BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

| | | |
|---|---|---|
| IN THE MATTER OF: | ) | |
| | ) | |
| PROPOSED SITE-SPECIFIC | ) | R03-11 |
| WATER POLLUTION | ) | |
| REGULATIONS APPLICABLE TO | ) | |
| THE CITY OF EFFINGHAM, | ) | |
| BLUE BEACON | ) | |
| INTERNATIONAL, INC., and | ) | |
| TRUCKOMAT CORPORATION | ) | |

## NOTICE OF FILING

TO: Ms. Dorothy M. Gunn
Clerk of the Board
Illinois Pollution Control Board
100 West Randolph Street
Suite 11-500
Chicago, Illinois 60601
**(VIA FIRST CLASS MAIL)**

**(SEE PERSONS ON ATTACHED LIST)**

PLEASE TAKE NOTICE that I have today filed with the Office of the Illinois Pollution Control Board an original and nine copies each of the **ENTRY OF APPEARANCE OF N. LADONNA DRIVER; ENTRY OF APPEARANCE OF DAVID M. WALTER; CITY OF EFFINGHAM, BLUE BEACON INTERNATIONAL, INC., and TRUCKOMAT CORPORATION'S PETITION FOR SITE-SPECIFIC REGULATION; and MOTION TO WAIVE**

**REQUIREMENT TO SUBMIT 200 SIGNATURES**, attached herewith, copies of which are herewith served upon you.

Respectfully submitted,

CITY OF EFFINGHAM,
BLUE BEACON INTERNATIONAL, INC.,
and TRUCKOMAT CORPORATION,
Petitioners,

By: _____
One of their Attorneys

Dated: October 16, 2002

N. LaDonna Driver
David M. Walter
HODGE DWYER ZEMAN
3150 Roland Avenue
Post Office Box 5776
Springfield, Illinois 62705-5776
(217) 523-4900

## CERTIFICATE OF SERVICE

I, David M. Walter, the undersigned, hereby certify that I have served the attached ENTRY OF APPEARANCE OF N. LADONNA DRIVER; ENTRY OF APPEARANCE OF DAVID M. WALTER; CITY OF EFFINGHAM, BLUE BEACON INTERNATIONAL, INC. and TRUCKOMAT CORPORATION'S PETITION FOR SITE-SPECIFIC REGULATION; and MOTION TO WAIVE REQUIREMENT TO SUBMIT 200 SIGNATURES upon:

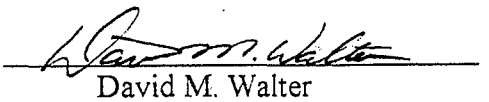
Ms. Dorothy M. Gunn
Clerk of the Board
Illinois Pollution Control Board
100 West Randolph Street
Suite 11-500
Chicago, Illinois 60601

Deborah J. Williams, Esq.
Division of Legal Counsel
Illinois Environmental Protection Agency
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276

James E. Ryan, Esq.
Attorney General
500 South Second Street
Springfield, Illinois 62706

Robert T. Lawley, Esq.
Chief, Legal Division
Illinois Department of Natural Resources
524 South Second Street
Springfield, Illinois 62701

by depositing said documents in the United States Mail in Springfield, Illinois on October 16, 2002.



David M. Walter

BLUE:001/NOF-COS/Petition for Site-Specific Regulation

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

| | | |
|---|---|---|
| IN THE MATTER OF: | ) | |
| | ) | |
| PROPOSED SITE-SPECIFIC WATER POLLUTION REGULATIONS APPLICABLE TO THE CITY OF EFFINGHAM, BLUE BEACON INTERNATIONAL, INC., and TRUCKOMAT CORPORATION | ) | R03-11 |

**ENTRY OF APPEARANCE OF N. LADONNA DRIVER**

NOW COMES N. LaDonna Driver, of the law firm of HODGE DWYER ZEMAN, and hereby enters her appearance on behalf of Petitioners, CITY OF EFFINGHAM, BLUE BEACON INTERNATIONAL, INC., and TRUCKOMAT CORPORATION.

Respectfully submitted,

CITY OF EFFINGHAM,
BLUE BEACON INTERNATIONAL, INC.,
and TRUCKOMAT CORPORATION,
Petitioners,

By: _____
N. LaDonna Driver

Dated: October 16, 2002

N. LaDonna Driver
David M. Walter
HODGE DWYER ZEMAN
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Post Office Box 5776
Springfield, Illinois 62705-5776
(217) 523-4900

BLUE:001/Fil/EOA-NLD

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

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|---|---|---|
| IN THE MATTER OF: | ) | |
| | ) | |
| PROPOSED SITE-SPECIFIC | ) | R03-11 |
| WATER POLLUTION | ) | |
| REGULATIONS APPLICABLE TO | ) | |
| THE CITY OF EFFINGHAM, | ) | |
| BLUE BEACON | ) | |
| INTERNATIONAL, INC., and | ) | |
| TRUCKOMAT CORPORATION | ) | |

**ENTRY OF APPEARANCE OF DAVID M. WALTER**

NOW COMES David M. Walter, of the law firm of HODGE DWYER ZEMAN, and hereby enters his appearance on behalf of Petitioners, CITY OF EFFINGHAM, BLUE BEACON INTERNATIONAL, INC., and TRUCKOMAT CORPORATION.

Respectfully submitted,

CITY OF EFFINGHAM,
BLUE BEACON INTERNATIONAL, INC.,
and TRUCKOMAT CORPORATION,
Petitioners,

By: _____
David M. Walter

Dated: October 16, 2002

N. LaDonna Driver
David M. Walter
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(217) 523-4900

BLUE:001/Fil/EOA-DMW

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

| | | |
|---|---|---|
| IN THE MATTER OF: | ) | |
| | ) | |
| PROPOSED SITE-SPECIFIC WATER POLLUTION REGULATIONS APPLICABLE TO THE CITY OF EFFINGHAM, BLUE BEACON INTERNATIONAL, INC., and TRUCKOMAT CORPORATION | ) | R03-11 |

**MOTION TO WAIVE REQUIREMENT TO SUBMIT 200 SIGNATURES**

NOW COMES the CITY OF EFFINGHAM ("City"), BLUE BEACON INTERNATIONAL, INC. ("BBI"), and TRUCKOMAT CORPORATION ("Truckomat") (collectively "Petitioners"), by and through their attorneys, HODGE DWYER ZEMAN and request the Illinois Pollution Control Board ("Board") to waive the requirement, under 35 Ill. Admin. Code § 102.202(f), to submit 200 signatures with their Petition for Site-Specific Regulation stating as follows:

1. BBI and Truckomat both operate truck washes in Effingham, Illinois, which discharge wastewater into the City's Publicly Owned Treatment Works ("POTW"). The wastewater from the truck washes contains fluoride resulting from the use of brighteners in washing the trucks. BBI and Truckomat operate three of the four industries that are the primary sources of fluoride in the City's wastewater. The fourth fluoride source, Fedders, Inc., plans to discontinue operation of the source of fluoride at its plant. In addition, the City adds fluoride to its water supply for dental health purposes.

