## **BEFORE THE ILLINOIS POLLUTION CONTROL BOARD**

In the matter of:	)
SIERRA CLUB; PRAIRIE RIVERS NETWORK; NATIONAL ASSOCIATION FOR THE ADVANCEMENT OF	)))
COLORED PEOPLE,	)
Complainant(s),	) ) )
V.	)
CITY WATER, LIGHT & POWER	)))))
Respondent(s)	)

PCB 20 -[For Board use only]

## NOTICE OF ELECTRONIC FILING

To: Attached Service List

PLEASE TAKE NOTICE that on September 27, 2017, I electronically filed with the Clerk of the Illinois Pollution Control Board (Board) a formal **COMPLAINT** and **ENTRY OF APPEARANCE**, copies of which are served on you along with this notice. You may be required to attend a hearing on a date set by the Board. Failure to file an answer to this Complaint within 60 days may have severe consequences. Failure to answer will mean that all allegations in this Complaint will be taken as if admitted for purposes of this proceeding. If you have any questions about this procedure, you should contact the hearing officer assigned to this proceeding, the Clerk's Office or an attorney.

Respectfully Submitted,

Gregory E. Wannier Staff Attorney, Sierra Club 2101 Webster St. Suite 1300 Oakland, CA 94612 greg.wannier@sierraclub.org (415)977-5646

Dated: September 27, 2017

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CITY WATER, LIGHT & POWER	)
	)
Respondent(s)	)

PCB 20 -[For Board use only]

# **ENTRY OF APPEARANCE**

Faith E. Bugel, senior attorney hereby enters her appearance on behalf of Sierra Club,

Prairie Rivers Network, and the National Association for the Advancement of Colored People in the above-captioned cause.

Respectfully Submitted,

Jaith E. Bugel

Faith E. Bugel Attorney at Law IL Bar No. 6255685 1004 Mohawk Wilmette, IL 60091 fbugel@elpc.org ph (312) 282-9119

### **BEFORE THE ILLINOIS POLLUTION CONTROL BOARD**

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-	)	PCB 20
v.	)	
	)	
	)	
	)	
CITY WATER, LIGHT & POWER	)	
	)	
Respondent(s)	)	

# **COMPLAINT**

Complainants SIERRA CLUB, PRAIRIE RIVERS NETWORK, and NATIONAL

ASSOCIATION FOR THE ADVANCEMENT OF COLORED PEOPLE

("Complainants") complain of Respondent, CITY WATER, LIGHT AND POWER

("Respondent"), as follows:

# FACTUAL BACKGROUND

1. City Water, Light & Power (CWLP), located in the City of Springfield, Illinois, owns and operates Dallman Station ("Dallman"), a coal-burning power plant located within city limits on Lake Springfield, in Sangamon County. CWLP used to also own and operate Lakeside Station, another coal-burning plant on the same site as Dallman, but that facility was decommissioned in 2009. *See* 2010 Map of Dallman Vicinity, attached hereto as Exhibit A.

CWLP has historically stored and disposed of coal ash and other coal combustion waste in repositories that include, but are not limited to, two ash ponds and a landfill; and it continues to store or dispose of coal ash and other coal combustion waste in these ponds or repositories. *See* 2010 Map of Dallman Site, attached hereto as Exhibit
 B. One of the two ash ponds, the Lakeside ash pond, received coal ash from the Lakeside Plant until it was decommissioned; since then, no additional coal ash or other coal combustion waste has been disposed of in that ash pond, though the onsite storage of such materials continues.

3. Since at least June 1, 2010, CWLP has sampled at least six groundwater monitoring wells (AP-1 through AP-5, and AW-3) around the Dallman Station ash impoundments and landfill, as depicted in the 2011 Map of Dallman Groundwater Monitoring Wells, attached hereto as Exhibit C. Since CWLP began monitoring in April of 2010, groundwater monitoring results have shown levels of arsenic, boron, iron, lead, manganese, sulfate, and total dissolved solids that exceed Illinois Groundwater Quality Standards ("GQSs"). *See* violations of Class I and Class II GQSs and groundwater monitoring data for Dallman, attached hereto as Exhibits D and E.

#### PARTIES

4. Sierra Club is the nation's oldest and largest grassroots environmental organization. Sierra Club is an incorporated, not-for-profit organization with headquarters located at 2101 Webster St., Ste. 1300, Oakland, CA, 94612. Sierra Club's Illinois Chapter office is located at 70 E. Lake St., Suite 1500, Chicago, IL, 60601. Sierra Club's mission is to preserve, protect, and enhance the natural environment. Sierra Club has 842,000 members, including approximately 33,000 members in Illinois.

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5. Prairie Rivers Network ("PRN") is an Illinois non-profit organization that champions clean, healthy rivers and lakes and safe drinking water to benefit the people and wildlife of Illinois. Drawing upon sound science and working cooperatively with others, PRN advocates public policies and cultural values that sustain the ecological health and biological diversity of water resources and aquatic ecosystems.

6. The National Association for the Advancement of Colored People ("NAACP") is the nation's oldest and boldest civil rights organization in the world. NAACP is a not-for-profit organization and located at 4805 Mt. Hope, Drive, Baltimore, MD 21215. The mission of the National Association for the Advancement of Colored People (NAACP) is to ensure the political, educational, social, and economic equality of rights of all persons and to eliminate race-based discrimination. The NAACP's Environmental and Climate Justice Program works at addressing the many practices that are harming communities nationwide and worldwide, and the policies needed to rectify these impacts and advance a society that fosters sustainable, cooperative, regenerative communities that uphold all rights for all people in harmony with the earth.

