BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:	)	
	)	
PROPOSED SITE SPECIFIC	)	
RULE FOR SANITARY DISTRICT	)	R14-_____
OF DECATUR FROM 35 ILL. ADM.	)	(Site Specific Rule – Water)
CODE SECTION 302.208(e).	)	

NOTICE OF FILING

TO: Mr. John T. Therriault
Clerk of the Board
Illinois Pollution Control Board
100 W. Randolph Street
Suite 11-500
Chicago, Illinois 60601
(VIA ELECTRONIC MAIL)

PLEASE TAKE NOTICE that I have today filed with the Office of the Clerk of the Illinois Pollution Control Board the **ENTRY OF APPEARANCE OF KATHERINE D. HODGE, ENTRY OF APPEARANCE OF ETHAN S. PRESSLY, PETITION FOR SITE SPECIFIC RULE, MOTION TO WAIVE REQUIREMENT TO SUBMIT 200 SIGNATURES, AFFIDAVIT OF TIMOTHY R. KLUGE** and **AFFIDAVIT OF MAHLON KALOUPEK**, copies of which are herewith served upon you.

Respectfully submitted,

SANITARY DISTRICT OF DECATUR,

Dated: June 30, 2014

By: /s/Katherine D. Hodge
Katherine D. Hodge

Katherine D. Hodge
Ethan S. Pressly
HODGE DWYER & DRIVER
3150 Roland Avenue
Post Office Box 5776
Springfield, Illinois 62705-5776
(217) 523-4900

CERTIFICATE OF SERVICE

I, Katherine D. Hodge, the undersigned, hereby certify that I have served the attached ENTRY OF APPEARANCE OF KATHERINE D. HODGE, ENTRY OF APPEARANCE OF ETHAN S. PRESSLY, PETITION FOR SITE SPECIFIC RULE, MOTION TO WAIVE REQUIREMENT TO SUBMIT 200 SIGNATURES, AFFIDAVIT OF TIMOTHY R. KLUGE and AFFIDAVIT OF MAHLON KALOUPEK, upon:

Mr. John T. Therriault
Clerk of the Board
Illinois Pollution Control Board
100 West Randolph Street, Suite 11-500
Chicago, Illinois 60601

via electronic mail on June 30, 2014; and upon:

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

Division Chief of Environmental Enforcement
Office of the Attorney General
69 West Washington Street
Chicago, Illinois 60602

Office of Legal Services
Illinois Department of Natural Resources
One Natural Resources Way
Springfield, IL 62702-1271

depositing said documents in the United States Mail, postage prepaid, in Springfield, Illinois, on June 27, 2014.

/s/Katherine D. Hodge
Katherine D. Hodge

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

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PROPOSED SITE SPECIFIC	)	
RULE FOR SANITARY DISTRICT	)	R14-_____
OF DECATUR FROM 35 ILL. ADM.	)	(Site Specific Rule – Water)
CODE SECTION 302.208(e).	)	

ENTRY OF APPEARANCE OF KATHERINE D. HODGE

NOW COMES Katherine D. Hodge, of the law firm HODGE DWYER & DRIVER, and hereby enters her appearance in this matter on behalf of the Sanitary District of Decatur.

Respectfully submitted,

Dated: June 30, 2014

By: /s/Katherine D. Hodge
Katherine D. Hodge

Katherine D. Hodge
HODGE DWYER & DRIVER
3150 Roland Avenue
Post Office Box 5776
Springfield, Illinois 62705-5776
(217) 523-4900

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:	)	
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PROPOSED SITE SPECIFIC	)	
RULE FOR SANITARY DISTRICT	)	R14-_____
OF DECATUR FROM 35 ILL. ADM.	)	(Site Specific Rule – Water)
CODE SECTION 302.208(e).	)	

ENTRY OF APPEARANCE OF ETHAN S. PRESSLY

NOW COMES Ethan S. Pressly, of the law firm HODGE DWYER & DRIVER, and hereby enters his appearance in this matter on behalf of the Sanitary District of Decatur.

Respectfully submitted,

Dated: June 30, 2014

By: /s/Ethan S. Pressly
Ethan S. Pressly

Ethan S. Pressly
HODGE DWYER & DRIVER
3150 Roland Avenue
Post Office Box 5776
Springfield, Illinois 62705-5776
(217) 523-4900

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:	)	
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PROPOSED SITE SPECIFIC	)	
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OF DECATUR FROM 35 ILL. ADM.	)	(Site Specific Rule – Water)
CODE SECTION 302.208(e).	)	

PETITION FOR SITE SPECIFIC RULE

NOW COMES the SANITARY DISTRICT OF DECATUR ("District"), by and through its attorneys, HODGE DWYER & DRIVER, and pursuant to 415 ILCS 5/27 and 5/28, and 35 Ill. Admin. Code §§ 102.202 and 102.210, hereby petitions the Illinois Pollution Control Board ("Board") for a site specific rule. The proposed site specific rule would authorize an alternative chronic water quality standard for nickel according to the terms outlined in this Petition for Site Specific Rule ("Petition").

I. PROPOSED SITE SPECIFIC RULE

The District is seeking a site specific rule to establish an alternative chronic water quality standard for nickel from the point of its discharge into the Sangamon River from its Main Sewage Treatment Plant ("Main Plant") to the point of the confluence of the Sangamon River with the South Fork of the Sangamon River near Riverton.

The general use water quality standard for nickel, which is set forth in Section 302.208(e), is defined by a calculation for dissolved nickel based on stream hardness. 35 Ill. Admin. Code § 302.208(e). The acute standard ("AS") for nickel is defined as "exp[A+Bln(H)] X 0.998*, where A=0.5173 and B=0.8460," and the chronic standard ("CS") for nickel is defined as "exp[A+Bln(H)] X 0.997*, where A=-2.286 and B=0.8460." Id. The AS for nickel "shall not be exceeded at any time," except as

provided in Section 302.208(d). 35 Ill. Admin. Code § 302.208(a). The CS for nickel "shall not be exceeded by the arithmetic average of at least four consecutive samples collected over any period of at least four days," except as provided in Section 302.208(d). 35 Ill. Admin. Code § 302.208(b). No change is proposed for the general use acute water quality standard for nickel.

The site specific chronic water quality standard for nickel proposed by the District would provide as follows:

> Section 303.41X Chronic Nickel Water Quality Standard for Segment of the Sangamon River
>
> The general use chronic water quality standard for dissolved nickel contained in Section 302.208 shall not apply to the Sangamon River, which receives discharges from the Sanitary District of Decatur's Main STP, from the outfall of that facility 39° 49' 56" North Latitude, 89° 0' 7" West Longitude (the lat/long of Outfall 001) to the point of the confluence of the Sangamon River with the South Fork of the Sangamon River near Riverton. Instead, nickel levels in such waters shall meet a chronic water quality standard for dissolved nickel of 0.038 mg/L.

As discussed herein, the District also proposes a site specific alternative mixing rule under certain flow conditions in order to allow mixing to be considered when determining a water quality based National Pollutant Discharge Elimination System ("NPDES") permit limit for nickel. Specifically, the District requests that the Board direct the Illinois Environmental Protection Agency ("Illinois EPA" or "Agency") to revise the District's NPDES permit to: 1) reflect that the general use effluent standard for nickel contained in Section 304.124(a) of the Board's rules shall not apply to the District's discharges; 2) reflect that the mixing limitation in Section 302.102(b)(8) of the Board's rules shall not apply to the nickel concentration in the District's discharges when

upstream flow, measured at the U.S. Geological Survey site 05573540 (Sangamon River at Route 48 at Decatur, Illinois) equals or exceeds 100 cubic feet per second ("cfs"); 3) reflect that at such times when the upstream flow equals or exceeds 100 cfs, the total nickel (STORET number 01067) concentration in the District's discharges shall not exceed 0.054 milligrams per liter ("mg/L"), based on the arithmetic average of at least four consecutive samples collected over any period of at least four days; and 4) reflect that the District will be required to meet a total nickel permit limit of 0.039 mg/L based on the site specific chronic water quality standard for dissolved nickel of 0.038 mg/L when there is less than 100 cfs available for mixing.

This Petition will demonstrate that the proposed alternative to the existing general use chronic water quality standard that would be based on nickel bioavailability is equally protective of aquatic life and stream use. As noted above, no change is proposed to the general use acute water quality standard for nickel. Further, this Petition will show also that treatment to meet the existing general use chronic water quality standard for nickel is neither technically feasible nor economically reasonable for the portion of the Sangamon River to which the Main Plant discharges, and this Petition will discuss the economic impact of the proposed alternative. This Petition will discuss also the derivation of the alternative standard and mixing rule. As explained more fully herein, the proposed levels of nickel in the affected portion of the Sangamon River will be protective of aquatic life, human health, and the environment as a whole.

II. STATEMENT OF FACTS

A. District Facility and Operations Description

The District, located in Macon County, is engaged in the treatment of wastewater for the City of Decatur, the Villages of Forsyth, Mt. Zion, Oreana and Argenta, and for industrial and commercial users in the Decatur, Illinois, metropolitan area. The District employs approximately 55 full-time employees, and was formed in 1917. The original Main Plant, located at 501 Dipper Lane, Decatur, Illinois, was completed in 1924. Major expansions and plant upgrades were made in 1928, 1957, 1964 and 1976, and the current plant was completed in 1990. The District serves approximately 90,000 residential users, 26 significant industrial users ("SIUs") and more than 1,000 other industrial and commercial users.

An average flow of approximately 35 million gallons per day ("MGD") is processed at the Main Plant and then discharged into the Sangamon River. The Main Plant has a design average flow of 41.0 MGD and a design maximum flow of 125.0 MGD. Treatment at the Main Plant consists of screening, grit removal, primary clarification, two-stage activated sludge, secondary clarification, disinfection, dechlorination, discharge to surface water, anaerobic digestion, flotation thickening, and land application of sludge on area farmland. The District has an approved pretreatment program with 17 noncategorical SIUs and 9 categorical SIUs.

A large portion of flow to the District's Main Plant is contributed by two industrial users, Archer Daniels Midland Company ("ADM") and Tate & Lyle Ingredients Americas, Inc. ("Tate & Lyle"). These industries both process grain (corn

and soybeans) and produce a variety of products. On an annual average basis, these two industries discharge approximately 11 MGD and 5 MGD, respectively, and constitute an average of approximately 45 percent of the District's flow. This percentage increases to as much as 70 percent of the District's flow during extended dry weather periods.

The Main Plant's main discharge is via Outfall 001 to the Sangamon River at 39° 49' 56" North Latitude, 89° 0' 7" West Longitude. At the discharge point, the Sangamon River is designated as a General Use Water under Section 303.201 of the Board's rules. As discussed above, the general use water quality standards for nickel is set forth in Section 302.208(e).

B. District's Current NPDES Permit

The District currently holds an NPDES Permit (No. IL0028321), issued by Illinois EPA on April 20, 2007, effective on July 1, 2007, modified on July 1, 2009, and with an expiration date of June 30, 2012, a copy of which is attached hereto as Exhibit 1. The District submitted a timely application for the renewal of its NPDES permit on December 21, 2011. Therefore, pursuant to 35 Ill. Adm. Code 309.104(a), the District's NPDES permit is presently administratively continued.

As issued on April 20, 2007, the NPDES permit at Special Condition 18 included a nickel effluent level that was calculated in accordance with the formula provided for in Section 302.208(e). The permitted effluent level for nickel in the April 2007 NPDES permit was 0.011 mg/L measured as a monthly average with no daily maximum concentration limit stated. The April 2007 NPDES permit also included at Special

Condition 18 the following schedule for achieving compliance with the above-mentioned effluent limit (as well as the effluent limit for zinc):

a. An interim report on effluent and stream sampling to date and what measures are necessary to comply with final nickel and zinc limitations shall be completed 6 months from the effective date of the current NPDES permit, meaning by January 1, 2008.

b. An interim report shall be completed 12 months from the effective date of the current NPDES permit, meaning by July 1, 2008.

c. An interim report shall be completed 18 months from the effective date of the current NPDES permit, meaning by January 1, 2009.

d. The District must achieve compliance with final nickel and zinc limitations 24 months from the effective date of the current NPDES permit, meaning by July 1, 2009.

According to an Illinois EPA memorandum regarding the water quality based effluent limits in the District's April 2007 NPDES permit, the nickel standard included therein was "based on hardness data collected at AWQMN station E-05, Sangamon River, SE of Niantic, with a critical hardness value of 242 mg/L as $CaCO_3$." Memorandum from S. Twait, Illinois EPA, to R. Hahn regarding Water Quality Based Effluent Limits, Decatur Sanitary District, NPDES #IL0028321 (Macon County) (Nov. 9, 2006), attached hereto as Exhibit 2.