2. The City is located at the intersection of two major interstates and is a prime location for over-the-road truck traffic, which has resulted in the construction and operation of three successful truck wash facilities. Currently, there are no effective

alternative replacements for the brighteners used by BBI and Truckomat. The negative economic impact that would occur, if the truck washes in the City were forced to discontinue use of these brighteners, would be severe. Moreover, the loss in car wash revenue due to the elimination of the brighteners would be compounded by the lost revenue for other associated businesses as well as loss of employment.

3. Attached to this Motion is a Petition for Site-Specific Regulation seeking relief from the general fluoride water quality standard and effluent standard of 1.4 mg/L and requesting a site-specific fluoride effluent standard of 4.5 mg/L.

4. The Board has waived signature requirements for site-specific rulemaking petitions in the past, including recently In the Matter of: Petition of Central Illinois Light Company for a Site Specific Air Rule: 35 Ill. Adm. Code 214.141, R02-21 (May 2, 2002).

5. Granting this Motion is in the public interest in light of the importance of the truck washes to the economy of the City.

WHEREFORE, Petitioners, CITY OF EFFINGHAM, BLUE BEACON INTERNATIONAL, INC. and TRUCKOMAT CORPORATION respectfully request the

Illinois Pollution Control Board to waive the requirement to submit 200 signatures in support of its Petition for Site-Specific Regulation.

Respectfully submitted:

CITY OF EFFINGHAM,
BLUE BEACON INTERNATIONAL, INC.,
and TRUCKOMAT CORPORATION,
Petitioners,

By: _____
One of their Attorneys

Dated: October 16, 2002

N. LaDonna Driver
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Blue:001/Fil/Motion to Waive Requirement

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

| | | |
|---|---|---|
| IN THE MATTER OF: | ) | |
| | ) | |
| PROPOSED SITE-SPECIFIC | ) | R03-11 |
| WATER POLLUTION | ) | |
| REGULATIONS APPLICABLE TO | ) | |
| THE CITY OF EFFINGHAM, | ) | |
| BLUE BEACON | ) | |
| INTERNATIONAL, INC., and | ) | |
| TRUCKOMAT CORPORATION | ) | |

# CITY OF EFFINGHAM, BLUE BEACON INTERNATIONAL, INC., AND TRUCKOMAT CORPORATION'S PETITION FOR SITE-SPECIFIC REGULATION

N. LaDonna Driver
David M. Walter
HODGE DWYER ZEMAN
3150 Roland Avenue
Post Office Box 5776
Springfield, Illinois 62705-5776
(217) 523-4900

Dated: October 16, 2002

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

| | | |
|---|---|---|
| IN THE MATTER OF: | ) | |
| | ) | |
| PROPOSED SITE-SPECIFIC | ) | R03 - 11 |
| WATER POLLUTION | ) | |
| REGULATION APPLICABLE TO | ) | |
| THE CITY OF EFFINGHAM, | ) | |
| BLUE BEACON | ) | |
| INTERNATIONAL, INC., AND | ) | |
| TRUCKOMAT CORPORATION | ) | |

**CITY OF EFFINGHAM,**
**BLUE BEACON INTERNATIONAL, INC.,**
**AND TRUCKOMAT CORPORATION'S**
**PETITION FOR SITE-SPECIFIC REGULATION**

NOW COME the City of Effingham ("City"), Blue Beacon International, Inc. ("BBI"), and Truckomat Corporation ("Truckomat") (collectively "Petitioners"), by and through their attorneys, HODGE DWYER ZEMAN, and pursuant to 415 ILCS 5/27(a), 35 Ill. Admin. Code §§ 102.202 and 102.210, hereby petition the Illinois Pollution Control Board ("Board") for a site-specific effluent regulation, stating as follows:

## I. PROPOSED SITE-SPECIFIC RULE

Petitioners are seeking a site-specific effluent limit for fluoride for discharges from the City's Publicly Owned Treatment Works ("POTW"), including wastewater from BBI and Truckomat's Effingham facilities. The Board's effluent regulations require, at Section 304.105, that effluent from the City not cause an applicable water quality standard to be exceeded. 35 Ill. Admin. Code § 304.105. The general numeric water quality standard for fluoride, which is set forth in Section 302.208(g), is 1.4 mg/L. 35 Ill. Admin. Code § 302.208(g).

This petition will demonstrate that treatment to a general fluoride water quality standard of 1.4 mg/L is neither technically feasible nor economically reasonable for the unnamed tributary of Salt Creek from the point of the City's discharge to a point approximately 44 miles downstream. It will also demonstrate that the elimination of fluoride-based chemicals from BBI and Truckomat's facilities would have a severe negative economic impact on the industries, as well as the City. Finally, the petition will demonstrate that the fluoride effluent standard requested will not harm the aquatic life in the waters downstream of the City's discharge or have a negative impact on the current use of surface waters as a public water supply.

As proposed, the site-specific effluent standard requested by Petitioners would provide as follows:

> Section 304.2xx City of Effingham Treatment Plant Discharge
>
> This section applies to the discharge from the POTW located at 903 E. Eichie Avenue in Effingham, Illinois, owned by the City of Effingham, to an unnamed tributary of Salt Creek, said point being located in Effingham County, T8N, R6E, Sec. 28, Lat: 39°06'24", Long: 88°31'55". Such discharge shall not be subject to Section 304.105 as it applies to the water quality standard for fluoride at 35 Ill. Admin. Code § 302.208(g). Such discharge must meet a fluoride effluent standard of 4.5 mg/L, subject to the averaging rule of Section 304.104.

As explained more fully herein, these fluoride levels, to the receiving waters of the State, will be protective of aquatic life, human health, and the environment as a whole. Moreover, adoption of the proposed site-specific effluent standard will allow socially and economically valuable services located in Effingham, Illinois, to continue.

## II. STATEMENT OF REASONS

### A. Existing Physical Conditions

As a result of its location at the intersection of two major interstates, the City derives much of its income from services provided to persons traveling along the nation's highways. BBI and Truckomat both operate truck washes in the City, and discharge wastewater produced from their operations to the City's POTW. The wastewater from the truck washes contains fluoride, which is sourced from the brightener used in washing the trucks. The City adds fluoride to its water supply for dental health purposes. Wastewater discharge from Fedders, Inc. ("Fedders") is an additional source of fluoride to the City's POTW.

The City's wastewater treatment plant ("WWTP") was originally constructed in 1912. The plant was upgraded around 1935 and again in 1957. In 1980, a new plant was constructed at its current location. The WWTP was upgraded again in 2001. The WWTP employs approximately five full-time personnel and serves approximately 4,600 residential and 250 industrial/commercial customers. Flow to the WWTP is split between residential and industrial/commercial users at 52 percent and 48 percent, respectively, based on water use.

