

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

December 21, 2005

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DEC 27 2005

STATE OF ILLINOIS
Pollution Control Board

Salt Creek Sanitary District)
)
)
Petitioner,)
)
v.)
)
ILLINOIS ENVIRONMENTAL)
PROTECTION AGENCY,)
)
Respondent.)

IEPA - 06-~~10~~⁶
(Provisional Variance-Water)

Re: Provisional Variance From Limits on Monthly Averages and Daily
Maximums for Total Suspended Solids and CBOD₅ of NPDES Permit
IL0030953

Dear Mr. Halm:

The Illinois Environmental Protection Agency (Agency) has completed its technical review of the attached provisional variance requests submitted by Salt Creek Sanitary District (District) on December 1, 2005, and December 21, 2005 (Attachment A)¹. The District is in the process of improving its facility's treatment capabilities with respect to nitrification. It is requesting this provisional variance so that it can complete the tertiary building modifications--the final step in the project. Based on its review, the Agency GRANTS a provisional variance subject to the specific conditions set forth below.

Background

The District is located at 210 S. Route 83, in Villa Park, DuPage County, Illinois. The District operates an activated sludge treatment facility with primary, secondary, and tertiary treatment. It services the Village of Villa Park, with an estimated population of 23,000 people. The District discharges to Salt Creek, which is a tributary to the Des Plaines River.

Treatment consists of screening, preaeration, primary clarification, aeration, final clarification, filtration, ultra violet (UV) disinfection, anaerobic digestion and sludge

¹ In the letter dated December 1, 2005, the District requested that the provisional variance start on December 22, 2005; the District requested an earlier start date of December 21, 2005, in its December 21, 2005 letter.

dewatering/application. The design average flow for the facility is 3.3 million gallons per day (MGD); the design maximum flow for the facility is 8.0 MGD. (Attachment B)

The District is completing its 2004 Improvements Project (Project) to improve the treatment capabilities of the plant that relate to nitrification. The Project includes the construction of three new aeration tanks; return activated sludge pumps and a slipstream waste activated sludge pipe in the Secondary Control Building; two center feed, peripheral take-off, circular clarifiers; pumps that deliver final clarifier effluent (FCE) to the tertiary filters or to the UV disinfection system; and two motor operated valves on the FCE forcemain in the Secondary Control Building. One valve leads to the UV disinfection system, the other to the tertiary filters.

To complete the Project, the District must construct a new connection between the tertiary filters and the UV disinfection system. This will require taking the tertiary filters out of service, and directing the clarifier effluent to the UV disinfection system. During this time, the District anticipates that it will exceed its daily maximum permit limits for total suspended solids and CBOD₅. Once the connection is completed, the filters will immediately be brought back into service.

Relief Requested

The District requests a provisional variance from the permit limits contained in NPDES permit IL0030953 for both total suspended solids and CBOD₅. (Attachment B) Specifically, the District requests a provisional variance from the daily maximum limits of 24 mg/l for total suspended solids and 20 mg/l for CBOD₅. The District further requests that the provisional variance begin on Thursday, December 21, and run for at most 45 days. To mitigate the possibility of high flows causing a filter upset and excursion, the work requiring a provisional variance was scheduled during the winter months.

Agency Determinations

The Agency has reviewed the requested provisional variance and has concluded the following:

1. The environmental impact from the requested relief is predicted to be minimal;
2. No other reasonable alternatives appear available;
3. No public water supplies will be affected;
4. No federal regulations will preclude the granting of this request; and
5. The District will face an arbitrary and unreasonable hardship if the request is not granted.

Special Conditions

The Agency hereby GRANTS the District a provisional variance from the daily maximum permit limits for total suspended solids and CBOD₅ of NPDES Permit IL0030953, subject to the following conditions:

- A. The provisional variance shall begin on Wednesday, December 21, 2005, and end no later than Saturday, February 4, 2006, during which time the District can exceed the daily maximum permit limits of 24 mg/l for total suspended solids, 20 mg/l for CBOD₅.
- B. The District shall operate its system to produce the best effluent possible, and at no time shall the District exceed a daily maximum limit of 35 mg/l for total suspended solids and a daily maximum limit of 30 mg/l for CBOD₅.
- C. The District shall notify Roger Callaway of the Agency by telephone at 217/782-9720 when the tertiary filters are taken out of service and again when the filters are brought back into service. Written confirmation of each notice shall be sent within five days to the following address:

Illinois Environmental Protection Agency
Bureau of Water - Water Pollution Control
Attention: Roger Callaway
1021 North Grand Avenue East, MC #19
Springfield, Illinois 62794-9276

- D. The District shall sign a certificate of acceptance of this provisional variance and forward that certificate to Roger Callaway at the address indicated above within one day of the date of this order. The certification should take the following form:

I (We) _____, hereby accept and agree to be bound by all terms and conditions of the provisional variance granted by the Agency in _____ dated _____.

Petitioner

Authorized Agent

Title

Date

The District shall continue to monitor and maintain compliance with all other parameters and conditions specified in its NPDES Permit No. IL0030953.