In addition, pursuant to Special Condition 17 of the April 2007 NPDES permit, the District performed a Translator Study, the main reference for which was "The Metals Translator: Guidance for Calculating a Total Recoverable Permit Limit from a Dissolved Criterion," United States Environmental Protection Agency ("USEPA"), EPA823-B-96-007, June 1996, to determine the acute and chronic metals translators for nickel in

discharge from the Main Plant final effluent. The District forwarded this Translator Study to Illinois EPA on December 20, 2007, as part of its first Interim Report, which is discussed in more detail below, attached hereto as Exhibit 3. Subsequently, Illinois EPA advised the District that, based on the Translator Study, the permit limit could be adjusted to 0.015 mg/L (monthly average) for nickel. See letter from S. Twait, Illinois EPA, to T. Kluge at the District (April 24, 2009), attached hereto as Exhibit 4.

As stated above, the District's NPDES permit was modified on July 1, 2009. Among other revisions made to the NPDES permit, the modified NPDES permit changed the nickel and zinc limits based on the metals translators. Exhibit 1 at cover letter. The revised permitted effluent level for nickel is 0.015 mg/L measured as a monthly average with no daily maximum concentration limit stated. Id. at Special Condition 17.

The modified NPDES permit also included an extension from the existing compliance schedule for nickel and zinc from two years to three years. The modified NPDES permit stated the following:

> This extension is necessary because work performed to date has not allowed achievement of numeric limitations for nickel and zinc. Work performed includes a translator study, source investigation and source elimination or reduction including change of cooling water additives containing zinc, housekeeping practices, pH addition and other investigations. The additional time will be used to investigate other treatment techniques that would include electro-coagulation and methods to break the [gluten] nickel [chelating] bond.

Exhibit 1 at cover letter.

The following compliance schedule was included in the modified NPDES permit at Special Condition 17:

1) An interim report on effluent and stream sampling to date and what measures are necessary to comply with final nickel and zinc limitations shall be completed 6 months from the effective date of the current NPDES permit, meaning by January 1, 2008.

2) An interim report shall be completed 12 months from the effective date of the current NPDES permit, meaning by July 1, 2008.

3) An interim report shall be completed 18 months from the effective date of the current NPDES permit, meaning by January 1, 2009.

4) An interim report shall be completed 24 months from the effective date of the current NPDES permit, meaning by July 1, 2009.

5) An interim report shall be completed 30 months from the effective date of the current NPDES permit, meaning by January 1, 2010.

6) The District must achieve compliance with final nickel and zinc limitations 36 months from the effective date of the current NPDES permit, meaning by July 1, 2010.

C. District's Current Variance for Nickel

On June 15, 2009, in the case of Sanitary District of Decatur v. Illinois EPA, PCB No. 09-125, the District petitioned the Board for a variance that would authorize continued discharges of nickel and zinc from the District's Main Plant into the Sangamon River. Specifically, the District sought a variance from the general use water quality standards for nickel and zinc at 35 Ill. Admin. Code § 302.208(e) and the rule establishing the methodology for developing water quality based effluent limits as it applies to nickel and zinc (35 Ill. Admin. Code § 304.105). The temporary relief was requested to provide the District with additional time to investigate and evaluate potential compliance options for its nickel and zinc discharges.

On January 7, 2010, the Board granted the District the variance, subject to the following conditions:

a. The variance applies only to the District's Main Plant, located at 501 Dipper Lane in Decatur, Macon County, and only with respect to the District's discharge to the Sangamon River from the Main Plant's Outfall 001.

b. The variance begins on January 7, 2010, and ends on July 1, 2014.

c. The District must continue plant influent and effluent monitoring for nickel and zinc, along with monitoring upstream and downstream of the discharge in the Sangamon River. Monitoring for nickel and zinc must be performed at least twice monthly. Downstream monitoring must include at least the four locations in the Sangamon River referenced in the District's petition.

d. If the District has not already done so, the District must amend its pretreatment ordinance as soon as possible to include nickel and zinc limits for all Significant Industrial Users (SIUs), present and future, that will ensure compliance with the effluent limits for those parameters set forth in the District's National Pollutant Discharge Elimination System (NPDES) permit.

e. The District must investigate the possible development of stream flow-based compliance options; continue to investigate updated toxicity information and possible alternatives for applying a nickel water quality standard; and continue to investigate the possible development of a site-specific water quality standard.

f. The District must require, through authorizations to discharge issued by the District under its pretreatment ordinance, industrial monitoring for nickel and zinc at least twice monthly at Archer Daniels Midland Company (ADM) and Tate & Lyle Ingredients Americas, Inc. (Tate & Lyle) and at least semi-annually at other industrial users that could discharge nickel and zinc.

g. The District must continue refinement of pretreatment local limits for nickel and zinc necessary to meet its NPDES permit effluent limits, and must continue work with ADM and Tate & Lyle on options for achieving compliance with local limits. The District must require, through authorizations to discharge issued by the

District under its pretreatment ordinance, that ongoing verification monitoring be conducted to confirm that cooling tower treatment programs are achieving the necessary zinc reductions. The District must remain in frequent contact with ADM personnel regarding ADM's ongoing work identifying nickel sources and control options and must continue to meet with ADM personnel at least semiannually and exchange information, and must meet more frequently as needed.

h. The District must require, through an authorization to discharge issued by the District under its pretreatment ordinance, that ADM complete the technology review as described below. Technologies may be evaluated based on compliance strategies involving both individual process streams and total effluent flows.

i. By December 31, 2010, complete technical and economic feasibility reviews for the following control technologies. The reviews must include determination of technical feasibility, capital and operating costs, reliability, and pilot testing as appropriate.

A. Nickel – Proprietary Precipitation Process. A wastewater treatment chemical company has evaluated process streams and has reported positive results for a metals precipitation process. Work is ongoing to determine feasibility and confirm results.

B. Nickel – Chemical Precipitation Process Using Carbamates or Organic Sulfides. Discussions with wastewater experts for metals have identified chemicals suited for low concentration precipitation of metals. Work is underway to complete confidentiality agreements and contracts to further evaluate. Concurrently, ADM has begun evaluation of these chemicals as provided by GE Betz Company.

C. Nickel – Reuse of Ion Exchange Resin. ADM currently disposes of resins from the fructose process that are no longer of suitable quality. Initial tests have indicated that there is suitable capacity to provide effective nickel reductions. The difference

between use of spent ion exchange resin and the ion exchange process reviewed and determined to be infeasible is that the spent resin would not be regenerated, which saves significant chemical and energy costs.

D. Nickel and Zinc – Soybean Process Stream Alternative. ADM is considering installation of a thickening system necessary for sale of this product as a feed or fertilizer additive. Installation is dependent on funding and procurement of customers.

E. Nickel and Zinc – BioProducts Process Stream Alternative. ADM is reviewing options to install equipment to thicken a process stream for use as a fertilizer additive.

F. Nickel and Zinc – WWTP Sludge Removal System. Evaluation of options for sludge removal and management for the WWTP.

G. Nickel and Zinc – Reverse Osmosis. ADM has completed preliminary technical and cost evaluation for treating a portion of the effluent with reverse osmosis. Review has concluded that the technology will work to reduce both nickel and zinc. However, capital and operating costs are prohibitive based on the volume of wastewater to be treated. Continued evaluation of this option will occur in combination with other potential treatment options.

H. Nickel and Zinc – Sludge. Discussions are scheduled concerning a device that breaks apart WWTP organisms. The purpose would be to change the characteristics of the anaerobic sludge, stop its carryover, and thus lower nickel and zinc content in the sludge to the District.

I. Nickel and Zinc – Sludge Purchase. ADM has been contacted by a company that has the potential to purchase all of ADM's sludge. Testing of the sludge is scheduled at the company's site.

J. Electro-Chemical Decomposition and Capacitive Deionization. ADM has begun researching these technologies.

ii. Until July 1, 2012, continue to investigate the potential for other technologies and developments in technologies already evaluated.

i. By December 31, 2010, the District must complete the following tasks:

i. Review soluble/insoluble ratio of SIU discharges versus the District's total discharge numbers, and determine if pretreatment limits need to be adjusted.

ii. Determine how much of the insoluble nickel and zinc entering the District's Main Plant is removed in the sludge and whether or not the pretreatment limits should be expressed as total or soluble limits.

iii. Pursue variable limits based on flow with the Illinois Environmental Protection Agency (Agency) and seek permit modifications as necessary.

j. By July 1, 2011, the District must complete the following tasks:

i. Compile various control strategies based on one or more of the feasible technologies. Develop flow diagrams depicting removal options, pros and cons, capital expenditures, and operating costs.

ii. Present findings to ADM division managers.

k. The District must comply with the following schedule for achieving compliance with NPDES permit effluent limits for nickel and zinc:

July 1, 2010 - Submit an interim report to the Agency describing progress on each of the elements of the compliance plan above.

January 1, 2011	-	Submit interim report, as above.
July 1, 2011	-	Submit interim report, as above.
January 1, 2012	-	Submit interim report, as above.
July 1, 2012	-	Submit a final compliance plan to the Agency containing nickel and zinc controls, treatment technologies, proposed permit modifications, or proposed site-specific water quality standards that will achieve compliance with the District's NPDES permit effluent limits for nickel and zinc.
January 1, 2013	-	Submit interim report, as above.
July 1, 2013	-	Submit interim report, as above.
January 1, 2014	-	Submit interim report, as above.
July 1, 2014	-	Achieve compliance with the District's NPDES permit effluent limits for nickel and zinc.

l. The District must include the Agency in meetings to discuss interim progress at the July 1, 2010 and July 1, 2011 benchmarks set forth in paragraph 1(k). If any technically reasonable technology is identified that does not impose an arbitrary or unreasonable hardship on the District and remedies the zinc and nickel water quality standards problem, in whole or in part, the District must pursue that technology as soon as possible after identification.

Board Opinion and Order, Sanitary District of Decatur v. Illinois EPA, PCB No. 09-125, at 29 (Ill.Pol.Control.Bd. Jan. 7, 2010).

On May 25, 2011, the Agency issued a Public Notice for a permit modification that would, among other changes, reflect the compliance schedule for zinc and nickel as

set forth in the variance proceeding, PCB No. 09-125. As of the date of filing this Petition, no final Agency action had been taken on the permit modification. As set forth above, on December 21, 2011, the District submitted a timely application for the renewal of its NPDES permit.

On February 21, 2014, in the case of Sanitary District of Decatur v. Illinois EPA, PCB No. 14-111, the District petitioned the Board for a variance extension authorizing the continued discharge of nickel from its Main Plant into the Sangamon River. Specifically, the District sought a one-year extension to allow it more time to continue its investigation and implementation of adequate solutions regarding its nickel discharges. In support of its request, the District noted that it has been actively collaborating with the Illinois EPA and USEPA on the development and pursuit of a site-specific water quality standard for nickel based on the Biotic Ligand Model ("BLM") Adjustment to the nickel criterion.

On March 6, 2014, the Board accepted the District's petition for variance extension and assigned a hearing officer to the proceeding. On April 7, 2014, the Illinois EPA filed its recommendation, recommending that the variance be denied based on a recent federal directive regarding "consistency with federal law" for water variances.

On April 17, 2014, the District met with Illinois EPA to discuss the variance extension request, as well as issues associated with the recent federal directive regarding "consistency with federal law" for water variances.

On April 21, 2014, the District filed a motion to stay the variance extension proceeding consistent with the discussions at the April 17, 2014 meeting, in accordance

with Illinois EPA's acknowledgment that "the District is clearly in need of additional time by which to achieve compliance with the applicable nickel water quality standard," and that additional time of one year would be sufficient "to complete the appropriate BLM research required to validate the resulting site-specific nickel standard and file a petition with the Board." Agency Recommendation at 15-16 (April 7, 2014), attached hereto as Exhibit 5.

On May 1, 2014, the Board granted the motion to stay, but only until October 1, 2014 based on the current decision deadline waiver, to allow the District to continue its investigation and development of a site-specific water quality standard proposal and to respond to questions from Illinois EPA and USEPA related to the District's proposed use of the Biotic Ligand Model to support a site-specific standard petition.

D. History of District Nickel Mitigation Efforts

Since the issuance of the NPDES permit on April 20, 2007, the District has diligently pursued compliance with the nickel and zinc effluent limits contained therein. Please note that the District is currently achieving compliance with the zinc limit due, in large part, to ADM's and Tate & Lyle's efforts to identify sources of zinc and cease using zinc as a corrosion inhibitor in cooling towers located at their respective facilities.

Therefore, this Petition focuses on relief only from the general use chronic water quality standard for nickel. This Petition is not seeking relief from the general use acute water quality standard for nickel.

