

ILLINOIS POLLUTION CONTROL BOARD
July 23, 1981

CITY OF ROCK ISLAND,)
)
) Petitioner,)
)
) v.) PCB 80-212
)
 ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,)
)
) Respondent.)

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

This matter comes before the Board upon the petition for variance filed by the City of Rock Island (City) November 17, 1980 as amended February 19, 1981. Variance is sought from Rule 601(a) and 602(b) of Chapter 3: Water Pollution (Chapter 3) in relation to certain surcharging sewers, lift station overflow events, and an emergency drain system. Relief is also sought from Rule 501(c) of Chapter 3 as it relates to sampling of fecal coliform and chlorine residual. The Illinois Environmental Protection Agency (Agency) recommends that variance be granted in part and denied in part in its filings of January 26 and March 19, 1981. Hearing was waived and none has been held.

The City of Rock Island, Rock Island County, owns and operates two sewage treatment plants. The Main plant and its tributary sewer system is the subject of this petition. Of the approximately 170 miles of sewer in the Main plant service area, it is estimated that 40% consists of combined sewers and 60% separate sanitary and storm sewers. Two combined interceptor sewers deliver flows to the Main plant; specifically, the problems related to the South Slope Interceptor are the concerns of this petition.

Surcharging Sewers

One of the lift stations pumping into the South Slope Interceptor is the Blackhawk State Park Lift Station. Three man-holes along the 30 inch gravity sewer immediately upstream of this lift station surcharge ordinary domestic sewage during wet weather periods. The north manhole overflows first and most frequently, the west* manhole overflows less frequently, during extremely severe thunderstorms, and the middle manhole overflows infrequently.

*The November 17 petition referred to this as the "south" manhole, the February 19 petition referred to this as the "west" manhole, and the Agency referred to this as the "downstream" manhole.

(The Agency estimates that surcharge incidents occur approximately 6-8 times a year). The north and middle manholes are located immediately adjacent to a creek flowing into the Rock River, so that overflows "would probably flow directly into the creek". The west manhole is located approximately 80 feet from the creek, and as the area surrounding the manhole is mostly flat ground with uncut swamp grass and depressed areas, it is likely that overflow would pond and hold sewage solids in the vicinity of this manhole.

The City alleges that the 40 year old, 30 inch gravity sewer on which these manholes are located is subject to unusually high infiltration and inflow, as it passes under the creek and through "swampy-like draw areas". This 30-inch sewer discharges to the lift station, which in turn discharges through a 12-inch forcemain to a 30-inch sanitary sewer downstream.

The Park lift station, installed in 1970, is equipped with two pumps with a pumping capacity of 2250 gallons per minute. The pumps were designed to operate at variable speeds, but have not due to gear failure, which is the subject of a dispute between the City and the pumps' manufacturer.

The City believes that these overflow problems will be corrected upon completion of a \$7.5 to \$8 million sewer and plant rehabilitation project, for which the City has begun planning with the assistance of Step 1 federal construction grant funding. However, the City states that it does not have the financial capability of completing this project without the assistance of federal or state grant assistance.

The Agency reports that given the City's current project Priority Number 1054, Steps 2 and 3 funding are presently unavailable. During the pendency of this petition for variance, the Agency and the City's consulting engineer have discussed means by which the surcharge problem could be mitigated short of the above-described construction project. The Agency recommends that variance with several conditions be granted until December 31, 1983, the date scheduled for Agency approval of the City's Step 1 facilities plan. The first is that the west manhole be raised, and that if surcharging still occurs, that the City initiate and continue a program of filling, grading, mowing and cleaning the area surrounding the manhole. Concerning the lift station itself, it is suggested that siphon bar screens be cleaned daily, flow measuring equipment be installed, and that the pumps be tested for capacity.

The Board finds that denial of variance, and the resulting major financial compliance burden would impose an arbitrary or unreasonable hardship on the City. Variance from Rules 601(a) and 602(b) is granted. As the measures suggested by the Agency and the City seem reasonably calculated to control the number and effects of surcharge events, they are included as conditions in the attached Order.

30th Street Lift Station Overflow

The 30th Street Lift Station, one of three tributary to the South Slope Interceptor, overflows approximately 3 or 4 times a year as a result of power failures and/or pump malfunctions. The high level overflow line discharges sewage into an 18-inch sewer tributary to the Rock River. The station has a high water alarm system, but no standby facilities for emergency pumping or storage/detention.

The City has rejected the option of simply plugging the overflow line, as it believes that such action could result in basement backup problems. The other option would be use of portable pumping equipment, which the City has on hand, after installation of a forcemain riser with a quick connect coupling and appropriate valving. Cost of implementing this option would be \$4,200, with \$800 to be added for grant application work. The City would plan to include this work in the aforementioned major rehabilitation package, or to apply for a separate grant in 1981.

The Agency observes that it has not approved funding for this minor project, and speculates that even if approval had been obtained, funds could be unavailable for an indefinite period. As the cost of this project is relatively minor, and the City has not alleged financial inability to complete it, the Agency believes that variance should be denied.

The Board notes that the Agency's initial Recommendation of January 26 suggested denial of variance on the above grounds, and also that the City did not address this issue in its amended petition of February 19. Under these circumstances, variance from Rules 601(a) and 602(b) is denied for failure to prove that the burden of compliance rises to the level of imposing an arbitrary or unreasonable hardship.