The City's WWTP has a design average flow of 3.75 million gallons per day and a maximum hydraulic flow of 9.375 million gallons per day. The WWTP utilizes an oxidation ditch treatment system with tertiary rapid sand filtration. This treatment system is designed to address biological oxygen demand, and to remove suspended solids and

carbonaceous biological oxygen demand. Like most POTWs, however, it is not designed to remove soluble inorganic anions such as fluoride.

The City's WWTP discharges its wastewater to an unnamed tributary of Salt Creek, pursuant to a National Pollutant Discharge Elimination System ("NPDES") permit issued by the Illinois Environmental Protection Agency ("IEPA" or "Agency"). A modified NPDES permit (No. IL0028622) ("Permit") was issued to the City on March 30, 2000. The original issue and effective dates for this permit were October 6, 1998, and November 1, 1998, respectively. The permit expiration date is October 31, 2003.

The 2000 Permit established a daily maximum fluoride discharge limit for the City's POTW of 8.6 mg/L "from the effective date of the modified permit [i.e., November 1, 1998] until the attainment of operational level of the new sewage treatment plant." Once the City's new sewage treatment plant became operational, the permit specified that the daily maximum fluoride discharge limit would become 1.4 mg/L. This 1.4 mg/L daily maximum fluoride discharge limit in the Permit is based on the water quality standards set forth in § 302.208(g) of the Board's regulations. 35 Ill. Admin. Code § 302.208(g). This limit was apparently established based on a 7-day, 10-year ("7Q10") low flow value of zero for the unnamed tributary of Salt Creek. In other words, for the case of no flow in the receiving water (i.e., 7Q10 of zero), the discharge itself would be required to meet the water quality standard for fluoride. In June 2001, the City's new sewage treatment plant became operational, and the 1.4 mg/L daily maximum fluoride discharge limit went into effect.

## B. Affected Sources and Facilities and Character of the Area Involved

Following the issuance of the NPDES permit, with the fluoride discharge limit of 1.4 mg/L, the City attempted to determine the sources of the fluoride in its wastewater and to develop local limits for fluoride for those sources. Industry sampling was conducted in both 2000 and 2001. This sampling effort identified four Effingham industries as the primary sources of fluoride in the City's POTW. These four industries consist of two BBI truck washes, a Truckomat truck wash, and another industry named Fedders.

The background concentration of fluoride in the City's wastewater is 1.0 mg/L, since fluoride is added to the City water supply for dental health purposes. As a result, only a small amount of fluoride for industrial loading can be allowed, and the industrial discharge limit must be extremely stringent, in order for the City to comply with the general water quality standard of 1.4 mg/L. Indeed, in order to meet its new NPDES discharge limit of 1.4 mg/L, the City developed a preliminary local discharge limit of 2.54 mg/L for each of the four industrial sources of fluoride in the City. This discharge limit has not yet been approved by the IEPA; however, it is anticipated that the final local limit would be very close to this value.

### 1. Affected Industries

As stated earlier, four industries have been identified as the primary sources of fluoride in the City's wastewater discharge. Each source is discussed in greater detail below.

### a. BBI Truck Wash

BBI operates truck washes at two separate locations in the City. One of the facilities opened as a double bay wash in 1981, the other opened as a single bay in 1993 and added a second bay in 1997. Both of these facilities operate 24 hours per day, seven days per week. At its facilities, BBI washes the exteriors of over-the-road trucks, using chemicals (soap and brightener) applied with high-pressure wands. The brightener used to wash the trucks contains hydrofluoric acid ("HF"), which is the source of the fluoride in the wastewater from BBI's Effingham facilities. Each truck wash generates approximately 24,000 gallons per day of wastewater with a fluoride concentration in the range of 40 to 130 mg/L.

A sampling program was conducted by the City of Effingham in June through August of 2001. Fifteen samples were collected during this sampling event. The average and maximum fluoride concentrations were 44 mg/L and 120 mg/L, respectively, at one BBI truck wash and 87 mg/L and 130 mg/L, respectively, at the other BBI truck wash.

Wastewater pretreatment at the BBI truck wash facilities is accomplished by providing retention in a three-stage settling pit located inside each truck wash bay. The settling pit is designed to remove heavy solids by gravity settling. In addition, free-floating oil and grease is captured within the pit. Soluble parameters such as fluoride are not removed in the settling pit and are, therefore, discharged to the City's municipal sewer system.

### b. Truckomat Truck Wash

Truckomat has been in operation in Effingham since the 1970s and HF-based brightener has been used since 1996. Truckomat operations resemble BBI's, with the exception that Truckomat operates only one double-bay facility in the City. The chemicals used, wastewater flows, and fluoride concentrations at Truckomat's facility are otherwise similar to BBI's. Fourteen wastewater effluent samples from Truckomat were collected by the City of Effingham from June through August 2001 for fluoride analysis. The average and maximum fluoride concentrations for this sampling event at Truckomat were 39 mg/L and 100 mg/L, respectively.

### c. Fedders, Inc.

Fedders manufactures air conditioning equipment. Fluoride is sourced from a process, which prepares metal parts for painting. Fedders discharges in the range of 38,000 gallons per day of wastewater. The City completed a sampling program at the Fedders facility during the period from June through August 2001. Fourteen effluent wastewater samples were collected from Fedders for fluoride analysis. The average and maximum fluoride concentrations at Fedders were 9 mg/L and 20 mg/L, respectively. Fedders plans to discontinue the process, which is the source of fluoride at the plant, in 2002.

## 2. Users of Affected Water Segments

Waters from the POTW are discharged to an unnamed tributary of Salt Creek. The potentially affected waters include the unnamed tributary, Salt Creek itself, and the Little Wabash River, into which Salt Creek flows. The City of Flora, Illinois, receives its

water from the Little Wabash River through a water supply intake, which is located approximately 37 miles downstream from Effingham on the Little Wabash River. There are no other public or private entities known to Petitioners, which use the subject stream segment for a water supply.

C. **Nature of the Receiving Body of Water**

As previously explained, the City's POTW discharges to an unnamed tributary of Salt Creek. The 7Q10 for this unnamed tributary is zero. This means that, from a statistical perspective, there can be periods where the stream flow in Salt Creek is comprised entirely of the discharge flow from the City. Furthermore, this means that the POTW discharge does not undergo any mixing with the receiving water. Therefore, the Agency set the General Use Water Quality Standard of 1.4 mg/L for fluoride as the NPDES permit limit for the City's discharge. Historical effluent fluoride data, as well as general facility information for the City's POTW, are summarized in Attachment A. As these data show, there have been only two occasions in the last three years where the City's effluent has achieved the 1.4 mg/L standard for fluoride. Indeed, the effluent fluoride concentration in the City's wastewater discharge ranged from 1.4 mg/L to 4.8 mg/L from January 1999 through December 2001. The average discharge fluoride concentration during that time period was 2.73 mg/L for 45 sampling events. Nevertheless, the fluoride levels in the City's discharge are not having an adverse impact on the fluoride levels downstream, as explained further below.