As soon as the permit became effective, the District began investigations of several alternatives including reduction of industrial contributions through the existing

industrial pretreatment program, potential adjustments to the permit limits (including the Translator Study), and treatment technology that could potentially be employed to improve removal at the District's Main Plant. The District's first effort toward compliance was to complete the Translator Study discussed above. The work on the Translator Study started in March 2007, prior to the permit issuance in April 2007, and continued through November 2007. As the Translator Study progressed, the District determined that it would provide very little relief. The Translator Study, however, was provided to Illinois EPA on December 20, 2007, as part of the first Interim Report. See Exhibit 3 at pages 4-5 for the proposed nickel limits, as calculated in the Translator Study.

Also, within one or two months after the effective date of the permit, sample data, including industrial samples, the District's effluent samples and stream sampling information, had been compiled, which showed that the most significant source of nickel in the District's wastewater was ADM's pretreated industrial flow. Therefore, the District met with SIUs, including ADM and Tate & Lyle, in August and September 2007, to discuss nickel issues. Personnel from ADM and Tate & Lyle were made aware of the District's new nickel limit at those meetings. The District then met with Illinois EPA on October 30, 2007, to discuss the situation. Please see the summary of sample data that was given to Illinois EPA personnel during the October 30, 2007 meeting, attached hereto as Exhibit 6.

After the District's October 2007 meeting with Illinois EPA, the District made significant efforts to identify treatment options regarding its nickel discharge. As

recommended by Illinois EPA, the District discussed options for reducing nickel loadings with ADM and Tate & Lyle. In early 2008, the District calculated new local pretreatment limits that would allow it to meet the upcoming effluent limit for nickel. These proposed limits were provided to ADM and Tate & Lyle and were the basis for numerous discussions with the industries during 2008.

Illinois EPA reviewed the first Interim Report and indicated that slightly higher permit limits could be justified based on the hardness data the District collected. Please see the e-mail from Scott Twait of Illinois EPA to Tim Kluge of the District, dated January 2, 2008, attached hereto as Exhibit 7. This conclusion led to modification of the NPDES permit to revise the permit limits for both nickel and zinc. The District also increased its metals monitoring to twice per month at the major industrial users and the Main Plant.

Also in January 2008, the District again met with personnel from both ADM and Tate & Lyle and reviewed the data on their discharges and the pretreatment numbers. ADM was identified as the primary source of nickel. ADM has been reviewing, and currently continues to review, nickel source control and treatment technology as further described below.

In 2007, the District also began a review of information that could potentially support a site specific chronic water quality standard for nickel. See Exhibit 3. At the suggestion of Illinois EPA and USEPA, the District reviewed guidance for determining a Water Effect Ratio ("WER") and whether that might be applicable to the District's

situation. Id. The District also reviewed information in the Biotic Ligand Model ("BLM") to determine its potential usefulness. Id.

Following consultation with Illinois EPA in 2008, the District continued to investigate the BLM and WER. Please see the District's December 29, 2008 Interim Report, attached hereto as Exhibit 8. The District contacted a consultant regarding the approaches and gathered information to evaluate their possible application. Id.

The District continued to investigate the BLM and WER in 2009, while at the same time seeking a variance from the Board for continued discharges of nickel and zinc, as discussed above. See District's December 30, 2009 Interim Report, attached hereto as Exhibit 9. The District retained Mr. Robert Santore of HDR|HydroQual, Inc. in Syracuse, New York, to conduct an evaluation of the applicability of the BLM and WER based on available data. Id. Mr. Santore's scope of work included the following: 1) obtain water quality data from the District to assemble or estimate appropriate BLM inputs in order to calculate nickel bioavailability in the receiving waters; 2) run the BLM using those data to predict nickel bioavailability to sensitive aquatic organisms; 3) summarize those results and the calibration of the BLM from other data from the literature; and 4) based on those results, advise the District of the relative merits of pursuing bioavailability modeling. Id.

The District provided Illinois EPA a preliminary summary of Mr. Santore's evaluation of the applicability of the BLM and WER based on available data as an attachment to its July 1, 2010 Interim Report, which is attached hereto as Exhibit 10. The evaluation indicated that a significantly higher site specific nickel criteria could be

justified based on bioavailability to aquatic organisms. Id. Mr. Santore's analysis was based on chemical data from the District's effluent, which contributes most or all of the Sangamon River flow during critical low flow conditions. Id.

Additional river sampling was conducted during low flow conditions in late summer 2010 to verify stream concentrations. See District's December 29, 2010 Interim Report, attached hereto as Exhibit 11. On December 9, 2010, the District initiated discussions with Illinois EPA and USEPA on the reaction to a bioavailability approach. Id. Personnel from USEPA indicated they would like to review published information regarding the nickel BLM and discuss at a later date. Id.

Variability information was compiled regarding the BLM and WER and reviewed prior to discussion in a follow up telephone call with Illinois EPA and USEPA on June 6, 2011. See District's June 29, 2011 Interim Report, attached hereto as Exhibit 12; see also presentation slides accompanying the June 6, 2011 telephone call, attached hereto as Exhibit 13; see also Robert Santore, Final Report, entitled "Estimate of the BLM Adjustment to the Nickel Criterion for the Sanitary District of Decatur, Illinois," (January 16, 2014), and attached hereto as Exhibit 14.

For the most current information regarding the District's nickel mitigation efforts, please see the District's December 21, 2011 Interim Report, attached hereto as Exhibit 15, the District's June 25, 2012 Interim Report, attached hereto as Exhibit 16, the District's December 19, 2012 Interim Report, attached hereto as Exhibit 17, the District's June 27, 2013 Interim Report, attached hereto as Exhibit 18, and the District's December 20, 2013 Interim Report, attached hereto as Exhibit 19.

E. History of ADM Nickel Mitigation Efforts

As set forth above, in August 2007, the District notified ADM of the tightened nickel effluent limit included in the District's April 2007 NPDES permit. Based on sampling conducted by the District, ADM was identified as a significant contributor of nickel. In January 2008, the District met with ADM and shared the proposed limit calculated from the sampling data, with which ADM would be required to comply by July 2009. It was not until that time that ADM first recognized the implications that this limit could have on its operations.

ADM's Decatur Complex consists of multiple, separate processing plants which discharge their wastewater to the on-site wastewater treatment plant ("WWTP") operated by Corn Plant personnel. These processing plants consist of the Corn Plant (Wet Corn Mill, Alcohol Plant, and Sorbitol Plant), BioProducts Plant, Cogeneration Plant, East Soybean Processing Plant, West Plant (West Soybean Processing Plant, Vitamin E Plant, and Corn Germ Processing Plant), Glycols Plant, and the Polyols Plant. Each of these individual plants produces multiple products, using both batch and continuous processes, and creates unique process waters which generally are reused multiple times prior to being discharged as wastewater to the WWTP. The WWTP treats approximately 11 MGD through an anaerobic treatment system followed by aerobic treatment prior to discharge to the District.

ADM has tested its raw materials and process water streams from each plant to determine the sources of nickel in ADM wastewater and has identified those streams that

contain the highest concentration of nickel. Three primary sources of nickel have been identified:

1. Nickel contained in incoming soybeans (approximately 4.1 mg/kg soybeans) and corn (approximately 0.53 mg/kg corn);
2. Nickel solubilized from nickel catalysts used in hydrogenation; and
3. Nickel solubilized from metallurgy during processing.

The contribution and total quantity of nickel to the WWTP from each of the ADM plants is summarized in Table 1, attached hereto as Exhibit 20; data in Table 1 was derived from the August to November 2010 weekly samplings.

ADM has spent the past several years investigating the sources of nickel in its wastewaters and potential treatment strategies to reduce its nickel discharges. As the incoming nickel in soybeans (approximately 4.1 mg/kg soybeans) and corn (approximately 0.53 mg/kg corn) cannot be controlled, ADM initially focused on the potential to control major sources of nickel streams discharging to its WWTP. To that end, it has performed four comprehensive nickel material balances of its Decatur Complex and traced the majority of nickel entering the WWTP to the East Soybean Plant, Corn Plant and Polyols Plant.

As a result of its evaluation of the individual nickel-containing wastewater streams, ADM has taken, or is taking, several steps to reduce the nickel that reaches the WWTP from each of its processing facilities. These steps include:

1. Spent catalyst from the West Soybean Processing Plant is collected and sent to a landfill. Spilled catalyst is collected and disposed of as solid waste rather than washed into a sump.
2. Particulate catalyst from the Corn Plant Sorbitol production is captured by filters and physically recovered for recycling or disposal as solid waste. ADM installed an ion exchange resin system at the Sorbitol Plant to capture soluble nickel from wastewater. Used resin is managed in accordance with applicable regulations.
3. The East Soybean Processing Plant has installed a system that removes the soy molasses stream (containing approximately 2.4 lb/day, approximately 35% of the soluble nickel from the Decatur Complex) from the WWTP. This stream is high in digestible, fermentable sugars but will need to be concentrated for stability.
4. The Polyols Plant accounts for approximately 11% of the soluble nickel from the Decatur Complex. The Polyols Plant has determined that this nickel can be precipitated by pH adjustment. ADM has installed a precipitation and filtration treatment system which reduced the nickel from this process.

ADM intends to employ these process changes continuously to reduce the nickel content in wastewater to ADM's WWTP, independent of flow in the Sangamon River.

ADM has continued to monitor total and soluble nickel in the effluent to the District's Main Plant, and since the fall of 2010, there has been a gradual decline in

nickel from about 0.120 mg/L to about 0.060 mg/L. See Figure 1 attached hereto as Exhibit 21.

ADM has only experienced four spikes in total nickel effluent during this monitoring period (spring 2009, summer 2010, fall 2011, and fall 2013). ADM has identified the source of the spike in the summer of 2010 as a failure of Sorbitol catalyst capture filters and has since implemented additional filtration and the ion exchanged based nickel capture system. The spikes from the spring of 2009 and the fall of 2011 are of an indeterminate cause, and the spike in the fall of 2013 was attributed to a process change at ADM's pretreatment facility that was implemented to reduce long-term discharges of nickel.

The above-described work that ADM has undertaken to reduce nickel within the individual wastewater streams has resulted in material reductions of nickel loads to the Decatur Complex WWTP. To complement those efforts, ADM has also investigated a number of technologies to determine their associated potential to control nickel at the Decatur Complex WWTP; those technologies are discussed in further detail in Section III.E. Nevertheless, ADM's efforts have not disclosed a means for it to consistently meet the proposed nickel limit that would apply to ADM based upon the District's current NPDES permit.

For the most current information regarding the ADM's nickel mitigation efforts, please see the District's December 21, 2011 Interim Report, attached hereto as Exhibit 15, as well as the District's June 25, 2012 Interim Report, attached hereto as Exhibit 16, the District's December 19, 2012 Interim Report, attached hereto as Exhibit 17, the

District's June 27, 2013 Interim Report, attached hereto as Exhibit 18, and the District's December 20, 2013 Interim Report, attached hereto as Exhibit 19.

III. STATEMENT OF PURPOSE AND EFFECT OF PROPOSAL

A. Nature of Receiving Stream

1. Historical Flow and Nickel Concentrations in the Receiving Stream

The Sangamon River watershed comprises approximately 5,419 square miles, all in central Illinois, and practically all of it tillable and generally cultivated. The Sangamon River originates in central McLean County, east of Bloomington, flows generally southwesterly to Decatur, then westerly to Springfield, northwesterly to the confluence with Salt Creek near Oakford, and then joins the Illinois River north of Beardstown. Its total length is about 250 miles.

The only impoundment on the main stem of the Sangamon River is Lake Decatur, formed by a dam in the southern portion of the City of Decatur. The District's Main Plant discharge to the Sangamon River is located approximately three miles downstream from the Lake Decatur dam. Lake Decatur is the primary water source for the City of Decatur and the lake is managed to maintain a continuous water supply. Consequently, river flow downstream from the dam is highly variable. During periods of dry weather, little or no water is released from the lake and little flow exists between the dam and the District's discharge point. At these times, the District's discharge constitutes the primary flow in the Sangamon River between Decatur and Springfield.

2. Current Water Quality in the Receiving Stream

Beginning prior to the issuance of the District's NPDES permit on April 20, 2007, the District has monitored its treated discharge and also the Sangamon River upstream and downstream of the discharge point for nickel. Monitoring results from March 2007 through March 2012 are summarized in Table 2, and attached hereto as Exhibit 22.

The Main Plant's main discharge is via Outfall 001 to the Sangamon River at 39º 49' 56" North Latitude, 89° 0' 7" West Longitude. At the discharge point, the Sangamon River is designated as a General Use Water under Section 303.201 of the Board's rules. As discussed above, the general use water quality standard for nickel, which is set forth in Section 302.208(e), is defined by a calculation for dissolved nickel based on stream hardness. 35 Ill. Admin. Code § 302.208(e). The CS for nickel is defined as "exp[A+Bln(H)] X 0.997*, where A=-2.286 and B=0.8460." Id. Based on the translator study referenced above, the Agency has advised the District that a critical hardness value of 359 mg/L would be used for permitting. Using this hardness, the calculated general use chronic water quality standard for nickel is 0.015 mg/L.

