street pump station during storms, allowing some additional capacity for pumping combined sewer flows at Washington Street. Since the Jefferson Street lift station flows are just a small fraction of total flows at Washington Street, the proposed separation will not substantially change the frequency and volume of overflows at Washington.

Comment

3. The record contains very little information on the cost of partial compliance alternatives. The only alternative seriously explored seems

to be the full compliance alternative. However, the cost of this alternative has not been fully investigated (Tr. 30-31).

Response

3. The costs of two intermediate levels of compliance identified as Alternative B and C were presented in Section 3.4 of the petition. Alternative B is the proposed separation project on Market Street and Alternative C is peak flow storage at the plant, discussed in detail on p. 18 of EXHIBIT 2. More detailed designs and cost estimates for partial or full compliance alternatives are obviated by the lack of significant impacts on the receiving stream.

Comment

4. The issue of funding arose during the hearing (Tr. 35-27). The Director of the Agency states that the City is eligible for a \$224,849 [70% of \$321,200] grant.

Response

4. The City is aware of possible grant funding for CSO improvements, but recognizes that any additional modifications will also require local expenditures. Since the potential benefits of further improvements is very small, these grant dollars could be better utilized for other projects where greater benefits to the receiving stream would result.

The Board notes that IT found no information concerning the project for which funding was approved. No project with a cost of \$321,200 was presented by the petitioner as part of this proceeding. The Board would appreciate clarification of this point through comments presented during the First Notice comment period.

DECISION

Based on the record, the Board finds that the petitioner has made a sufficient showing of economic unreasonableness to allow the proposed site-specific rule to go to First Notice. In light of the large expenditure required to eliminate the discharges with respect to the detrimental effect the discharges appear to

have on Illinois' waterways, compliance with the general rule appears economically unreasonable. The Agency's comments have been addressed by the petitioner and are not sufficient to keep the rulemaking from proceeding. The Board is unaware of any more reasonable alternative available to Havana or of any evidence of greater environmental impact of the discharges. If such information is available, the comment period during First Notice will allow an opportunity for this information to be presented.

During the First Notice comment period the Board would appreciate additional information from the Agency and the general public on the following items:

1. Evidence of the detrimental environmental impact the overflows from Havana's combined sewer system have on the Illinois River including sediment analysis, biological surveys and chemical analyses.
2. Alternative methods of compliance with Section 306.305(a) and 306.306(c) that are available to Havana but have not been evaluated. Also, information on methods of practical compliance that would allow Havana to eliminate some portions of its violations in an economically reasonable manner.
3. Actions or reporting requirements that should be imposed on Havana as conditions of the granting of the site-specific sale. In the granting of exceptions to the rules under similar circumstances, the Board has required the petitioner to raise overflow sewers, improve sewer maintenance, increase street cleaning, screen overflows and other items it felt would reduce the impact of the exception. The Board anticipates imposing the same type of conditions in this matter and would appreciate information concerning which actions would be effective.

The Board also wishes to note early in this rulemaking process that if the site-specific rule is adopted it does not bar or prejudice the Agency from requiring further reductions or elimination of discharges if unacceptable impact is shown or if new technology becomes available. To clarify this fact in the rule, the Board is proposing the addition of the following language in the text of the rule:

This site specific rule does not preclude the Agency from exercising its authority to require as a permit condition a CSO monitoring program sufficient to assess compliance with this rule and any other Board regulations and other controls, if needed, for compliance, including compliance with water quality standards. Further, this site specific rule is not to be construed as affecting the enforceability of any

provisions of this rule, other Board regulations, or the Environmental Protection Act.

Similar language has historically been made a part of the order in a grant of exception to the combined sewer overflow regulations, because of the Board's concern that the party granted the exception would incorrectly ascertain that the exception precluded such actions. However, the Board has not used this language in previous site-specific rules. The Board would appreciate comments from the Agency and the general public as to whether this language is necessary in the rule or whether it should be assumed that a person reading the rule understands it must be read in conjunction with the Board's other regulations.

ORDER

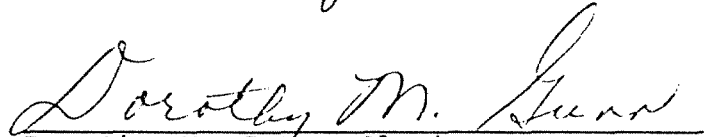
The Board hereby proposes the following amendment to 35 Ill. Adm. Code Section 306. The Board directs the Clerk of the Board to submit the amendment to the Secretary of State Office for First Notice publication.

Section 306.503 Havana Site-Specific Discharges

The two discharges from the combined sewer system of the City of Havana, as described below, shall not be subject to the treatment requirements of Section 306.305(a) nor the compliance date of Section 306.306(c). The Washington Street discharge is located at the foot of Washington Street in the Northwest Quarter, Section 1, Township 21 North, Range 9 West of the Third Principal Meridian and can further be defined as being located at West 90°, 4 minutes 0 seconds longitude and North 40°, 17 minutes 55 seconds latitude. The Illinois Street discharge is located at the foot of Illinois Street in the Southwest Quarter, Section 1, Township 21 North, Range 9 West of the Third Principal Meridian and can further be defined as being located at North 40°, 17 minutes 35 seconds latitude and West 90°, 4 minutes 5 seconds longitude. This site-specific rule does not preclude the Agency from exercising its authority to require as a permit condition a CSO monitoring program sufficient to assess compliance with this rule and any other Board regulations and other controls, if needed, for compliance, including compliance with water quality standards. Further, this site-specific rule is not to be construed as affecting the enforceability of any provisions of this rule, other Board regulations, or the Environmental Protection Act.

IT IS SO ORDERED.

I, Dorothy M Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order was adopted on the 27th day of July, 1988, by a vote of 6-0.


Dorothy M. Gunn, Clerk,
Illinois Pollution Control Board