1. Historical Flow and Fluoride Data for Receiving Streams

The first location downstream of the City's discharge where fluoride data are available is at sampling Station C-19, which is located on the Little Wabash River at Louisville, Illinois. This sampling station is located approximately 34 miles downstream from the City's discharge. Fluoride concentration data and stream flow data at this sampling station are found in Table B-1. These data were generated from the STORET database. The average and maximum fluoride concentrations over the sampling period in Table B-1 (July 1970 through September 1992) were 0.30 mg/L and 0.90 mg/L, respectively.

The City of Flora's water supply intake is located approximately three miles downstream from the City of Louisville on the Little Wabash River. Fluoride data are available from the City of Flora's water supply intake. These data from the City of Flora are summarized in Table B-2.[1] The data presented in Table B-2 indicate that the average and maximum fluoride concentrations at the Flora intake were 0.26 mg/L and 0.77 mg/L, respectively, for the period from June 1994 through September 2001.

A map has also been included with Attachment B, which shows the 7Q10 stream flows for the Little Wabash Region. These data were recently updated (March 2002) by the Illinois State Water Survey.

[1] The fluoride concentration data in Table B-2 were calculated using the "Monthly Operation and Chemical Feeding Reports" for the City of Flora. The following daily operational data were provided in those reports: finished water fluoride concentration; mass of sodium fluoride added to the water; and volume of finished water produced.

2. Dischargers to Affected Water Segments

Several municipalities and businesses discharge wastewater to Salt Creek and the Little Wabash River stream segments that are the subject of this petition. The Village of Edgewood and Village of Louisville both discharge to the Little Wabash River. The Town of Mason discharges to Second Creek, a tributary of the Little Wabash River. The Village of Teutopolis discharges to Salt Creek at a location upstream of the Effingham outfall. Harper Oil Company discharges to an unnamed tributary of Salt Creek. The Village of Watson discharges to Little Salt Creek. The following table shows, in million gallons per day ("MGD"), the design average flow ("DAF") and design maximum flow ("DMF") for each of the above-listed discharges.

| Discharger | DAF (MGD) | DMF (MGD) |
|---|---|---|
| Village of Edgewood | 0.0615 | 0.123 |
| Harper Oil Company | NA | NA |
| Village of Louisville | 0.15 | 0.375 |
| Town of Mason | 0.052 | 0.131 |
| Village of Teutopolis* | 0.372 | 1.5 |
| Village of Watson | 0.035 | 0.070 |

* - discharges upstream of the Effingham outfall.

With the exception of the Harper Oil Company discharge, all of the dischargers to Salt Creek and the Little Wabash River stream segments, that are the subject of this petition, are municipalities. While there are no fluoride data available for these dischargers, based on a review of the regulated parameters, it can be concluded that the

dischargers are primarily treating and discharging conventional pollutants (i.e., Biological Oxygen Demand ("BOD") and Total Suspended Solids ("TSS")). Accordingly, there do not appear to be any sources of fluoride in the subject streams, other than the City, BBI, Truckomat and, presently, Fedders.

3. Fluoride Impacts from City Discharge

The 7Q10 flow data show that the City's POTW discharge contributes a significant amount of the flow to Salt Creek during low flow periods. However, downstream fluoride data generated at sampling station C-19 documented that the fluoride contributed by the City's POTW discharge has little impact on the downstream fluoride concentrations. For example, as discussed earlier, the average and maximum fluoride concentrations in the Little Wabash River at Louisville (monitoring Station C-19) were 0.3 mg/L and 0.9 mg/L, respectively.

During the years 1999 and 2001, the effluent discharged from the City's POTW exhibited a fluoride concentration ranging between 1.5 mg/L to 4.8 mg/L. Nevertheless, 0.51 mg/L was the highest concentration of fluoride detected downstream on the Little Wabash River in the City of Flora's raw water supply intake during those same years.[2] Thus, the historic levels of fluoride discharged in the effluent from the City's POTW have clearly not affected downstream use of the water by the City of Flora.

As explained more fully herein, the IEPA requested that the Petitioners more fully evaluate the impact of evaporation on the expected fluoride levels in the affected stream

[2] Louisville did not use the Little Wabash River as a water supply between 1999 and 2001. The Louisville water supply data from prior years also did not allow calculation of the fluoride concentration.

segments during low flow periods. On behalf of the Petitioners, and at the request of the IEPA, Shepard Engineering, Incorporated conducted water balance and fluoride balance calculations on the stream segments in question. These calculations, which are set forth in Attachment F, demonstrate that using the standards proposed herein, the City of Flora's water supply will not exceed 2.0 mg/L fluoride, even under 7Q10 low flow conditions and taking evaporation into consideration.

## D. Available Treatment or Control Options

### 1. Background

The Board's opinion setting forth the fluoride water quality standard of 1.4 mg/L was published on March 7, 1972, and provided the following rationale for the standard:

> Fluoride. Fluoride can delay the hatching of fish eggs and has been reported by McKee and Wolf to kill trout at concentrations ranging from 2.3 to 7.2 mg/L. They recommend a standard of 1.5 mg/L. The figure of 1.4, here repeated from the May 12 draft, is in line with that recommendation and should also assure a potable supply.

In the Matter of Water Quality Standards Revisions, Nos. 70-8, 71-14, 71-20, 1972 WL 8156 at *5 (Ill. PCB March 7, 1972).

In its earlier, January 6, 1972, opinion, the Board provides additional information regarding the treatment of fluoride, stating as follows:

> Our initial proposal for a fluoride effluent standard was 1.0 mg/L. This was somewhat tighter than the water quality standards we later proposed (1.4) for both aquatic life and public water supply, and it posed problems for municipal treatment plants whose influent has been deliberately dosed with as much as 1.0 mg/L of fluoride for dental purposes. Patterson reported that 1.0 mg/L was achievable only through relatively exotic and costly methods, such as ion exchange, and that 10.0 mg/L was a more appropriate standard to be achieved by ordinary precipitation. Weston and

> Dodge both said, however, that 1.0 mg/L was readily achievable, Weston specifying the use of alum at costs less than those for achieving most of the metals concentrations here proposed. The most specific information in the record came from Olin, which reports that its fertilizer works at Joliet consistently reduces fluoride concentrations by standard treatment from an influent of 15 mg/L to an effluent of 2.5, but that other ions present reduction as low as 1.0.

In the Matter of Water Quality Standards Revisions, Nos. 70-8, 71-14, 71-20, 1972 WL 8149 at *12 (Ill. PCB January 6, 1972).