Conclusion

The Agency grants this provisional variance in accordance with its authority contained in Sections 35(b), 36 (c), and 37(b) of the Illinois Environmental Protection Act (415 ILCS 5/35(b), 36(c), and 37(b) (2004). The decision to grant this provisional variance is not intended to address compliance with any other applicable laws or regulations.

Sincerely,



Robert A. Messina
Chief Legal Counsel

c: Marcia Willhite
Roger Callaway
Vera Herst

Attachment A

WALTER E. DEUCHLER ASSOCIATES INC.

Consulting Engineers

230 WOODLAWN AVENUE • TELEPHONE (630) 897-4631 • FAX (630) 897-5696
AURORA, ILLINOIS 60506

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December 1, 2005

Mr. Roger Calloway
Illinois Environmental Protection Agency
Bureau of Water
1021 N. Grand Ave. East
Springfield, IL 62794-9276

Environmental Protection Agency
STATE OF ILLINOIS

VIA FACSIMILE

**RE: Salt Creek Sanitary District Plant Improvements
Request for Provisional Variance-R2
IEPA Loan #L17 21780**

Dear Roger:

Per our conversation today, Walter E. Deuchler Associates, Inc. has revised the request for provisional variance submitted on behalf of the Salt Creek Sanitary District (District). The request has been made in accordance with Title 35: Subtitle A: Chapter II: Part 180.

BACKGROUND

The Salt Creek Sanitary District awarded a contract to IHC Construction Companies, LLC on May 17, 2004. The Final Completion date for the project is March 4, 2006. The project has been funded with a State Revolving Loan, #L1721780.

As part of the project, there were 3 new aeration tanks constructed north of the existing aeration tanks. Each new aeration tank is 85 feet long, 20 feet wide and 14.75 feet deep. The total volume under aeration is 207,975 ft.³, 1.56 MG. The load on the aeration system will be 14.5 lbs. BOD₅/1000 ft.³, and the HRT is 11.70 hours. RAS pumps and a slipstream WAS pipe has been

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provided in the Secondary Control Building.

Two center feed, peripheral take-off, circular clarifiers 75 feet in diameter have been provided. The clarifiers will have one unitube multiport suction header.

Pumps have been provided to deliver final clarifier effluent (FCE) to the tertiary filters or to the UV system. Two motor operated valves on the FCE forcemain have been provided in the Secondary Control Building. One valve leads to the UV and one valve leads to the tertiary filters.

A connection needs to be made between the tertiary filter effluent and the UV disinfection structure. In order to accomplish this, the tertiary filters must be taken out of service for a period not exceeding 45 day. During this time, the filters will be bypassed and final clarifier effluent will be directed to the UV system. The District would like the variance to begin on December 27, 2005.

REQUEST FOR VARIANCE

The discussion below follows the "thirteen points" listed in Section 180.102

- 1) The Salt Creek Sanitary District requests a provisional variance from NPDES permit IL0030953: Suspended Solids, monthly average 12 mg/l, daily maximum 24 mg/l; CBOD₅, monthly average 10 mg/l, daily maximum 20 mg/l. We anticipate during the provisional variance period to have daily maximums slightly above permitted concentrations.

The requested daily maximum concentration limits during the variance period are: 35 mg/l suspended solids, and 30 mg/l CBOD₅.

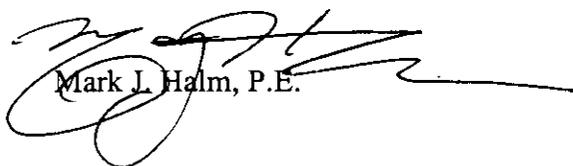
- 2) The 2004 Improvements project described above is currently under construction, IEPA Permit No. 2003-AB-4982. The project is complete with the exception of the tertiary filter building modifications. The project was undertaken by the District to improve the treatment capabilities of the plant specifically related to nitrification. As described above, at this point

in construction, the tertiary filters must be taken off-line, so that a new connection may be made between the filter building and the new UV disinfection system.

- 3) Not applicable.
- 4) The discharge will have minimal environmental impact on the receiving stream, Salt Creek. The concentration of CBOD₅, and SS during this period will be readily assimilated in the stream.
- 5) If the variance were not granted, the District would not be able to make the necessary connections and as a result would not be able to bring the filters back on-line.
- 6) After the necessary connection is made, the filters will immediately be brought back in service.
- 7) Alternatives to the provisional variance were evaluated in the field with the District manager, the mechanical contractor, resident engineer and consulting engineer. The remainder of the project is almost complete. This was scheduled in the winter to mitigate the possibility of high flows causing a filter upset and excursion.
- 8) The variance is requested for a period of 45 days.
- 9) One other variance was granted to the District this calendar year.
- 10) The District's NPDES permit is current.
- 11) The District does not have any other "actions" pending before the Illinois Pollution Control Board.

Very truly yours,

WALTER E. DEUCHLER ASSOCIATES, INC.


Mark J. Halm, P.E.