The segment of the Sangamon River that receives discharge from the Main Plant (Assessment Unit ID IL_E-09) is listed on Illinois' 303(d) list of impaired waters for 2012. See Appendix A-2, Illinois 2012 303(d) List, Alphabetically by Water Body Name at 48, available at http://www.epa.state.il.us/water/tmdl/303-appendix/2012/appendix-a2.pdf. The uses impaired for this segment are fish consumption and primary contact recreation. Id. The potential causes of impairment given for the segment are polychlorinated biphenyls and fecal coliform. Id. The potential sources associated with

the impairment are unknown. See Appendix B-2, Specific Assessment Information for Streams, 2012 at 1-2 and 71, available at http://www.epa.state.il.us/water/tmdl/303-appendix/2012/appendix-b2.pdf. Also, Illinois EPA recently proposed an update, for 2014, to its 303(d) List, in which there are no changes for the segment of the Sangamon River that receives discharge from the Main Plant (Assessment Unit ID IL_E-09). See Appendix A-2, proposed Illinois 2014 303(d) List, Alphabetically by Water Body Name at 48, available at http://www.epa.state.il.us/water/tmdl/303-appendix/2014/appendix-a2.pdf.

The Illinois State Water Survey ("ISWS") has prepared maps indicating the seven-day, ten-year low flow ("7Q10") of Illinois streams, including the Sangamon River and its tributaries, along with wastewater plant flows. The 7Q10 flow is important because it is the flow used by Illinois EPA in establishing water quality based permit limits. The 7Q10 map for the Sangamon River Region is dated April 2002, and is attached hereto as Exhibit 23. The ISWS map shows a 7Q10 flow of zero below the Lake Decatur dam and upstream of the District's discharge point, meaning that on average, over a period of ten years, the stream will have no flow for at least one period of seven consecutive days. In the District's case, the discharge limit for nickel is therefore equivalent to the water quality standard, with no allowance for mixing, because the 7Q10 flow upstream of the Main Plant discharge is zero.

The flow indicated for the District's discharge on the ISWS map is 34.7 cfs or 22.4 MGD, which is representative for dry weather conditions. The 7Q10 flow shown for the Sangamon River between the District's discharge and the confluence with the

South Fork southeast of Riverton varies between 36.0 and 40.9 cfs. A number of small tributaries enter the Sangamon in this stretch of the river, and all but one are shown with zero low flow in their entire length or in all but the extreme lower reaches.

The U.S. Geological Survey ("USGS") maintains a stream flow measurement station at the Illinois Route 48 bridge crossing over the Sangamon River, approximately one mile downstream from the dam, providing continuous river flow data upstream of the District's discharge. Flow data from this stream measurement station is available for the period from October 1, 1982 to the present on the USGS website: (http://waterdata.usgs.gov/usa/nwis/uv?site_no=05573540). The range of measured flow is from 0.00 cfs on many dates to 21,500 cfs on September 14, 2008.

Sampling and observations conducted by the District during low flow periods confirm that the river between the District's discharge and the confluence with the South Fork is similar to the Main Plant discharge in volume and chemical characteristics. Flow provided by the South Fork and Sugar Creek (which carries flow from the Springfield Metro Sanitary District's Sugar Creek wastewater treatment plant) provides a noticeable change in both volume and water chemistry. Because of the changes occurring at this point, the District proposes that the confluence of the South Fork with the Sangamon River be established as the endpoint for the proposed site specific chronic water quality standard for nickel.

3. Aquatic and Fisheries Data

The overall impact of the District's discharge on water quality has been studied by researchers from Eastern Illinois University from 1998 to the present. These

biological studies continue to document similar or improved water quality conditions downstream of the District's discharge point, as compared to upstream, based on calculations of the Macroinvertebrate Index of Biotic Integrity ("MIBI"). See R. Colombo, J. Laursen and C. Pederson, Eastern Illinois University, "Biotic Assessment of Water Quality in a Stretch of the Sangamon River Receiving Effluent from the Sanitary District of Decatur: Focusing on Chemical Assessment, Mussel Assemblage, Tiered-Aquatic Life Use, and the Sport Fishery" at 13 (May 2013), attached hereto as Exhibit 24. The results of this study reflected the drought conditions during 2012, and concluded:

> The diversity of fish species was comparable to other Midwestern streams (Colombo unpublished data), with Sand Shiners, Blutnose Minnows, Red Shiners, Gizzard Shad, and Mosquitoish being the most numerically abundant non-game species and Bluegill, Channel Catfish, Green Sunfish, Largemouth Bass, and Yellow Bullhead being the most abundant sportfish species. Fairly small individuals dominated the sportfish population of the Sangamon River when using seining methods, while AC boat electrofishing sampled larger fish species such as Walleye, Gar, and Buffalo. Because of the 2012 drought, the conductivity was extremely high below the Sanitary District effluent, making it impossible to use electrofishing gear types, until recently. Higher water caused the conductivity to drop enough (301 mS cm^{-1}) to use alternating current electrofishing. We sampled fishes with electrofishing that we were unable to collect using seines, such as Smallmouth Bass, and Freshwater Drum. Because of our differential success of sampling a wide range of species using both AC boat electrofishing and seining methods, we will continue to conduct fish sampling using various gear types during 2013 to more accurately assess all sportfishes in the Sangamon River.[1]

Significantly, the earlier report (2012) concluded:

> No significant differences were found between the upstream and downstream reaches for species richness, biotic integrity, Simpson's diversity, and Shannon-Weiner diversity (Table 2, $p > 0.05$). River watch

[1] The 2014 study, which will cover 2013 conditions, is still in production.

> MIBI scores varied more in the upstream reach, indicating stream quality from 'very poor' to 'fair', while all downstream sites were in the 'fair' category.

See R. Colombo, J. Laursen and C. Pederson, Eastern Illinois University, "Biotic Assessment of Water Quality in a Stretch of the Sangamon River Receiving Effluent from the Sanitary District of Decatur: Focusing on Chemical Assessment, Mussel Assemblage, Tiered-Aquatic Life Use, and the Sport Fishery" at 13 (May 2012), attached hereto as Exhibit 25.

Similar to the May 2013 study, the May 2012 study also concluded:

> The diversity of fish species was comparable to other Midwestern systems (Colombo unpublished data), with red shiners, bullhead minnows, multiple cyprinidae species, and gizzard shad being the most numerically abundant non-game species and bluegill, channel catfish, hybrid striped bass, and largemouth bass being the most abundant sportfish species. Fairly small and young channel catfish dominated the sportfish population of the Sangamon River. The community of catfish was found to have a higher relative abundance compared to other Midwestern river systems (Colombo unpublished data).

Id. at 16; see also R. Colombo, J. Laursen and C. Pederson, Eastern Illinois University, "Biotic Assessment of Water Quality in a Stretch of the Sangamon River Receiving Effluent from the Sanitary District of Decatur: Focusing on Qualitative Habitat Assessment, Mussel Assemblage, Tiered-Aquatic Life Use, and the Sport Fishery" (May 2011), attached hereto as Exhibit 26; C. Pederson and R. Fischer, Eastern Illinois University, "Biotic Assessment of Water Quality in a Reach of the Sangamon River Receiving Effluent from the Sanitary District of Decatur" (August 2010), attached hereto as Exhibit 27; and C. Pederson and R. Fischer, Eastern Illinois University, "Biotic

Assessment of Water Quality in a Reach of the Sangamon River Receiving Effluent from the Sanitary District of Decatur" (July 2009), attached hereto as Exhibit 28.

4. Threatened and Endangered Species and Natural Areas

Ecological Compliance Assessment Tool ("EcoCAT") searches of the Illinois Natural Heritage Database found no record of State-listed threatened or endangered species, Illinois Natural Area Inventory sites, dedicated Illinois Nature Preserves, or registered Land and Water Reserves in the vicinity of the project location. The Illinois Department of Natural Resources lists the following endangered species in Macon County: Upland Sandpiper (*Bartramia longicauda*), Wild Hyacinth (*Camassia angusta*) and Bewick's Wren (*Thryomanes bewickii*). These terrestrial species would not be impacted by dissolved nickel concentrations in the Sangamon River. See EcoCAT Results (June 23, 2014), attached hereto as Exhibit 29.

5. Other Dischargers to the Affected Segment of the Receiving Stream and the Nickel Concentration of Their Effluent

Six municipal wastewater effluents are indicated on the ISWS map discharging to various tributaries of the affected reach of the Sangamon River. All of these are lagoon-type treatment systems that may discharge little or no flow during dry weather. The only discharge of more than 0.09 cfs shown on the ISWS map in this reach of the Sangamon River is Borden Chemical Company near Illiopolis. This manufacturing plant, subsequently purchased by Formosa Plastics Corporation, was heavily damaged by an explosion in April 2004, and does not currently have a continuous discharge. Review by

the District of the NPDES permits for these discharges indicates that none contain limits for nickel.[2]

B. The Proposed Site Specific Rule Will Provide Aquatic Life Protection Equal to the Existing General Use Chronic Water Quality Standard for Nickel

1. Summary of Data and Evaluation Procedures Upon Which the Current Water Quality Standard is Based

Water quality criteria ("WQC") are based on scientific assessments of health or ecological effects from pollutants, and are developed with guidance from USEPA. The WQC are based on the 5th percentile of a distribution of toxicity data from a large number of organisms that include species of suitable diversity to meet the minimum numbers of biological families specified in the guidelines. In the establishment of WQC, allowance is made to consider factors that affect bioavailability, including water quality characteristics such as pH, salinity, or hardness. As an example, the Illinois WQC for nickel is based on water hardness. The term "hardness" refers to the mineral content of the water and is primarily associated with the combined concentration of calcium and magnesium ions. Hardness is one of several key water quality constituents that have been shown to affect nickel bioavailability and toxicity. The Illinois water quality standards for nickel use a simple empirical equation that relates the value of the standard to the hardness of the receiving water. These equations are shown in Section I above.

[2] The current NPDES permit for Formosa Plastics Corporation (IL0001350) requires quarterly sampling of stormwater discharges for several parameters, including total nickel; however, the permit does not include a nickel limit.

2. Alternative Evaluation Procedure Based on Bioavailability Modeling

Other factors, such as pH and the presence of natural organic matter, are also known to affect nickel bioavailability and toxicity, but these factors have not been incorporated in simple empirical equations used to derive metal standards. As a result, metals criteria do not consider some key water quality constituents and, as a result, are often overprotective. USEPA has long acknowledged this problem, and has published guidance for dealing with local factors that affect bioavailability through the establishment of a WER. The WER depends on biological testing in receiving waters taken from a site. Comparison of observed toxicity in site water with observed toxicity in reference water can be used to document the presence of local factors that affect toxicity, and quantify the magnitude of their effects. The WER is usually determined with one or more sensitive organisms, which may include fish or aquatic invertebrates. Once a WER has been determined, a site specific WQC can be obtained by using the WER value as a multiplier that modifies the ambient criteria.

Although the WER has been in use for decades, it requires toxicity testing with multiple aquatic organisms in multiple samples. Costs and time required to accommodate WER testing can be significant. As an alternative, the BLM is a computational approach that can simulate the effects of water chemistry on metal toxicity, and on the physiological response of aquatic organisms to metals. The BLM provides information that is similar to the WER, but does so with much less cost and time required. The BLM is a mechanistic approach, not an empirical approach like the

hardness equation, and it considers effects from numerous chemical factors such as pH, the presence of natural organic matter, alkalinity, and major ions (including cations that contribute to hardness). The BLM considers how these factors affect either metal chemistry or organism physiology to determine metal bioavailability.

The BLM has been adopted by USEPA as a replacement for the hardness equation in the most recently updated metals criteria. The use of the BLM provides all the benefits of the WER, and for criteria based on the BLM, the use of the WER is no longer required. For metals (such as nickel) where USEPA has not adopted a BLM-based procedure for replacement of the hardness equation, the BLM can be used in a manner similar to the WER to modify the hardness equation-based WQC. Use of the BLM to derive a site specific WQC provides the same level of protection as intended by USEPA guidelines. To the extent that a BLM derived site specific WQC is different from the national ambient WQC, those differences reflect how local factors which are not considered by the hardness-equation may change metal bioavailability and toxicity.