2. Fluoride Removal Technologies

Fluoride is a component of brighteners used in truck wash operations. Specifically, the active ingredient in truck wash brighteners is HF. The HF chemically removes the aluminum oxide coating, which forms on the exposed aluminum surface of over-the-road trucks. In addition, HF removes film from a truck's paint by the simple process of spraying on and washing off. This allows trucks to be cleaned without the use of a brush, which virtually eliminates the possibility of scratching a vehicle and decreases the waiting time for drivers. Despite significant efforts by the truck wash industry, no alternative, which produces the wash quality of the HF-based brightener, has been discovered.

The fluoride anion is present in the truck wash wastewater effluent by virtue of its presence in the chemical that is used to brighten aluminum – logically referenced as "brightener." The brightener chemical constitutes a significant portion of the truck wash operational cost. Therefore, the truck wash facilities are driven by operational costs to use no more brightener than necessary to achieve the desired finished product. All truck wash operators are given extensive training with respect to chemical application

procedures and rates. Also, management personnel track chemical use on a weekly basis. Specifically, chemical use is compared to total revenue (which is directly related to truck volume). Therefore, if excessive use of brightener were occurring, it would be quickly identified and corrected.

Obviously, elimination of the HF-based brightener would allow the truck wash wastewater to meet a 2.54 mg/L discharge limit. However, as stated earlier, there are no effective alternative replacements for HF. Moreover, economic incentives already prevent excess use of the brightener chemical.

A literature review summary and the results from bench test treatability studies are included as Attachment C. As discussed more fully in Attachment C, fluoride removal from industrial wastewater has typically focused on precipitation as calcium fluoride using calcium-based chemicals (i.e., calcium hydroxide or calcium chloride) or removal by sorption onto aluminum chemicals. The latter treatment methods have included sorption onto aluminum-based chemicals that are added to the wastewater solution (typically alum) or sorption onto a fixed bed such as alumina.

Since fluoride in wastewater is a soluble ion, other potential removal processes include ion exchange or reverse osmosis ("RO"). However, ion exchange and RO require that the wastewater be pretreated to a level where essentially all oil, grease and suspended solids are removed prior to the process. It has been reported that the chemical processes most widely used for fluoride removal are alum coagulation and lime treatment, with an insoluble fluoride complex that may be removed from the water as sludge. (See Treatment and Disposal of Regeneration Wastewater From Activated Alumina Columns

For Fluoride Removal From Groundwater At Rocky Mountain Arsenal, Army Engineer Waterways Experiment Station, Vicksburg, MS, Environmental Lab, January, 1980.)

The literature also indicates, however, that achievable fluoride removal levels are highly dependent on the type of wastewater stream being treated. Id. Therefore, BBI and its consultants, Shepard Engineering, Incorporated, completed bench tests using untreated truck wash wastewater samples. The results of these tests are found in Attachment C and are discussed below, along with the costs for this technology.

### E. Technical Feasibility and Economic Reasonableness of Reducing Fluoride

During the bench tests, 27 jar tests were completed using varying dosages and combinations of calcium hydroxide, calcium chloride, and alum. These jar tests revealed that the lowest practicable fluoride removal level for the truck wash facilities was in the range of 10 mg/L. Thus, the lowest practicable fluoride removal level for the truck washes is significantly greater than the discharge limit of 2.54 mg/L proposed by the City. Accordingly, it is not technically feasible for BBI or Truckomat to achieve the fluoride limit proposed by the City.

Though the bench tests did not achieve fluoride reduction that would be required to comply with the discharge limits at issue, cost estimates were developed for wastewater treatment systems for the three truck wash operations in the City; the results of the cost analysis are as follows. Treatment system components would include an equalization tank, a rapid-mix tank, a slow-mix tank, a flash mixer, a flocculation (slow) mixer, an inclined plate clarifier and sludge thickener, a filter press, a wastewater transfer pump, chemical

feed pumps, and chemical storage systems. The estimated total capital cost for this equipment (i.e., for separate systems at each of the three locations) is $1.5 million, based on a design wastewater flow rate of 30,000 gallons per day at each location. Moreover, it is estimated that the chemicals, operating labor, sludge disposal, maintenance and depreciation associated with such a wastewater treatment system would cost $600,000 annually. If an attempt were made to recoup this annual operating cost by increasing prices, the price of a wash would increase approximately 13 percent, i.e., an additional $5.00 every time a truck is washed. Such drastic increases would cripple the truck wash operations in the City, particularly since there are a number of truck wash competitors within driving range of the trucks utilizing these services. Thus, even if it was technically feasible using the available technology to achieve the fluoride standard currently imposed, which it is not, the costs of such technology would be prohibitively expensive.

In turn, it will not be possible for the City to comply with the water quality standard for fluoride. Pretreatment by the City is also not technically practicable, due to the same limitations as were found with treatment at the truck washes. Despite the addition of wastewater from other sources, at the City's WWTP, the lowest practicable fluoride removal level that could be achieved by the City still greatly exceeds the current fluoride effluent level.

Prior to its formal submittal, Petitioners provided a draft of this Petition to the IEPA, and participated in a telephone conference with the IEPA regarding that draft. The IEPA requested additional information regarding the possibility of combining the fluoride with calcium to form calcium fluoride. As set forth in Attachment D, Review of Fluoride

Toxicity Data, the literature indicates that fluoride combines easily with calcium in high-hardness water to form the relatively insoluble compound calcium fluoride. Nevertheless, the initial fluoride concentrations discussed in Attachment D were in the range of 181 mg/L as $F^-$ (400 mg/L as sodium fluoride). Based on literature solubility values for calcium fluoride, as well as empirical data (e.g., BBI laboratory bench tests), it is certainly expected that some calcium fluoride would precipitate with an initial fluoride concentration of 180 mg/L. However, the literature referenced in Attachment D did not indicate a final fluoride concentration. Most certainly there would be a residual fluoride concentration in solution – probably in the range of 20 to 30 mg/L. Therefore, the information set forth in Attachment D does not conflict with the conclusion set forth in this petition; that removal of fluoride to levels below 10 to 20 mg/L is neither technically nor economically feasible.

At the IEPA's request, the Petitioners also reviewed the potential for discharging only partially treated wastewater to the City's POTW, thereby reducing the capital cost of a fluoride-removal treatment system. Specifically, the IEPA requested that the Petitioners evaluate the possibility of discharging wastewater directly to the City's WWTP following the addition of the calcium-based precipitation chemicals only, eliminating the need for an inclined plate clarifier, sludge thickener, and filter press and thereby reducing the system capital cost. Nevertheless, upon review, it was determined that it would not be possible to only partially treat the wastewater at the respective truck washes. This determination was based on the fact that all of the fluoride discharged to the City's WWTP as insoluble calcium fluoride would re-dissolve once it was mixed with all of the other wastewater in

the WWTP. Thus, as explained in Attachment E hereto, solids removal and de-watering would be required as part of the pretreatment system at each location.