STP Drainage System

The City seeks variance for use of a 12-inch "emergency" drain to accept raw plant sewage from a grit chamber and partially treated (30% reduction) effluent from the primary tanks. This drain would be used during shut downs of the grit chamber or primary settling tanks for maintenance, as a replacement for 2 6-inch drains which are being plugged. This drain would discharge into the plant's effluent box (outfall sewer) discharging into the Mississippi River.

Eventual compliance will involve pumping the drained sewage back to the head of the treatment process, and plugging of the drain. Cost of this option includes \$9,100 for a pump, \$1400 in fees for engineering and drain plugging, and \$500 for grant application work. Again, the City would prefer to include this in the major work package, or to apply for separate grant funding.

The Agency recommends denial for much the same reasons given relative to the 30th Street Station. As the City has a portable pump on hand, and since maintenance can be scheduled to some extent, the Agency believes purchase of a new pump may not be necessary.

The Board agrees with the Agency's conclusion, to which the City in this instance also made no objection. Variance from Rules 601(a) and 602(b) is denied, for failure to prove an arbitrary or unreasonable hardship.

Fecal Coliform and Chlorine Residual Monitoring and Sampling

Variance is lastly sought from Rule 501(c), which requires NPDES permit holders to monitor and sample effluent in accordance with schedules established by the Agency and included in the permit. The City's permit requires it to monitor chlorine residual by means of daily grab samples, and fecal coliform by means of grab samples taken five times per week.

The City's sampling point for these two parameters is located 500 feet from the head of the aforementioned plant effluent box or outfall sewer, which extends for another 300 feet before its discharge into the Mississippi River. During high river stages, the sewer is surcharged, with the result that the required, representative grab samples cannot be taken. Such stages usually occur in the spring, although samples also could not be taken on many days in June and September, 1980.

Although the City has not estimated the costs of compliance, the Agency recommends grant of variance. It believes that immediate compliance would involve substantial modifications to the plant, including installation of a new chlorinator. The Agency further remarks that should the Board delete the Rule 405 fecal coliform limitation as proposed in the still-pending R77-12, Docket D proceeding, sampling for the chlorine residual and fecal coliform Count would no longer be required. It is therefore recommended that variance be granted for five years or until the Board reaches a decision in R77-12, Docket D, whichever occurs first.

The Agency correctly notes that mere pendency of the R77-12, Docket D proceeding is, alone, insufficient support for grant of variance. The Board finds that the petition, read as a whole, provides sufficient information concerning financial hardship to justify variance from Rule 501(c), particularly given the Board's denial of variance as related to the 30th Street Station and the STP drainage system. For the administrative convenience of all parties, variance is granted until December 31, 1983 or until decision is reached in R77-12, Docket D, whichever first occurs.

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

ORDER

1. Petitioner, the City of Rock Island is hereby granted variance from Rules 601(a) and 602(b) of Chapter 3: Water Pollution, as they relate to surcharging of sewers in Blackhawk State Park, until December 31, 1983, subject to the following conditions:

a. Within 45 days of the date of this Order, Petitioner shall raise the west manhole.

b. If this raised manhole overflows at any time during the period of this variance, Petitioner shall immediately begin a program of filling, grading, mowing and cleaning the affected area. These landscaping measures shall be maintained for the duration of the variance period.

c. Petitioner shall clean the siphon bar screens daily, bring the screenings to ground surface and dispose of them properly.

d. Petitioner shall make all reasonable efforts to obtain the repair or replacement of the pumps at the Blackhawk State Park lift station, so as to obtain a variable speed drive system.

e. Petitioner shall provide flow measuring equipment at the Blackhawk State Park lift station. This includes, at a minimum, pump time clocks.

f. Petitioner shall promptly perform a pump test at the Blackhawk State Park lift station in order to determine the present capacity of the pumps and shall study whether increasing the hydraulic capacity would be feasible and cost effective. The results of this test and study shall be reported to the Agency at the address given in (g), below.

g. Petitioner shall report to the Agency in writing each time an overflow event occurs. The report shall include, at a minimum: date(s), duration, amount (if possible), impact of the event, and specific man-holes overflowing. If the overflow is from the raised manhole, Petitioner should also include in this report a description of the measures taken to clean up the overflow. Notice shall be sent to the following address within five days of the event:

Illinois Environmental Protection Agency
Division of Water Pollution Control
Compliance Assurance Section
2200 Churchill Road
Springfield, Illinois 62706

2. Petitioner is also granted variance from Rule 501(c) of Chapter 3 as it relates to chlorine residual and fecal coliform monitoring and reporting schedules contained in its NPDES permit. This variance shall terminate on December 31, 1983 or on the date of the Board's final decision in R77-12, Docket D, whichever first occurs.

3. Variance from Rules 601(a) and 602(b) of Chapter 3 are denied as they relate to overflows from the 30th Street Lift Station and a proposed "emergency" drain for the Main treatment plant.

4. Within forty-five days of the date of this Order, Petitioner shall execute and forward to the Illinois Environmental Protection Agency, Enforcement Programs, 2200 Churchill Road, Springfield, Illinois 62706, a Certificate of Acceptance and Agreement to be bound to all terms and conditions of this variance. This forty-five day period shall be held in abeyance for any period this matter is being appealed. The form of certificate shall be as follows:

CERTIFICATE

I, (We), _____, having read the Order of the Illinois Pollution Control Board in PCB 80-212, dated _____, understand and accept the said Order, realizing that such acceptance renders all terms and conditions thereto binding and enforceable.

Petitioner

By: Authorized Agent

Title

Date

IT IS SO ORDERED.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order was adopted on the 23rd day of July, 1981 by a vote of 5-0.

Christan L. Moffett
Christan L. Moffett, Clerk
Illinois Pollution Control Board