The BLM can be used to determine modifications to chemistry of receiving water using a procedure that is analogous to the WER. The WER compares the toxicity of nickel or other toxicant in receiving water to that in reference water. The reference water is intended to represent the conditions comparable to those used to develop the toxicity database in which the acute and chronic WQC were developed. The WER is then simply the ratio of the measured toxic endpoint in the receiving water to that in the reference water. If multiple receiving water and reference water samples are used to generate the WER, the WER is determined for each pair of samples, and then an overall WER is

usually determined as the geometric mean. The reference water chemistry must meet WER guidelines, and USEPA has provided synthetic recipes suitable for generating reference water samples with various hardness concentrations. These recipes can be incorporated into the BLM application to predict toxicity endpoints for suitable reference water that can be used in a WER-type analysis.

C. Derivation of Proposed Site Specific Chronic Water Quality Standard for Nickel

The proposed site specific chronic water quality standard for nickel is based on a BLM-calculated WER adjustment to the default Illinois hardness equation based chronic nickel standards, described in Section I above. Water quality parameters used as input data to the BLM were determined at two downstream locations on two separate sampling events (at the Rock Springs Trail bridge approximately one-half mile downstream and at the South Lincoln Memorial Parkway bridge approximately six miles downstream of the Main Plant discharge). USEPA's very hard recipe was used as the reference water since the hardness of the receiving water in preliminary sampling ranged from 330 to 409 mg/L as $CaCO_3$. According to USEPA WER guidance, the hardness of the reference water should be similar to, but should not exceed, that of the site water. USEPA's very hard recipe has a hardness of 317 mg/L as CaCO3 and is, therefore, suitable reference water for WER testing at this site. The nickel BLM was used to predict nickel toxicity in acute exposures in site water and reference water to *Daphnia magna* ("*D. magna*"), which is a sensitive aquatic invertebrate recommended for use in WER testing. Toxicity as estimated as the LC50 of nickel to *D. magna* in acute 48-hour exposures. The predicted

LC50 was then used to calculate a WER value using the equation: WER = (LC50 site water)/(LC50 reference water).

The WER values for each sampling location, calculated by dividing site water LC50 by the reference water LC50, correspond to 2.31 and 2.92 for Rock Springs B and Lincoln Homestead. Since these values are similar, an overall WER for the site can be determined by averaging to obtain an overall WER for the site of 2.62. Application of this WER to derive a site specific chronic water quality standard for dissolved nickel results in a standard of 0.038 mg/L (using the critical hardness value accepted by Illinois EPA of 359 mg/L). The use of this site specific chronic water quality standard represents an adjustment of the national ambient water quality criteria to consider site specific conditions, but with the same level of protection intended by the national criteria.

D. Tiered Discharge Limit Based on Upstream Flow

As noted above, as a condition of the Variance granted to the District, the Board ordered the District to "pursue variable limits based on flow with the Illinois Environmental Protection Agency (Agency) and seek permit modifications if necessary." Board Opinion and Order, Sanitary District of Decatur v. Illinois EPA, PCB No. 09-125, at 32 (Ill.Pol.Control.Bd. Jan. 7, 2010). The District is aware of at least one NPDES permit issued in Illinois that does provide variable limits based on the volume of upstream flow, although the discharge parameters involved are limited based on technology-based provisions of Section 304.120 and are not water quality based limits as is the District's nickel limit. The District discussed such variable limits with the Agency and because no NPDES permits in Illinois contained water quality-based effluent limits

that vary with upstream flow, the Agency recommended that if the District sought variable limits, the appropriate route for doing so would be in a petition for site-specific relief.

Section 304.105 of the Board's regulations requires NPDES permits to contain water quality based effluent limits when necessary to prevent violations of water quality standards, and states the following, in relevant part:

> In addition to the other requirements of this Part, no effluent shall, alone or in combination with other sources, cause a violation of any applicable water quality standard. When the Agency finds that a discharge which would comply with effluent standards contained in this Part would cause or is causing a violation of water quality standards, the Agency shall take appropriate action under Section 31 or Section 39 of the Act to require the discharge to meet whatever effluent limits are necessary to ensure compliance with the water quality standards. . . .

35 Ill. Admin. Code § 304.105.

Section 302.102(a) states the following:

> Whenever a water quality standard is more restrictive than its corresponding effluent standard, or where there is no corresponding effluent standard specified at 35 Ill. Adm. Code 304, an opportunity shall be allowed for compliance with 35 Ill. Adm. Code 304.105 by mixture of an effluent with its receiving waters, provided the discharger has made every effort to comply with the requirements of 35 Ill. Adm. Code 304.102.

35 Ill. Admin. Code § 302.102(a).

In addition, Section 302.102(b)(8) states the following:

> The portion, volume and area of any receiving waters within which mixing is allowed pursuant to subsection (a) shall be limited by the following:
>
> * * *

> (8) The area and volume in which mixing occurs, alone or in combination with other areas and volumes of mixing must not contain more than 25% of the cross-sectional area or volume of flow of a stream except for those streams where the dilution ratio is less than 3:1. In streams where the dilution ratio is less than 3:1, the volume in which mixing occurs, alone or in combination with other volumes of mixing, must not contain more than 50% of the volume flow unless an applicant for an NPDES permit demonstrates, pursuant to subsection (d) of this section, that an adequate zone of passage is provided for pursuant to Section 302.102(b)(6).

35 Ill. Admin. Code § 302.102(b)(8).

Although the 7Q10 river flow upstream from the District's discharge is zero, upstream flow is in fact present during portions of each year. However, 35 Ill. Admin. Code § 302.102(b)(8) disallows mixing in zero 7Q10 flow streams, seemingly even at times when substantial upstream flow is available.

Figure 2, prepared using the USGS website noted above, summarizes upstream river flows and is attached as Exhibit 30. Analysis of river flows suggests that 100 cfs of upstream river flow represents a reasonable point for establishing a tiered discharge limit. During most years, a pattern of higher flows in the first six months and lower flows in the last six months of the year can be observed in USGS flow measurements. The higher and lower flows are characterized by substantial periods of time with flow above and below 100 cfs respectively, typically separated by transitional periods of fluctuating flow.

The proposed District discharge nickel limit is calculated considering the provision of 35 Ill. Admin. Code § 302.102(b)(8) allowing 25 percent of upstream flow volume for mixing. Upstream river sampling for nickel indicates that the concentration has averaged 0.0017 mg/L over the past five (5) years. A site specific chronic water

quality standard for dissolved nickel of 0.038 mg/L is proposed here using Illinois EPA-assigned critical hardness of 359 mg/L and the downstream calculated WER. Considering a mixing volume of 25 percent of 100 cfs (16.15 MGD), the proposed permit limit to apply when upstream river flow equals or exceeds 100 cfs is calculated as follows:

> (Upstream load) + (Allowed Discharge load) = (Allowed Downstream load)
>
> (16.15 MGD x 0.0017 mg/L) + (41 MGD x Allowed discharge concentration) =
>
> (57.15 MGD x 0.038 mg/L)
>
> Allowed dissolved nickel discharge concentration = 0.052 mg/L
>
> After adjustment by metals translator of 0.966, proposed total nickel permit limit = 0.054 mg/L.

Therefore, the District proposes 100 cfs as a minimum flow for allowing mixing and proposes 0.054 mg/L as the NPDES permit limit when flow equals or exceeds 100 cfs, calculated using 25 percent of upstream flow volume per Section 302.102(b)(8).

Not only has the Board requested the District pursue a variable discharge limit based on flow, but the higher discharge limit is necessary to provide the District protection during periods of higher upstream flow. The higher discharge limit, however, is only expected to be utilized by the District on a limited basis. Based on a review of the upstream flow data from the past ten years, such flow was greater than or equal to 100 cfs only approximately 60 percent of the time. Therefore, the District would utilize the

higher discharge limit only a percentage of that 60 percent. Also, as stated above, ADM will continue to apply the treatment described above regardless of upstream flow.

Additionally, the District requests that the Board direct the Illinois EPA to revise the District's NPDES permit to: 1) reflect that the general use effluent standard for nickel contained in Section 304.124(a) of the Board's rules shall not apply to the District's discharges; 2) reflect that the mixing limitation in Section 302.102(b)(8) of the Board's rules shall not apply to the nickel concentration in the District's discharges when upstream flow, measured at the U.S. Geological Survey site 05573540 (Sangamon River at Route 48 at Decatur, Illinois) equals or exceeds 100 cfs; 3) reflect that at such times when the upstream flow equals or exceeds 100 cfs, the nickel (STORET number 01067) concentration in the District's discharges shall not exceed 0.054 mg/L, based on the arithmetic average of at least four consecutive samples collected over any period of at least four days; and 4) reflect that the District will be required to meet a permit limit of 0.039 mg/L based on the site specific chronic water quality standard for nickel of 0.038 mg/L when there is less than 100 cfs available for mixing.

E. No Alternative Technology is Technologically Feasible or Economically Reasonable

As explained above regarding the nickel mitigation efforts by the District and ADM, while numerous alternatives have been investigated over the past several years, no alternative has yet been identified which can consistently meet the required nickel limit and which is both technologically feasible and economically reasonable.

1. District

Consideration was given to providing additional treatment at the Main Plant to remove nickel. The following discussion of the treatment technologies considered was included in the District's Petition for Variance:

> With regard to treatment at the District's Main Plant, any treatment process would need to be sized to handle at least the design average flow of 41 MGD, and potentially the design maximum flow of 125 MGD. While treatment technologies for removing relatively high concentrations of metals from such streams as electroplating wastewater are well-established, their applicability is limited by the very low concentrations in the District's wastewater stream. For example, precipitation as nickel hydroxide is one technology for removing nickel from a solution. However, the solubility of nickel hydroxide at the high pH level required (pH 10 - 11) is approximately 0.12 mg/L, nearly an order of magnitude higher than the expected effluent limit. Even under ideal conditions, [hydroxide] precipitation could not achieve the limit.
>
> Another common metals removal technology, filtration, would not effectively treat the District's effluent. Mechanisms for improving the incidental removal of metals in municipal wastewater treatment plants vary depending on whether the metal species is particulate or dissolved (either as a metal ion or a metal complexed with another material). Removal of particulates or dissolved metals adsorbed onto particulates (for example, activated sludge floc) can potentially be improved by effluent filtration using sand or other filter media. Sampling of the District's effluent, however, shows that the majority of effluent nickel is in the dissolved form and would not be removed by filtration.
>
> Add-on chemical treatment technologies, such as ion exchange and reverse osmosis, would be expected to remove dissolved nickel from the District's Main Plant effluent. Both treatment technologies remove metals from the bulk effluent flow stream and concentrate them into a smaller volume, high concentration stream that requires further management. Both also require significant operating costs for energy, labor, and membranes (reverse osmosis) or resin (ion exchange).
>
> The [engineering] consulting firm Black and Veatch has provided the District with a preliminary capital cost estimate of $4 per gallon per day capacity for reverse osmosis treatment, not considering the cost of brine

> disposal and operating costs. At a minimum, approximately 25 MGD of the District's flow would need to be treated to meet the proposed permit limit of 0.016 mg/L, resulting in a minimum capital cost of $100 million, not considering brine disposal. A brine disposal system could double the capital cost. This exceeds the construction cost of the District's entire plant, to achieve a removal of approximately six pounds per day or less of nickel from the effluent.
>
> In general, the capital cost of an ion exchange system would be expected to total less than that of a reverse osmosis treatment system, perhaps by half. However, a substantial amount of research would be required to find an ion exchange resin suitable for removing nickel that is likely to be in a complexed form in the District's effluent. Sizing of the system would also depend on the removal efficiency that could be achieved, but again, would be a minimum of 25 MGD of the District's flow and possibly substantially more.

Petition for Variance, Sanitary District of Decatur v. Illinois EPA, PCB No. 09-125, at 14-16 (Ill.Pol.Control.Bd. June 15, 2009).

Of the technologies considered, precipitation and filtration were determined not to be technically feasible because they would not be expected to meet the District's NPDES permit limit. The other two technologies considered, ion exchange and reverse osmosis, are potentially capable of meeting the permit limit. However, both concentrate the removed nickel, along with a substantial amount of other constituents, in a wastewater stream that requires further treatment or disposal. Subsequent to filing the Petition for Variance in PCB No. 09-125, Black and Veatch provided additional construction cost information for reverse osmosis treatment including necessary pretreatment and brine disposal using a "zero liquid discharge" process. This cost was approximately $9.4 million per MGD of design flow. Treatment of 25 MGD, as indicated above, would therefore result in a capital cost of approximately $235 million.

Because of the very low concentrations of nickel in the District's wastewater stream and the very large flow to be treated, the District has not identified any technically feasible and economically reasonable technologies for removing nickel from the entire plant flow. Further investigations shifted focus to evaluations of nickel minimization and removal at ADM, the largest nickel source.

2. ADM

a. Technologies Evaluated by ADM

As described in Section II.E. of this Petition, ADM has completed a substantial amount of work to identify and reduce nickel within its individual wastewater streams at the Decatur Complex. Additionally, ADM has identified and evaluated a number of technologies to determine whether any of them (or combination of them) could control nickel at the Decatur Complex WWTP significantly to allow the District to consistently meet the nickel limit in its current NPDES permit, while also being technically feasible and economically reasonable.