Presently, BBI is conducting extensive research in the area of wastewater recycle and re-use. Unfortunately, recycle systems do not reduce the total mass loading of soluble parameters such as fluoride. That is, if the truck washes were able to recycle 50 percent of their wastewater effluent, the fluoride concentration in the discharge would double and the total mass loading in the effluent would remain the same.

To summarize, there is no technically feasible or economically reasonable system available to reduce fluoride to the desired concentrations. Indeed, as discussed earlier, the systems would only reduce the effluent fluoride concentration to the 10 mg/L range, a level significantly higher than the level desired.

### F. Other Similar Persons' or Sites' Ability to Comply With the General Rule

The City's inability to meet the current water quality standard for fluoride is a result of several factors. As discussed below, the City is a prime location for over-the-road truck traffic, which has resulted in the construction and operation of three successful truck wash facilities. These truck washes all utilize the industry standard for brighteners, which contain a significant concentration of hydrofluoric acid. Fluoride is an extremely soluble ion, and, as a result, its removal is extremely costly at the source. Also, due to its solubility, fluoride is not removed at the City wastewater treatment plant.

At many locations across the country, fluoride that is sourced from truck wash operations is simply mixed with the wastewater generated by other industrial, commercial,

and residential users, as well as, the flow in the receiving stream. However, Effingham is a relatively small community (population 12,022), which discharges to an extremely low flow stream – specifically, Little Salt Creek, which has a 7Q10 value of zero. Therefore, no mixing is available with respect to the City's POTW discharge and the receiving stream. Conversely, most municipalities in Illinois and across the country do not have significant sources of fluoride from their industrial dischargers, and/or have significant volumes of wastewater from non-fluoride sources, and/or discharge to a receiving stream with significant flows.

Chemical costs (i.e., for brightener) are a significant portion of the operating cost for a truck wash. Consequently, both BBI and Truckomat carefully monitor and control the amount of brightener used in the truck washing process. In other words, the minimum amount of brightener is used at all times, which results in the minimum amount of fluoride being released to the City sewer.

Other Illinois dischargers have found it technically infeasible and economically unreasonable to comply with the general water quality standard for fluoride. In cases where technical infeasibility and economical unreasonableness of compliance was demonstrated by such dischargers, the Board has adopted site-specific rules or adjusted standards raising the fluoride standard. For example, the Modine Manufacturing Company and General Motors Corporation have been granted site-specific water quality standards for fluoride of 5.6 mg/L and 10 mg/L, respectively. See, In the Matter of Modine Manufacturing Company Facility, Ringwood, Illinois, R87-36, 1990 WL 323076 (Ill. PCB, March 22, 1990); In the Matter of General Motors Corporation, R93-13, 1995

WL 26039 (Ill. PCB, January 11, 1995). These cases have discussed the same dilemma faced by Petitioners in evaluating treatment for fluoride:

> Treatment of the wastewater using absorption on bone char, ion exchange with activated alumina or precipitation with high magnesium lime was also considered to reduce the fluoride level. [Citation to transcript.] However, none of these technologies could guarantee consistent compliance and the cost of each technology is extremely high....

In the Matter of General Motors Corporation, R93-13, 1995 WL 26039 at *3 (Ill. PCB, January 11, 1995). See, also, In the Matter of Granite City Steel Division of National Steel, AS90-4, 1993 WL 130486 at *2 (Ill. PCB, April 8, 1993) (discussing the high costs to treat fluoride in wastewater using activated alumina absorption, as well as low flow conditions in the receiving stream).

### G. Economic Impact of the Proposed Rule

As previously discussed, the City's POTW discharges to an unnamed tributary of Salt Creek, which has a 7Q10 low water flow of zero. The general water quality standard for fluoride in Salt Creek is 1.4 mg/L, and since the City's POTW discharge receives no dilution from mixing, the Agency established an NPDES permit limit for fluoride from the City's discharge of 1.4 mg/L, as well.

Thus, the City developed a preliminary industrial wastewater discharge limit of 2.54 mg/L, in order to begin the process of meeting the 1.4 mg/L NPDES permit limit for fluoride. Nevertheless, as explained above, and documented in the bench study summary of results (Attachment C), it is not technically feasible and/or economically reasonable for the industries that are the sources of the fluoride to meet the 2.54 mg/L limit proposed by the City by employing standard wastewater treatment technologies. The source industries

can continue the current amount of fluoride discharge if the City's fluoride discharge limit is raised to 4.5 mg/L. If the City's fluoride discharge limit is not raised to 4.5 mg/L, the truck washes will be forced to either shut down operations or discontinue use of the brightener.

The negative economic impact that would occur, if the truck washes in the City were forced to abandon the HF brightener and use an inferior product, would be severe. Specifically, BBI projects that the loss of HF brightener would result in annual revenue loss of $300,000 per double bay location. This correlates to a total economic loss of $900,000 in the City, based on the decrease of truck wash revenue alone. These economic losses would be compounded by the lost revenue for other associated businesses (e.g., restaurants, truck stops, motels, etc.), as well as loss of employment. It is also projected that the loss of HF brightener would result in the loss of seven to eight employees per truck wash location – a total of 21 to 24 lost jobs in the City.

The City is a transportation hub located at the intersection of Interstate 57, connecting Chicago to New Orleans, and Interstate 70, stretching from the nation's capital to Los Angeles. The City has access to three interstate exchanges, as well as U.S. Highway 40, U.S. Highway 45, IL Highway 32, IL Highway 33, and IL Highway 37. The City has 18 motels and/or hotels to offer those traveling the nation's highways, and more than 60 restaurants.

According to the 1997 Special Census, the City has a population of 12,022 and 180,873 persons reside within a 35-mile radius of the City. Industries in the City include Fedders; Quebecor World; Quebecor/Petty Printing; Sherwin-Williams Company; McLeod

U.S.A. Publishing; Mid America Direct; Effingham Equity; Peerless of America; TSI Graphics, Inc.; Kingery Printing Company; Southeastern Container, Inc.; Effingham-Clay Service Company; John Boos and Company; Eagle Soft, A Patterson Company; Nukabe, Inc., U.S.A.; Effingham Daily News; Mid-Illinois Concrete, Inc.; J&J Ventures; Midco International; and Pepsi Cola Bottling Company. Given the industrial and transportation presence in the Effingham area, truck washes are an important industry in, and source of income for, the City.

Indeed, the Average Daily Traffic Report for 2001 indicates that 47 percent of the approximately 33,100 vehicles travelling on Interstate 57 and Interstate 70 are semi-trucks. The drivers of these 15,557 trucks make a substantial contribution to the Effingham community each day. It is estimated that, on a daily basis, an average of 1,000 truck drivers purchase fuel in the City. The drivers of these trucks spend an average of $71.00 per person in the City, i.e., $71,000 contributed to the local economy on a daily basis. Statistical research has shown that truck drivers generally stop for a truck wash, fuel, and food at the same time. An average of 26 percent of the 1,000 truck drivers stopping daily for fuel in the City will also obtain a truck wash, at an average cost of $37.50. This does not even take into consideration the dollars spent by these truck drivers at local restaurants or hotels. If these truck drivers travel through or around the City to obtain a truck wash elsewhere, these restaurants and hotels will be impacted, as well as the truck washes and filling stations.