Encl.

cc: Mr. Robert Sanguinetti, IHC
Mr. Jeff Maly, IHC
Mr. Fred Dale, SCSD

WALTER E. DEUCHLER ASSOCIATES INC.*Consulting Engineers*

230 WOODLAWN AVENUE • TELEPHONE (630) 897-4651 • FAX (630) 897-5696

AURORA, ILLINOIS 60506

December 21, 2005

Mr. Roger Calloway
Illinois Environmental Protection Agency
Bureau of Water
1021 N. Grand Ave. East
Springfield, IL 62794-9276

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STATE OF ILLINOIS

VIA FACSIMILE

**RE: Salt Creek Sanitary District Plant Improvements
Request for Provisional Variance-R2
IEPA Loan #L17 21780**

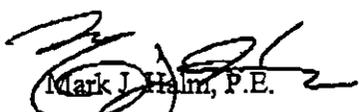
Dear Roger:

Walter E. Deuchler Associates, Inc. on behalf of the Salt Creek Sanitary District (SCSD) is requesting the provisional variance requested in our December 1, 2005 letter to begin on Wednesday December 21, 2005 rather than December 27, 2005.

As you discussed today with Mr. Fred Dale, Manager of SCSD, the SCSD is also requesting a provisional variance from NPDES permit IL0030953: Ammonia Nitrogen as (N), monthly average 2.5 mg/l, weekly average 6.3 mg/l and daily maximum of 8.0 mg/l. We anticipate during the provisional variance period to have daily maximum Ammonia Nitrogen as (N) discharges of 15.0 mg/l.

Very truly yours,

WALTER E. DEUCHLER ASSOCIATES, INC.


Mark J. Halm, P.E.

cc: Mr. Fred Dale, Manager SCSD

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- Design and Construction
- Project Financing

Attachment B

NPDES Permit No. IL0030953

SCREENEDEffluent Limitations, Monitoring, and Reporting

FINAL

Discharge Number(s) and Name(s): 001 Main Outfall & 002 Sand filter Bypass

Load limits computed based on a design average flow (DAF) of 3.3 MGD (design maximum flow (DMF) of 8.0 MGD).

Excess flow facilities (if applicable) shall not be utilized until the main treatment facility is receiving its maximum practical flow.

From the effective date of this Permit until the expiration date, the effluent of the above discharge(s) shall be monitored and limited at all times as follows:

Parameter	LOAD LIMITS lbs/day DAF (DMF)*			CONCENTRATION LIMITS MG/L			Sample Frequency	Sample Type
	Monthly Average	Weekly Average	Daily Maximum	Monthly Average	Weekly Average	Daily Maximum		
Flow (MGD)							Continuous	
CBOD ₅ **	275 (667)		550 (1334)	10		20	3 days/week	Composite
Suspended Solids	330 (801)		661 (1601)	12		24	3 days/week	Composite
pH	Shall be in the range of 6 to 9 Standard Units						3 days/week	Grab
Fecal Coliform***	Daily Maximum shall not exceed 400 per 100 mL (May through October)						3 days/week	Grab
Chlorine Residual***						0.05	3 days/week	Grab
Ammonia Nitrogen as (N)								
April-May/Sept.-Oct.	41 (100)	--	83 (200)	1.5	--	3.0	3 days/week	Composite
June-August	41 (100)	--	83 (200)	1.5	--	3.0	3 days/week	Composite
Nov.-Feb.	110 (267)	--	220 (534)	4.0	--	8.0	3 days/week	Composite
March	69 (167)	173 (420)	220 (534)	2.5	6.3	8.0	3 days/week	Composite
Nickel****	0.61 (1.5)			0.022			1 day/week	Composite

*Load limits based on design maximum flow shall apply only when flow exceeds design average flow.

**Carbonaceous BOD₅ (CBOD₅) testing shall be in accordance with 40 CFR 136.

***See Special Condition 7.

****See Special Condition 15.

Flow shall be reported on the Discharge Monitoring Report (DMR) as monthly average and daily maximum.

Fecal Coliform shall be reported on the eh DMR as daily maximum.

pH shall be reported on the DMR as a minimum and a maximum.

Chlorine Residual shall be reported on DMR as daily maximum.



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 - (217) 782-3397
JAMES R. THOMPSON CENTER, 100 WEST RANDOLPH, SUITE 11-300, CHICAGO, IL 60601 - (312) 814-6026

ROD R. BLAGOJEVICH, GOVERNOR

DOUGLAS P. SCOTT, DIRECTOR

(217) 782-5544
TDD: (217) 782-9143

December 22, 2005

Dorothy Gunn, Clerk
Pollution Control Board
100 West Randolph Street
Suite 11-500
Chicago, IL 60601

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STATE OF ILLINOIS
Pollution Control Board

**RE: NOTICE OF PROVISIONAL VARIANCE APPROVAL
IEPA-06-10**

Dear Ms. Gunn:

Pursuant to Subsection 37(b) of the Environmental Protection Act (415 ILCS 5/37(b)), attached is a copy of the Illinois EPA's recent approval of a request for provisional variance. As you know, the Board must maintain for public inspection copies of all provisional variances filed with it by the Illinois EPA. Please feel free to call me at the number referenced above should you have any questions.

Sincerely,

Vera Herst
Assistant Counsel
Division of Legal Counsel

Attachment