Table 3, attached hereto as Exhibit 31, below summarizes all of the technologies ADM evaluated under the variance granted by the Board on January 7, 2010, along with some relevant facts about that research.

As indicated in Table 3, these nickel reduction technologies can be segregated into a number of different categories. ADM's review included an assessment of the relevant technology's technical feasibility, capital and operating costs, and reliability. Furthermore, the relevant technologies were pilot tested, as appropriate.

Below is a list of the key categories where ADM could not identify any technically feasible technologies. Accompanying each categorical listing is a description of the bases for ADM's technical feasibility determinations.

1. **Nickel Proprietary Precipitation Process:** ADM investigated this category of technologies using various materials, such as modified clays for selective adsorption of nickel from the wastewater. Most of the materials required high dosages (4% wt/wt or higher) or were bench scale proprietary technologies that the technology-supplying companies were unable to scale up. For example, using acidic clays to treat an 11 MGD stream would have required ADM to handle between 400-1200 tons of dry clay every day for adsorption and land filling of the nickel bound clay. This type of treatment and materials management is not technically feasible because of the large volume of material handling required. To put it into perspective, about 4-12 rail cars of incoming material would be needed each day and an equivalent amount of waste would be generated and have to be landfilled. Therefore, technologies in this category are not technically feasible.

2. **Nickel Chemical Precipitation Using Carbamates or Organic Sulfides:** ADM investigated this category of technologies by scaling nickel precipitation using polymeric dimethyl dithiocarbamate chemistry. A portion of these technologies were not scaled because of low levels of nickel removal, associated aquatic toxicity of the chemical and lack of commercial manufacturing capabilities by the vendors. The technologies that were scaled did not result in a consistent reduction in total nickel to below 0.037 mg/L due to variability in results from bench scale testing at the vendors' facilities and at ADM. Therefore, technologies evaluated in this category are not technically feasible. Nevertheless, ADM piloted a few of the technologies in this category and shared the data with Illinois EPA in its Annual Updates in June 2010 and July 2011.

3. **Commercial Resins:** ADM investigated this category of technologies using nonfunctionalized styrene divinyl benzene resins from Dow and Purolite. Testing with Vivenano resins showed no effective nickel reduction as the resin was competing for all the ions in the matrix as opposed to being selective for nickel. While tests with Dow and Purolite resins showed the ability to adsorb nickel from ADM's effluent stream, resin usage was extremely large, being between 5-10% wt/wt of the stream being treated. In addition, regeneration of the resin required the use of a pH 10 ethanol solution at an elevated temperature. Because resin volumes

are very large and the technologies require the use of hot, caustic ethanol for regeneration of the resin, this process would be extremely difficult to scale up. Therefore, technologies in this category are not technically feasible.

4. **Filtration:** ADM investigated this category of technologies using several approaches, including the use of various combinations of reverse osmosis, sand filtration and microfiltration. However, ADM's wastewater streams contain materials which significantly foul membranes. Additionally, the best recoveries with reverse osmosis, a key technology feature of the filtration technologies assessed, were under 30%. The remaining 70% wastewater would need to be evaporated and the recovered solids would have to be landfilled. This would require the evaporation of about 7.7 MGD of water. Therefore, technologies in this category are not technically feasible.

5. **Noncommercial, Experimental Technologies**: In response to suggestions by Illinois EPA, ADM investigated several experimental techniques to reduce nickel, including electrocoagulation, captive deionization and advanced oxidation. However, those studies did not result in the identification of any other technically feasible alternatives. For instance, there are currently no commercial manufacturers of electrocoagulation equipment. Additionally, captive deionization captures more than just nickel in the effluent stream and is easily fouled. Finally, advanced oxidation (such as ozone and chlorine dioxide) did not show a consistent reduction in nickel. Moreover, ADM could not trial chlorine dioxide on a larger scale due to the District's permitted chlorine residual limit. Therefore, technologies in this category are not technically feasible.

Additional details about some of the technologies identified in Table 3 are presented in Table 4, attached hereto as Exhibit 32, including a general list of reasons why certain of those technologies are not technically feasible and are not currently being pursued.

It is also important to note that, although determined not to be technically feasible, ADM continues to trial polymeric dimethyl dithiocarbamate for use in ADM's final wastewater effluent. This technology would consist of a polymeric dimethyl

dithiocarbamate addition to precipitate soluble nickel followed by coagulation and filtration to remove the solid nickel polymer complex. To date, ADM has had reasonable success in some trials with binding 40-60% of the soluble nickel present in DAF effluent water. However, there are still a number of significant technical obstacles to employing this nickel reduction technology, such as scaling, residence time, chemical usage, and nickel reduction percentage and consistency. Further, even if the obstacles inherent in this technology could be overcome, ADM believes that it will continue to be cost prohibitive to employ.

Table 5, attached hereto as Exhibit 33, summarizes the capital, operating and chemical costs for the approaches it is scaling and either installing or continuing to trial.

Thus, of all of the technologies investigated by ADM to date, the only viable option that has been fully planned, installed and employed by ADM is the nickel capture process based upon high pH precipitation at the Polyols Plant. Because such technology has been determined to be both technically feasible and economically reasonable for the specific application, ADM installed this system at the Polyols Plant. However, that reduction, even when combined with the other reductions achieved by ADM, will still not reduce nickel to the levels sought by the District under its current permit.

Even if ADM could overcome the technical obstacles it faces regarding the use of polymeric dimethyl dithiocarbamate to reduce nickel from the final wastewater effluent, testing indicates that residual soluble nickel concentrations close to 0.050 mg/L will remain irrespective of contact time and incoming nickel levels. See Figure 3, attached hereto as Exhibit 34. Consequently, ADM believes that, with the current influent streams to the WWTP, a nickel reduction below 0.040 mg/L - 0.050 mg/L soluble nickel is not feasible within the limits of any technologies that have been evaluated.

b. ADM Investment to Date Regarding Nickel Mitigation

ADM's investment to date to identify and implement viable solutions to meet the nickel standard has been approximately $1.02 million in employee costs and $0.45 million in equipment rental and pilot trial costs from 2009 to December 2011. In addition, ADM has spent $450,000 to install a resin capture system at the Decatur Sorbitol plant. It also spent an additional $2.7 million to install a system to allow removal of the soy molasses stream and roughly $750,000 to install a high pH precipitation and filtration process at the Polyols Plant. ADM has also significantly improved housekeeping in the West Plant to minimize nickel catalyst from entering the wastewater system. Finally, ADM continues to investigate the ability to scale up a potentially viable chemical technology for installation at the Decatur Complex WWTP based on polymeric dimethyl dithiocarbamate to reduce nickel from its effluent. At this point, all reasonably identifiable options have been explored and all technically feasible and economically reasonable solutions are being pursued.

When considering the cost of compliance for ADM alone, the site specific rule is clearly necessary because there is no technologically feasible and economically reasonable treatment available that will allow ADM to meet the nickel limit proposed by the District for ADM's wastewater effluent. See ADM's Industrial Discharge Permit with the District, attached hereto as Exhibit 35. Since no such technologies exist, ADM anticipates that, if the existing rules were to apply, ADM would have to curtail its soy processing operations at the Decatur Complex and evaluate possible shutdown at this location. Such a move would likely result in a loss of approximately 150 jobs. In addition, ADM's current plans to build a new plant in Decatur would have to be reconsidered.

Even if some of the untested, unproven and experimental technologies that ADM evaluated were commercially available and scalable, ADM estimates that it would have to spend about $32.5 million in the first year to install a mix of technologies and chemicals, which may only remove between 3-7 lbs of nickel per day in a stream that averages 11 MGD. On a per pound nickel basis, that rate equates to a mitigation cost between $7,500 and $18,000 per pound of nickel removed. Moreover, the technology and chemical mix would likely generate about 15-20 tons per day of landfill waste.

Based in large part on Mr. Robert Santore's analysis described in this Petition, the District's proposed site specific rule in this Petition has little or no adverse impact on the environment. The steps already taken by ADM at a great cost have significantly reduced soluble nickel output by the Decatur Complex WWTP and will allow the District to maintain nickel levels at or below the proposed limit in this Petition. Requiring further

reductions in nickel from ADM, including those suggested above, will be both economically cost prohibitive and technologically uncertain in effectiveness and will not produce a measurable improvement in the waterway ecology.

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

The District was unable to identify any other Illinois site specific rules or adjusted standards that establish alternative water quality standards for nickel. The District was also unable to locate any currently active NPDES permits issued by Illinois EPA with compliance schedules for nickel, although the April 2011 public notice draft NPDES permit for Lake County Department of Public Works' New Century Town STP included a compliance schedule for the facility to meet a nickel limit within 36 months of the effective date of the permit.

G. Economic Impact of the Proposed Site Specific Rule

As noted above, grant of the site specific rule is necessary in that there is no technologically feasible and economically reasonable treatment or other alternative. The only technically feasible alternative identified above, reverse osmosis with associated pretreatment and waste stream disposal, has a projected capital cost of $235 million. This cost far exceeds any cost estimate for pretreating ADM's wastewater before discharging it into the District's sewer system. In addition, research by ADM described above has not identified a commercial ion exchange resin that is technologically feasible for removing nickel to the required concentration. Thus, there is no technically feasible and

economically reasonable treatment process that would enable the entire District flow to meet a permit limit based on the current water quality standard for nickel.

Implementing the site specific rule, in conjunction with the changes in ADM pretreatment described above, is estimated to cost ADM $3.9 million in capital costs and about $1.2 million in annual operating, chemical and personnel costs. There is no significant cost to the District or its customers and industrial users (other than ADM) to comply with the proposed site specific rule, but there will be substantial cost to the District and its customers if the site specific rule is not adopted. Thus, while not only effective, the proposed site specific rule will substantially save the District (and its customers and industrial users) in comparison to the alternatives, with no adverse impact on the environment.

IV. SYNOPSIS OF TESTIMONY

The District will call several individuals to testify on the facts set forth in this Petition and requested relief, including the following:

A. Tim Kluge

Tim Kluge, Technical Director of the District, will testify regarding, among other things: the District's Main Plant; the District's NPDES permit and the limits it includes; the District's investigations of nickel and zinc sources; the District's investigation of nickel treatment options; the District's investigation of industrial pretreatment options; the District's nickel water quality standard investigations; receiving stream impacts; and a summary of the requested site specific standard.

B. Robert Santore

Robert Santore, of HDR|HydroQual, Inc., will testify regarding, among other things: the derivation of national water quality criteria; the need for approaches that consider local conditions to evaluate bioavailability effects; the use of either toxicity testing or bioavailability modeling to consider these effects; how factors that affect the bioavailability of nickel in the Sangamon River downstream of the District's Main Plant indicate that a site specific adjustment to the chronic water quality criteria for nickel is appropriate; development of a site specific adjustment to the nickel standard that could be used to develop a permit limit for the District; reasons why the proposed site specific water quality standard will provide aquatic life protection equal to the existing general use water quality standard; derivation of the proposed site specific water quality standards for nickel.

C. Leif Solheim, Ph.D.

Leif Solheim, Ph.D., Vice President of Research from ADM, will testify regarding, among other things: the Decatur Complex; the impact on ADM of the nickel effluent limit included in the District's NPDES permit; ADM's identification and evaluation of methods and technologies to control and reduce nickel in wastewater generated at the Decatur Complex; the technical feasibility and economic reasonableness of the methods and technologies that ADM evaluated; and the steps that ADM has undertaken to control and reduce nickel at the Decatur Complex.

D. Jeffery Laursen, Ph.D.

Jeffery Laursen, Ph.D., a professor at Eastern Illinois University, will testify regarding, among other things, the sampling he conducted on the stretch of the Sangamon River beginning just below the Lake Decatur Dam and extending downstream to incorporate the discharges of the District. He will further testify that the study of the river was intended to characterize stream habitat quality and biotic integrity resulting from ongoing municipal and reservoir management by evaluating biotic integrity at various trophic levels in the context of the physical and chemical nature of the Sangamon River.

E. Charles Pederson, Ph.D.

Charles Pederson, Ph.D., a professor at Eastern Illinois University, will testify regarding, among other things, the sampling he conducted on the stretch of the Sangamon River beginning just below the Lake Decatur Dam and extending downstream to incorporate the discharges of the District. He will further testify that the study of the river was intended to characterize stream habitat quality and biotic integrity resulting from ongoing municipal and reservoir management by evaluating biotic integrity at various trophic levels in the context of the physical and chemical nature of the Sangamon River.