## H. Detailed Assessment of the Environmental Impact of the Proposed Change

The site-specific fluoride effluent standard will be protective of the waters of the State located downstream. Waters from the POTW are discharged to an unnamed tributary of Salt Creek. The potentially affected waters flow from this discharge point to the confluence of the unnamed tributary with Salt Creek, from there downstream to the juncture of Salt Creek with the Little Wabash River, and from there downstream to a point approximately 9.8 river miles downstream from the City of Louisville, Illinois, on the Little Wabash River at the confluence of Buck Creek and the Little Wabash River.

Petitioners studied and calculated fluoride levels at these locations. If the proposed site-specific effluent standard is adopted, fluoride levels as a result of the discharge from the POTW to the above-listed potentially affected waters would be as follows. From the point of discharge of the City's POTW to the confluence of Salt Creek with the Little Wabash River, the fluoride levels would be less than or equal to 5.0 mg/L. From the confluence of Salt Creek with the Little Wabash River to a point on the Little Wabash River located 2.8 miles downstream of Louisville, Illinois, the fluoride levels would be less than or equal to 3.2 mg/L. From a point on the Little Wabash River located 2.8 miles downstream of Louisville, Illinois to the confluence of Buck Creek and the Little Wabash River, a point on the Little Wabash River located approximately 9.8 miles downstream of Louisville, Illinois, the fluoride levels would be less than or equal to 2.0 mg/L. Furthermore, Petitioners are working with the IEPA on permit conditions that will

require monitoring of flow conditions downstream, including the impacts, if any, of the discharge on downstream water supplies.

At Petitioners' request, Commonwealth Biomonitoring, Inc. ("CBI"), Indianapolis, Indiana, conducted a detailed scientific assessment of the effects of fluoride on the water downstream from the City's WWTP. A detailed report of that assessment is included as Attachment D. To determine a site-specific effluent limit for fluoride that would be protective of aquatic life downstream from Effingham, Illinois, fluoride toxicity data, as well as water quality and bioassessment data from the receiving stream, were collected and analyzed.

1. Fluoride Toxicity Data

First, the available data concerning the toxicity of fluoride to aquatic life were examined. The lowest fluoride concentration at which a short-term (acute) toxic effect of exposure to a freshwater animal species was observed is 17 mg/L for the caddisfly *Ceratopsyche bronta*. Attachment D at 5. Based on the available information, the lowest concentration of fluoride determined in laboratory tests to have a long-term (chronic) effect on freshwater animals present in Illinois was 3 mg/L. Attachment D at 2. Nevertheless, this determination of chronic effect of fluoride exposure was made in a test conducted on rainbow trout in very soft water. Attachment D at 2.

2. The Effect of Hardness on Fluoride Toxicity

The fact that the above-referenced test of the lowest concentration of fluoride with a long-term effect occurred in very soft water is significant, because the scientific literature demonstrates that there is a relationship between the hardness values for water and the

concentration at which fluoride is toxic to aquatic life. Attachment D at 5. Indeed, additional tests have demonstrated that concentrations of fluoride significantly higher than 3 mg/L are not toxic to aquatic life in the characteristically much harder water of Central Illinois. Attachment D at 2.

Multiple species have been used in aquatic toxicity tests involving varying hardness values of test water. Attachment D at 6. For each species tested, the test results demonstrate that, as water hardness values increase, fluoride toxicity levels decrease. Attachment D at 6. In other words, the harder the water, the higher the concentration of fluoride that can be maintained without causing any harm to aquatic life.

Here, too, because of the hardness of the water for which site-specific relief is sought, higher concentrations of fluoride are acceptable and will not be detrimental to aquatic life. Indeed, the water in the Little Wabash River downstream from Effingham, Illinois, is very hard, with hardness values of more than 300 mg/L during low flow conditions. Attachment D at 10. Using a method developed by the United States Environmental Protection Agency ("USEPA"), the effects of hardness on fluoride toxicity were evaluated. Those data demonstrate that fluoride in the water downstream from Effingham would not be detrimental to aquatic life at concentrations at or below 10 mg/L. Attachment D at 2.

Further support for this finding exists in field studies published in the scientific literature. Indeed, each study published in the scientific literature, including one conducted in Illinois, demonstrates that sensitive aquatic species can exist in waters where

fluoride concentrations exceed 5-10 mg/L. Attachment D at 2. Moreover, bioassessments show no harm to aquatic life from fluoride downstream from the City.

3. Bioassessments of the Site Show No Harm to Aquatic Life from Fluoride

Recent studies conducted at Effingham, Illinois, illustrate that fluoride from the City's WWTP discharge is not, in fact, causing any environmental harm. Attachment D at 2. The first study, a 1999 bioassessment by the IEPA, showed that net-spinning caddisflies are the dominant group of animals in the receiving stream one mile below the City's WWTP. Attachment D at 2. Net-spinning caddisflies are known to be very sensitive to fluoride, yet they flourish in the receiving stream downstream from the City's WWTP. Their presence is further evidence that the concentration of fluoride from the City's WWTP discharge is not causing any environmental harm to aquatic life in the receiving water. Similarly, toxicity tests conducted by an independent laboratory in 1998 showed that effluent from the City's WWTP had no adverse effects on *Ceriodaphnia dubia* and fathead minnows in the receiving stream. Attachment D at 2. Thus, the available bioassessments demonstrate that fluoride from the City's WWTP discharge is not causing any environmental harm.

At the IEPA's request, an additional bioassessment was completed on June 20, 2002, by CBI in order to obtain additional information with respect to the environmental impact on the subject receiving stream. The benthic samples obtained during the June 20, 2002, assessment were compared to the sample results from 1999. The study methods and results of this assessment and comparison are summarized in Attachment F. Based

upon this additional assessment, and its comparison with the 1999 data, CBI concluded that there is no evidence that the fluoride in the City WWTP effluent is harming the aquatic community immediately downstream from the discharge. Attachment F at 3. Indeed, more taxa are present in 2002 than were observed in 1999, and net-spinning caddisflies are relatively abundant in an area immediately downstream from the City's WWTP discharge. Attachment F at 3.

Bioassessments from the IEPA and CBI demonstrate that fluoride from the City's WWTP discharge is not causing any harm to aquatic life. In addition, studies published in the scientific literature demonstrate that sensitive aquatic species can exist in waters with higher fluoride concentrations than those proposed by Petitioners for the site-specific water quality and effluent standards. Finally, because of the hardness of the water for which site-specific relief is sought, such higher concentrations of fluoride are acceptable and will not be detrimental to the environment. The site-specific relief can therefore be granted without any harm to either aquatic life or the environment.