F. Robert Colombo, Ph.D.

Robert Colombo, Ph.D., a professor at Eastern Illinois University, will testify regarding, among other things, the sampling he conducted on the stretch of the Sangamon River beginning just below the Lake Decatur Dam and extending downstream to

incorporate the discharges of the District. He will further testify that the study of the river was intended to characterize stream habitat quality and biotic integrity resulting from ongoing municipal and reservoir management by evaluating biotic integrity at various trophic levels in the context of the physical and chemical nature of the Sangamon River.

V. MOTION FOR WAIVER OF SIGNATURE REQUIREMENT

In a separate Motion filed simultaneously 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.

VI. EXHIBITS

The following exhibits are included by the District in support of the proposed site specific rule, and are hereby made a part of this Petition:

1. The District's NPDES Permit (No. IL0028321) (000001-000025);
2. Illinois EPA Memorandum Regarding Water Quality Based Effluent Limits at the District (November 9, 2006) (000026-000029);
3. District Interim Report (December 20, 2007) (000030-000059);
4. Illinois EPA Letter to the District (April 24, 2009) (000060-000064);
5. Recommendation of the Illinois EPA (April 7, 2014) in PCB 14-111 (Variance – Water) (000065-000083);
6. District Summary of Sample Data Presented to Illinois EPA on October 30, 2007 (000084-000085);
7. Illinois EPA e-mail indicating higher permit limit could be justified based on Interim Report (January 2, 2008) (000086);
8. District Interim Report (December 29, 2008) (000087-000101);
9. District Interim Report (December 30, 2009) (000102-000109);
10. District Interim Report (July 1, 2010) (000110-000125);
11. District Interim Report (December 29, 2010) (000126-000130);
12. District Interim Report (June 29, 2011) (000131-000137);

13. Presentation Slides from June 6, 2011 Telephone Call with Illinois EPA and USEPA (000138-000156);
14. Estimate of the BLM Adjustment to the Nickel Criterion for the Sanitary District of Decatur, Illinois, dated January 16, 2014 (000157-000176);
15. District Interim Report (December 21, 2011) (000177-000213);
16. District Interim Report (June 25, 2012) (000214-000248);
17. District Interim Report (December 19, 2012) (000249-000293);
18. District Interim Report (June 27, 2013) (000294-000322);
19. District Interim Report (December 20, 2013) (000323-000329);
20. Table 1 – Weekly Loads to ADM Decatur Complex WWTP (August – November 2010) (000330);
21. Figure 1 – ADM Flow Data (000331);
22. Table 2 – Monitoring Data (March 2007 – March 2012) (000332-000334);
23. ISWS Map 5 Sangamon Region (April 2002) (000335);
24. Biotic Assessment of Water Quality in a Stretch of the Sangamon River Receiving Effluent from the Sanitary District of Decatur, Eastern Illinois University Report (May 2013) (000336-000390);
25. Biotic Assessment of Water Quality in a Stretch of the Sangamon River Receiving Effluent from the Sanitary District of Decatur, Eastern Illinois University Report (May 2012) (000391-000435);
26. Biotic Assessment of Water Quality in a Reach of the Sangamon River Receiving Effluent from the Sanitary District of Decatur, Eastern Illinois University Report (May 2011) (000436-000478);
27. Biotic Assessment of Water Quality in a Reach of the Sangamon River Receiving Effluent from the Sanitary District of Decatur, Eastern Illinois University Report (August 2010) (000479-000503);
28. Biotic Assessment of Water Quality in a Reach of the Sangamon River Receiving Effluent from the Sanitary District of Decatur, Eastern Illinois University Report (July 2009) (000504-000528);
29. EcoCAT Results (000529-000530);
30. Figure 2 – USGS Upstream Flow (000531);
31. Table 3 – Summary of Technologies Reviewed by ADM Under Variance Granted by Board (000532-000536);
32. Table 4 – Technical Challenges on Scale Up for Nickel Remediation Chemistries (000537-000538);
33. Table 5 – Capital and Operating Costs for Nickel Removal at ADM Decatur Complex (000539);

34. Figure 3 – Soluble Nickel Reduction as Related to Incoming Soluble Nickel Using Polymeric DTC (000540);
35. ADM Industrial Discharge Permit (000541-000553);
36. District's Response to U.S. EPA Toxicity Testing Comments Sanitary District of Decatur, Illinois (000554-000596); and
37. U.S. EPA Follow Up to the District's Response to U.S. EPA Toxicity Testing Comments Sanitary District of Decatur, Illinois (000597-000598).

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 standards and effluent standards that do not adversely affect the designated uses of a water body. In the Matter of: Petition of Exelon Generation Company for an Adjusted Standard from 35 Ill. Adm. Code 302.208, AS 03-1 (Ill.Pol.Control.Bd. June 19, 2003); In the Matter of: Site Specific Rule for City of Effingham Treatment Plant Fluoride Discharge, 35 Ill. Adm. Code 304.233, R03-11 (Ill.Pol.Control.Bd. July 24, 2003); In the Matter of: Proposed Site Specific Rule for City of Springfield, Illinois, Office of Public Utilities, City Water, Light and Power and Springfield Metro Sanitary District From 35 Ill. Adm. Code 302.208(g): New 35 Ill. Adm. Code 303.446, R09-8 (Ill.Pol.Control.Bd. April 2, 2009).

> 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 . . . 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 Discharge to the Mississippi River for an Adjusted Standard from 35 Ill. Adm. Code 302.203, 304.106, and 304.124, AS 99-6, 2000 Ill. ENV LEXIS 586, *68-69 (Ill.Pol.Control.Bd. Sept. 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 water quality standard requested by the District is the appropriate standard of control to be applied for nickel, and will be protective of the portions of the water bodies identified above.

Water quality standards requirements of Clean Water Act ("CWA") Sections 101(a)(2), 118 and 303(c)(2) are implemented through Federal regulations at 40 C.F.R. Part 131 and 40 C.F.R. Part 132. Federal regulations at 40 C.F.R. § 131.21 require USEPA to review and approve or disapprove new and revised water quality standards adopted by states and tribes, including site specific water quality standards. 40 C.F.R. § 131.21 provides, in part, as follows:

> § 131.21 EPA review and approval of water quality standards.
>
> (a) After the State submits its officially adopted revisions, the Regional Administrator shall either:
>
> (1) Notify the State within 60 days that the revisions are approved, or
> (2) Notify the State within 90 days that the revisions are disapproved. Such notification of disapproval shall specify the changes needed to assure compliance with the requirements of the Act and this regulation, and shall explain why the State standard is not in compliance with such requirements. Any new or revised State standard must be accompanied by some type of supporting analysis.
>
> (b) The Regional Administrator's approval or disapproval of a State water quality standard shall be based on the requirements of the Act as described in §§ 131.5

and 131.6, and, with respect to Great Lakes States or Tribes (as defined in 40 CFR 132.2), 40 CFR part 132.

40 C.F.R § 131.21

40 C.F.R. §§ 131.5 and 131.6 provide as follows:

§ 131.5 EPA authority.

(a) Under section 303(c) of the Act, EPA is to review and to approve or disapprove State-adopted water quality standards. The review involves a determination of:

(1) Whether the State has adopted water uses which are consistent with the requirements of the Clean Water Act;
(2) Whether the State has adopted criteria that protect the designated water uses;
(3) Whether the State has followed its legal procedures for revising or adopting standards;
(4) Whether the State standards which do not include the uses specified in section 101(a)(2) of the Act are based upon appropriate technical and scientific data and analyses, and
(5) Whether the State submission meets the requirements included in § 131.6 of this part and, for Great Lakes States or Great Lakes Tribes (as defined in 40 CFR 132.2) to conform to section 118 of the Act, the requirements of 40 CFR part 132.

(b) If EPA determines that the State's or Tribe's water quality standards are consistent with the factors listed in paragraphs (a)(1) through (a)(5) of this section, EPA approves the standards. EPA must disapprove the State's or Tribe's water quality standards and promulgate Federal standards under section 303(c)(4), and for Great Lakes States or Great Lakes Tribes under section 118(c)(2)(C) of the Act, if State or Tribal adopted standards are not consistent with the factors listed in paragraphs (a)(1) through (a)(5) of this section. EPA may also promulgate a new or revised standard when necessary to meet the requirements of the Act.

(c) Section 401 of the Clean Water Act authorizes EPA to issue certifications pursuant to the requirements of section 401 in any case where a State or interstate agency has no authority for issuing such certifications.

40 C.F.R. § 131.5

> § 131.6 Minimum requirements for water quality standards submission.
>
> The following elements must be included in each State's water quality standards submitted to EPA for review:
>
> (a) Use designations consistent with the provisions of sections 101(a)(2) and 303(c)(2) of the Act.
> (b) Methods used and analyses conducted to support water quality standards revisions.
> (c) Water quality criteria sufficient to protect the designated uses.
> (d) An antidegradation policy consistent with § 131.12.
> (e) Certification by the State Attorney General or other appropriate legal authority within the State that the water quality standards were duly adopted pursuant to State law.
> (f) General information which will aid the Agency in determining the adequacy of the scientific basis of the standards which do not include the uses specified in section 101(a)(2) of the Act as well as information on general policies applicable to State standards which may affect their application and implementation.

40 C.F.R. § 131.6

In addition, as noted above under the heading "District's Current Variance for Nickel," USEPA recently communicated new federal guidance regarding "consistency with federal law" when states seek to modify designated uses. Federal regulations regarding the designation of uses are found in 40 C.F.R. § 131.10. USEPA, and the Illinois EPA in its Recommendation, noted the applicability of 40 C.F.R. § 131.10(g), which provides:

> § 131.10 Designation of uses.
>
> (g) States may remove a designated use which is not an existing use, as defined in § 131.3, or establish sub-categories of a use if the State can demonstrate that attaining the designated use is not feasible because:
>
> (1) Naturally occurring pollutant concentrations prevent the attainment of the use; or

> (2) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating State water conservation requirements to enable uses to be met; or
> (3) Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place; or
> (4) Dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; or
> (5) Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses; or
> (6) Controls more stringent than those required by sections 301(b) and 306 of the Act would result in substantial and widespread economic and social impact.

40 C.F.R. §131.10(g)

Thus, for the District's requested site-specific rule to be approvable by USEPA, the District and the Board must demonstrate that it is not feasible for the District to attain the General Use designation for the Sangamon River for one of the six reasons specified in 40 C.F.R. 131.10(g).

The District has worked closely with Illinois EPA, and through the Illinois EPA's assistance, with the USEPA Region 5, on the preparation of this proposed site-specific standard with the intent that it be consistent with federal law and approvable by USEPA. Prior to and throughout the term of the current variance, most recently during the summer and fall of 2013 and spring 2014, the District participated in a number of telephone conference calls with personnel from Illinois EPA, USEPA Region 5, USEPA's Duluth Research Laboratory, and USEPA Headquarters. Several of the USEPA personnel

involved in the calls had not previously been involved in conversations with the District and Illinois EPA. During this period, USEPA raised a number of additional questions regarding the technical basis of the BLM and information on a number of nickel toxicity studies reported in the scientific literature. These questions were summarized in a memorandum that was provided to the District on August 26, 2013. The questions were further discussed and clarified in subsequent conversations, most recently on December 5, 2013. The District's consultant has obtained the additional data that USEPA requested be reviewed and is continuing a comprehensive evaluation of the same.

Also during these telephone conversations, USEPA suggested the option of performing aquatic toxicity testing to develop a proposed WER to either supplement or substitute for a proposed standard based on the BLM. After consultation with USEPA, the District prepared and submitted a proposed WER testing plan to Illinois EPA and USEPA Region 5 on January 30, 2014, and received review comments from USEPA Region 5 on March 7. The District's consultant prepared responses to the testing plan review comments, and the District also provided those responses to USEPA and the Illinois EPA on April 23, 2014. Please see Response to U.S. EPA Toxicity Testing Comments Sanitary District of Decatur, Illinois, attached hereto as Exhibit 36. Thereafter, on May 23, 2014, USEPA provided follow up on the District's April 23, 2014 responses, attached hereto as Exhibit 37. The District prefers not to perform this testing until USEPA approves the District's WER testing plan. The District is continuing its efforts to address the USEPA's follow up questions and comments on the District's

proposed WER testing plan, and anticipates moving forward with testing in the near future.

The District understands that, once USEPA is satisfied with the District's (and its consultant's) evaluation of the additional data cited, and responses to questions posed, in the memorandum provided to the District on August 26, 2013, as well as once the District completes the WER testing suggested by USEPA, USEPA would then be in a position to review and approve the proposed site-specific rule, if granted by the Board. The District will continue to work closely with Illinois EPA and with USEPA to provide the additional support for federal approval of the proposed site specific rule as requested by USEPA, including the WER testing. The District intends to supplement this Petition, as may be necessary, regarding the same.

Based on the foregoing Petition and the communications exchanged with USEPA, the District intends to demonstrate, in accordance with 40 C.F.R. § 131.10(g)(6), that controls more stringent than those required by sections 301(b) and 306 of the Act would result in substantial and widespread economic and social impact, and that the alternative water quality standard for nickel proposed herein would provide adequate measures to protect the environment. All alternatives for reducing the discharge of nickel into the Sangamon River have been evaluated and demonstrated to be infeasible, including all alternatives for treating discharges from the District's wastewater treatment plant. Moreover, all reasonably identifiable alternatives for reducing nickel in the wastewater from ADM before it enters the District's sewer system such as treatment alternatives and process changes have been evaluated and the feasible alternatives have been implemented

by ADM. As a result, the District intends that the Board may grant this site-specific rule request consistent with federal law. Unfortunately, while the District has been engaged in discussions with both Illinois EPA and USEPA for a number of years, the requests for additional support by USEPA have been made within the past ten months and involve significant effort by the District's consultant to obtain the additional data referenced by USEPA, as well as to conduct a comprehensive evaluation of the same. Also, the schedule for review and approval by USEPA of the District's WER testing plan was not anticipated, especially the iterative nature of the review and approval process.

However, should the Board adopt the site specific rule for final notice in this proceeding, the site specific rule will be published in the *Illinois Register*. At that point, Illinois EPA will then submit the new site specific water quality standard to USEPA for review and approval. According to 40 C.F.R. § 131.21, USEPA has 60 days to approve the revisions or 90 days to disapprove the revisions.

VIII. CONCLUSION

The District's current discharge exceeds the current general use chronic water quality standard for nickel due to the influent contributions primarily from one industrial user. A different numeric standard, which considers the bioavailability of nickel to aquatic life, would provide equivalent protection of the Sangamon River and its designated uses. Utilizing the BLM, a proposed site specific chronic water quality standard for dissolved nickel of 0.038 mg/L is justified. Studies of the aquatic life in the Sangamon River indicate that at current discharge levels, no water quality concerns attributed to nickel have been noted. An NPDES permit limit of 0.054 mg/L is

appropriate during times when the flow upstream of the District's discharge equals or exceeds 100 cfs. Therefore, the proposed alternative mixing rule is justified.

This Petition satisfies the requirements of Section 102.202 and Section 102.210 of the Illinois Administrative Code, in that it: details the language of the proposed site specific rule; discusses details of the operations and facilities of the District; states facts in support of the proposal, including environmental, technical and economic justification; demonstrates that requiring compliance with the existing general use chronic water quality standard for nickel is neither technically feasible nor economically reasonable; discusses other persons' or sites' ability to comply with the general rule; discusses the receiving body of water; includes a synopsis of testimony to be presented at hearing; describes the research and studies relied upon under the rule; and demonstrates that the requested relief is consistent with federal law.

WHEREFORE, Petitioner, the SANITARY DISTRICT OF DECATUR, respectfully requests that the Illinois Pollution Control Board grant this site specific rule.

SANITARY DISTRICT OF DECATUR,

Dated: June 30, 2014

By: /s/ Katherine D. Hodge
One of Its Attorneys

Katherine D. Hodge
Ethan S. Pressly
HODGE DWYER & DRIVER
3150 Roland Avenue
Post Office Box 5776
Springfield, Illinois 62705

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:	)	
	)	
PROPOSED SITE SPECIFIC	)	
RULE FOR SANITARY DISTRICT	)	R14-_____
OF DECATUR FROM 35 ILL. ADM.	)	(Site Specific Rule – Water)
CODE SECTION 302.208(e).	)	

MOTION TO WAIVE REQUIREMENT TO SUBMIT 200 SIGNATURES

NOW COMES the SANITARY DISTRICT OF DECATUR ("District"), by and through its attorneys, HODGE DWYER & DRIVER, and hereby requests the Illinois Pollution Control Board ("Board") to waive the requirement, under 35 Ill. Admin. Code § 102.202(g), to submit 200 signatures with its Petition for Site Specific Rule ("Petition"). In support of this Motion to Waive Requirement to Submit 200 Signatures ("Motion"), the District states as follows:

1. The District, located in Macon County, is engaged in the treatment of wastewater for the City of Decatur, the Villages of Forsyth, Mt. Zion, Oreana and Argenta, and for industrial and commercial users in the Decatur, Illinois, metropolitan area. The District employs approximately 55 full-time employees, and was formed in 1917. The original Main Plant, located at 501 Dipper Lane, Decatur, Illinois, was completed in 1924. Major expansions and plant upgrades were made in 1928, 1957, 1964 and 1976, and the current plant was completed in 1990. The District serves approximately 90,000 residential users, 26 significant industrial users ("SIUs") and more than 1,000 other industrial and commercial users.

2. An average flow of approximately 35 million gallons per day ("MGD") is processed at the Main Plant and then discharged into the Sangamon River. The Main

Plant has a design average flow of 41.0 MGD and a design maximum flow of 125.0 MGD. Treatment at the Main Plant consists of screening, grit removal, primary clarification, two-stage activated sludge, secondary clarification, disinfection, dechlorination, discharge to surface water, anaerobic digestion, flotation thickening, and land application of sludge on area farmland. The District has an approved pretreatment program with 17 noncategorical SIUs and 9 categorical SIUs.

3. Attached to this Motion is the Petition, in which the District is seeking a site specific rule to establish an alternative chronic water quality standard for nickel from the point of its discharge into the Sangamon River from its Main Plant to the point of the confluence of the Sangamon River with the South Fork of the Sangamon River near Riverton.

4. The general use water quality standard for nickel, which is set forth in Section 302.208(e), is defined by a calculation for dissolved nickel based on stream hardness. 35 Ill. Admin. Code § 302.208(e). The chronic standard ("CS") for nickel is defined as "exp[A+Bln(H)] X 0.997*, where A=-2.286 and B=0.8460." Id. The CS for nickel "shall not be exceeded by the arithmetic average of at least four consecutive samples collected over any period of at least four days," except as provided in Section 302.208(d). 35 Ill. Admin. Code § 302.208(b). No change is proposed for the general use acute water quality standard for nickel.

5. As discussed in the Petition, the District also proposes a site specific alternative mixing rule under certain flow conditions in order to allow mixing to be considered when determining a water quality based National Pollutant Discharge

Elimination System ("NPDES") permit limit for nickel. Specifically, in the Petition, the District requests that the Board direct the Illinois Environmental Protection Agency to revise the District's NPDES permit to: 1) reflect that the general use effluent standard for nickel contained in Section 304.124(a) of the Board's rules shall not apply to the District's discharges; 2) reflect that the mixing limitation in Section 302.102(b)(8) of the Board's rules shall not apply to the nickel concentration in the District's discharges when upstream flow, measured at the U.S. Geological Survey site 05573540 (Sangamon River at Route 48 at Decatur, Illinois) equals or exceeds 100 cubic feet per second ("cfs"); 3) reflect that at such times when the upstream flow equals or exceeds 100 cfs, the nickel (STORET number 01067) concentration in the District's discharges shall not exceed 0.054 milligrams per liter ("mg/L"), based on the arithmetic average of at least four consecutive samples collected over any period of at least four days; and 4) reflect that the District will be required to meet the site specific chronic water quality standard for nickel of 0.038 mg/L when there is less than 100 cfs available for mixing.

6. The District is requesting an alternative chronic water quality standard for nickel because the District's current discharge exceeds the current general use chronic water quality standard for nickel due to the influent contributions primarily from one industrial user. A different numeric standard, which considers the bioavailability of nickel to aquatic life, would provide equivalent protection of the Sangamon River and its designated uses. Utilizing the Biotic Ligand Model, a proposed site specific chronic water quality standard for dissolved nickel of 0.038 mg/L is justified. Studies of the aquatic life in the Sangamon River indicate that at current discharge levels, no water

quality concerns attributed to nickel have been noted. An NPDES permit limit of 0.054 mg/L is appropriate during times when the flow upstream of the District's discharge equals or exceeds 100 cfs. Therefore, the proposed alternative mixing rule is also justified.

7. The Board has waived signature requirements for site specific rulemaking petitioners in the past, including in In the Matter of: Proposed Site Specific Rule for City of Springfield, Illinois, Office of Public Utilities, City Water, Light and Power and Springfield Metro Sanitary District from 35 Ill. Adm. Code 302.208(g), PCB No. R09-8, slip op. at 2 (Ill.Pol.Control.Bd. Sept. 16, 2008); In the Matter of: Petition of Central Illinois Light Company (E.D. Edwards Generating Station) for a Site-Specific Air Regulation: 35 Ill. Adm. Code 214.561, PCB No. R02-21, slip op. at 3 (Ill.Pol.Control.Bd. May 2, 2002); In the Matter of: Site Specific Rule for City of Effingham Treatment Plant Fluoride Discharge, 35 Ill. Adm. Code 304.233, PCB No. R03-11, slip op. at 1 (Ill.Pol.Control.Bd. Nov. 7, 2002); and In the Matter of: Proposed Site Specific Regulation Applicability to Ameren Energy Generating Company, Elgin, Amending 35 Ill. Adm. Code Part 901, PCB No. R04-11, slip op. at 2 (Ill.Pol.Control.Bd. Nov. 6, 2003).

8. Granting this Motion is in the public interest because the Main Plant provides the District's residential users, SIUs and other industrial and commercial users with a critical service and must do so in accordance with the terms of its NPDES permit.

WHEREFORE, for the above and foregoing reasons, the SANITARY DISTRICT OF DECATUR hereby respectfully requests the Illinois Pollution Control Board to waive the requirement to submit 200 signatures in support of its Petition for Site Specific Rule.

Respectfully submitted,

SANITARY DISTRICT OF DECATUR,

Dated: June 30, 2014

By: _/s/ Katherine D. Hodge_____
One of Its Attorneys

Katherine D. Hodge
Ethan S. Pressly
HODGE DWYER & DRIVER
3150 Roland Avenue
Post Office Box 5776
Springfield, Illinois 62705

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:	)	
	)	
PROPOSED SITE SPECIFIC	)	
RULE FOR SANITARY DISTRICT	)	R14-_____
OF DECATUR FROM 35 ILL. ADM.	)	(Site Specific Rule – Water)
CODE SECTION 302.208(e).	)	

AFFIDAVIT OF TIMOTHY R. KLUGE

I, Timothy R. Kluge, being first duly sworn on oath, depose and state as follows:

1. I am currently employed as the Technical Director for the Sanitary District of Decatur ("District") in Decatur, Illinois, a position which I have held since July 2007. Prior to July 2007, I was employed by the Illinois Environmental Protection Agency for approximately 31 ½ years, where I held various positions, including Field Operations Section Manager, Industrial Permit Unit Manager and field engineer, all within the Division of Water Pollution Control. I received a Bachelor of Science in Chemical Engineering from the University of Illinois, Champaign-Urbana and a Masters of Science in Thermal and Environmental Engineering from Southern Illinois University at Carbondale.

2. I participated in the preparation of the Petition for Site Specific Rule, dated June 30, 2014, to the extent it discusses the District.

3. I have read the Petition for Site Specific Rule dated June 30, 2014, and based upon my personal knowledge and belief, the facts stated therein with regard to the District are true and correct.

FURTHER AFFIANT SAYETH NOT.

_____
Timothy R. Kluge

Subscribed and sworn to before me
this 30th day of June, 2014.

_____
Notary Public

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:	)	
	)	
PROPOSED SITE SPECIFIC	)	
RULE FOR SANITARY DISTRICT	)	R14-_____
OF DECATUR FROM 35 ILL. ADM.	)	(Site Specific Rule – Water)
CODE SECTION 302.208(e).	)	

AFFIDAVIT OF MAHLON KALOUPEK

I, Mahlon Kaloupek, being first duly sworn on oath, depose and state as follows:

1. I am currently employed as the Plant Advisor at Archer Daniels Midland Company ("ADM") in Decatur, Illinois, a position which I have held since May 2001. Prior to my employment as Plant Advisor, I held the following positions at ADM: Production Support Chemist from July 1974 to July 1975; Assistant Quality Control Laboratory Manager from July 1975 to March 1977; and Plant Technical Superintendent from March 1977 to May 2001. I received a Bachelor of Science in Chemistry from Coe College in Cedar Rapids, Iowa.

2. I participated in the preparation of the Petition for Site Specific Rule dated June 30, 2014, to the extent it discusses ADM.

3. I have read the Petition for Site Specific Rule dated June 30, 2014, and based upon my personal knowledge and belief, the facts stated therein with regard to ADM are true and correct.

FURTHER AFFIANT SAYETH NOT.

Mahlon Kaloupek

Mahlon Kaloupek

Subscribed and sworn to before me
this 30th day of June, 2014.

Notary Public

"OFFICIAL SEAL"
DAWN M LAZELL-JACKSON
NOTARY PUBLIC, STATE OF ILLINOIS
MY COMMISSION EXPIRES 05-22-2018