## III. SYNOPSIS OF TESTIMONY

Petitioners will call several individuals to testify in support of the facts set forth in this Petition and requested relief, including the following:

### A. Mr. Max Shepard

Mr. Max Shepard, P.E., of Shepard Engineering, Incorporated, will testify regarding, among other things, the derivation of the proposed site-specific effluent standard; the condition of the receiving streams; the historical flow and fluoride data for the receiving streams; the entities presently discharging to the affected water segments, as

well as the entities using water downstream; fluoride impacts from the City's discharge; the available treatment or control options; fluoride removal technologies; and the technical feasibility of reducing fluoride levels from the truck washes.

**B. Mr. Greg Bright**

Mr. Greg Bright, of CBI, will also testify regarding the conditions of the receiving tributary to Salt Creek, Salt Creek, and the Little Wabash River. In addition, Mr. Bright will testify regarding the effects of fluoride on the water downstream from the City's WWTP. Mr. Bright's testimony will include a description of the available data concerning the toxicity of fluoride to aquatic life; the effect of water hardness on fluoride toxicity; and bioassessments of the receiving stream. Mr. Bright will testify that the site-specific effluent standard for fluoride proposed by Petitioners can be granted without any harm to either aquatic life or the environment.

**C. Mr. Mike Rose**

Mr. Mike Rose, Environmental Research and Development Director for BBI, will testify regarding BBI's operation, including the use of fluoride by BBI's and Truckomat's truck wash facilities; the ability of other persons to comply with the general water quality standard for fluoride; the beneficial economic impact of BBI's and Truckomat's operations to the City and surrounding area; the economic impact of the proposed rule; and the economic reasonableness of reducing fluoride levels from the truck washes.

**D. Mr. Steve Miller**

Mr. Steve Miller, P.E., Engineer for the City, will testify regarding the City in general, and more specifically, the City's WWTP; the NPDES permit issued to the City

and the limits therein; the sources of fluoride at the City's WWTP; the efforts taken by the City to comply with the general water quality fluoride standard; and the economic impact of the proposed rule.

## IV. MOTION FOR WAIVER OF SIGNATURE REQUIREMENT

In a separate Motion filed simultaneous with this Petition, Petitioners respectfully request that the Board waive the requirement, set forth at 35 Ill. Admin. Code § 102.202(f), that a petition for rulemaking be signed by at least 200 persons.

## V. STATEMENT OF RECENCY

The rules proposed in this Petition do not amend any existing Board rules but, instead, requests that the Board amend its effluent standards set forth in Part 304, by establishing the new site-specific rule proposed. The new site-specific regulation proposed to be added to Part 304 would amend the most recent version of Part 304 published on the Board's Web site, which was last amended in R98-14 at 22 Ill. Reg. 687, effective December 31, 1998.

## VI. ATTACHMENTS

The following attachments are included by Petitioners in support of the site-specific effluent standard proposed, and are hereby made a part of this Petition:

A. City of Effingham Sewage Treatment Plant Data Summary ("Attachment A");

B. Receiving Stream Flow And Fluoride Concentration Data ("Attachment B");

C. Bench-Scale Treatability Study Report ("Attachment C");

D. Review of Fluoride Toxicity Data and Development of Fluoride Aquatic Toxicity Criteria for the Effingham, Illinois Waste Water Treatment Plant ("Attachment D");

E. Letter from Shepard Engineering, Inc. to IEPA, dated July 3, 2002 ("Attachment E"); and

F. Rapid Bioassessment of a Tributary of Salt Creek, Effingham Illinois ("Attachment F").

## VII. CONSISTENCY WITH FEDERAL LAW

The Board has previously recognized that it has the authority and broad discretion, consistent with federal law, to adopt water quality and effluent standards that do not adversely affect the designated uses of a water body.

> Generally, states must adopt water quality standards which protect the designated use of interstate and intrastate waters. 33 U.S.C. § 1313(c) (1998). The Board has adopted the water quality standards at 35 Ill. Adm. Code § 302.203 in compliance with federal law. States may also revise water quality standards. 40 C.F.R. § 131.4 (1998).
>
> * * *
>
> The Board has stated previously that federal directives give it "broad discretion in determining the appropriate standard of control to apply to discharges from water treatment plants". In re Site Specific Exception to Effluent Standards for the Illinois American Water Company, East St. Louis Treatment Plant (February 2, 1989), R85-11, slip op. at 10.

In the Matter of Petition of Illinois American Water Company's Alton Public Water Supply Replacement Facility, AS 99-66, 2000 WL 141967 at *25 (Ill. PCB September 7, 2000.

Thus, the Board has the authority, pursuant to the broad discretion provided it pursuant to federal directives, to determine that the site-specific effluent standard requested by Petitioners is the appropriate standard of control to be applied, and will be protective of the portions of the water bodies identified above.

## VIII. CONCLUSION

Petitioners respectfully request that the Board grant the site-specific relief requested herein. As demonstrated above, treatment to a general fluoride water quality standard and effluent standard of 1.4 mg/L is neither technically feasible nor economically reasonable for this site. Moreover, the elimination of fluoride-based chemicals from BBI's and Truckomat's facilities would have a severe negative economic impact on theses industries, as well as the City, and potentially the State. Finally, a site-specific effluent standard of 4.5 mg/L fluoride will not harm the aquatic life in the receiving stream to which the City discharges.

Further, the relief requested by Petitioners is consistent with the Board's recent decision in Rhodia, Inc., et al., which determined that relief from Part 304 of the Board's regulations was more appropriate than relief from Part 302. See, In the Matter of Rhodia, Inc., et al., AS 01-9, slip op. at 10 (Ill. PCB, January 10, 2002). The relief requested in this Petition would not do away with the Part 302 water quality standard for fluoride in the receiving stream, but would rather obviate the need for the City's effluent to comply with the specific fluoride limitations of that water quality standard. In the alternative, however, if it is determined that a specific water quality standard must be designated, Petitioners request that the Board utilize a standard of 5.0 mg/L fluoride, which as this Petition demonstrates, is the highest fluoride level that may potentially occur in the receiving stream if an effluent limit for the City's discharge of 4.5 mg/L is utilized.

WHEREFORE, for the above and foregoing reasons, the Petitioners, CITY OF EFFINGHAM, BLUE BEACON INTERNATIONAL, INC., and TRUCKOMAT

CORPORATION, respectfully request that the Illinois Pollution Control Board promulgate the site-specific effluent standard for fluoride requested, and/or grant such other relief as is appropriate and just.

Respectfully submitted:

CITY OF EFFINGHAM,
BLUE BEACON INTERNATIONAL, INC.,
and TRUCKOMAT CORPORATION,
Petitioners,

By: _____
One of their Attorneys

Dated: October 16, 2002

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BLUE:001/Fil/Petition – Site Specific Reg