7. CWLP is the municipal electric and water utility for Springfield, Illinois. It is the largest municipally owned utility in the state of Illinois, and also owns and manages Lake Springfield, the primary source of drinking water for Springfield and one of Central Illinois' premier recreational resources. The utility provides Springfield with drinking water from Lake Springfield, and electric power from Dallman among other sources. CWLP has its principal executive offices at 401 N 11<sup>th</sup> St., Springfield, IL 62702.

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# THE GROUNDWATER CONTAMINANTS

8. As set forth in in detail in Exhibits D and E, groundwater monitoring results at Dallman have exceeded Illinois Class I & II GQS, 35 Ill. Admin. Code §§ 620.410, 620.420, for the following contaminants: arsenic, boron, chromium, iron, lead, manganese, sulfate, and total dissolved solids ("TDS").

9. Many of the contaminants found at elevated concentrations in the groundwater monitoring results at Dallman are constituents of coal ash.<sup>1</sup>

10. Boron is a primary indicator of potential coal ash impacts to groundwater.

11. The contaminants listed in this complaint, when present at the

concentrations found in CWLP's groundwater wells, make the groundwater unusable.

Many of these contaminants are toxic and have been found at concentrations that present

a human health risk. Others are dangerous to aquatic ecosystems; this is a significant

concern to the extent that contaminated groundwater is migrating into adjacent surface

water bodies.

12. Arsenic is known to cause multiple forms of cancer in humans and is also associated with non-cancer health effects of the skin and the nervous system.<sup>2</sup> Groundwater that exceeds Illinois GQSs for arsenic is highly toxic; based on current U.S. EPA risk estimates the cancer risk associated with drinking water at 0.05 mg/L, the

<sup>1</sup> See, e.g., U.S. EPA, Human and Ecological Risk Assessment of Coal Combustion Wastes at 2-4 (Draft, April 2010) (listing Coal Combustion Waste constituents), *available at* 

http://earthjustice.org/sites/default/files/library/reports/epa-coal-combustion-waste-risk-assessment.pdf (last visited Jun. 22, 2017).

<sup>&</sup>lt;sup>2</sup> See, e.g., U.S. EPA, Integrated Risk Information System: Arsenic, inorganic,

https://cfpub.epa.gov/ncea/iris2/chemicalLanding.cfm?substance\_nmbr=278 (last visited June 22, 2017); U.S. Agency for Toxic Substances and Disease Registry (ATSDR), Toxicological Profile for Arsenic (Aug. 2007).

Illinois Class I GQS for arsenic, is greater than 2 in 1,000.<sup>3</sup> The risk at 0.2 mg/L, the Class II GQS, is 1 in 100.

13. Oral exposure to boron has led to developmental and reproductive toxicity in multiple species. Specific effects include testicular degeneration, reduced sperm count, reduced birth weight, and birth defects.<sup>4</sup> The EPA has established a child health advisory of 3 mg/L for boron, close to the Illinois Class I and Class II GQS of 2 mg/L.<sup>5</sup>

14. Chromium is an odorless and tasteless metallic element, and most commonly comes in two forms: trivalent chromium, and hexavalent chromium.<sup>6</sup> Although some trivalent chromium is an important dietary element, hexavalent chromium is a known human carcinogen, and high levels of exposure through drinking water can cause oral ulcers, diarrhea, vomiting, and other signs of agitation.<sup>7</sup> Since 1991, the U.S. EPA has enforced a federal drinking water standard of 0.1 mg/l, which is the same as the Illinois Class I standard; it determined that chromium should be regulated based on total chromium, including trivalent chromium, because the two forms of chromium can convert back and forth depending on conditions in the water or even inside the human body.<sup>8</sup>

<sup>4</sup> See, e.g., U.S. EPA, Toxicological Profile of Boron and Compounds 60-61 (June 2004); U.S. EPA Integrated Risk Information System Chemical Assessment Survey: Boron and Compounds, *available at* https://cfpub.epa.gov/ncea/iris/iris\_documents/documents/subst/ 0410\_summary.pdf.

<sup>&</sup>lt;sup>3</sup> Derived from U.S. EPA Integrated Risk Information System Chemical Assessment Survey: Arsenic, Inorganic, 14, *available at* https://cfpub.epa.gov/ncea/iris/iris\_documents/documents/subst/ 0278\_summary.pdf (listing a drinking water unit risk of 5E-5 per ug/L).

<sup>&</sup>lt;sup>5</sup> U.S. EPA, 2012 Edition of the Drinking Water Standards and Health Advisories (April, 2012).

<sup>&</sup>lt;sup>6</sup> U.S. EPA, Chromium in Drinking Water, https://www.epa.gov/dwstandardsregulations/chromiumdrinking-water (last visited June 22, 2017).

<sup>&</sup>lt;sup>7</sup> U.S. EPA, Toxicological Review of Hexavalent Chromium 7 (Aug. 1998), *available at* https://cfpub.epa.gov/ncea/iris/iris\_documents/documents/toxreviews/0144tr.pdf.

<sup>&</sup>lt;sup>8</sup> U.S. EPA, Chromium in Drinking Water, *supra* note 6.

15. Iron renders water unusable by imparting a rusty color and a metallic taste and causing sedimentation and staining; to prevent these effects the EPA has set a secondary drinking water regulation of 0.3 mg/L.<sup>9</sup>

16. Lead is known to be toxic to the nervous system, and is particularly associated with effects on childhood neurobehavioral development at very low doses. Lead is also classified by the EPA as a "probable human carcinogen."<sup>10</sup> The EPA Action Level for lead in drinking water is 0.015 mg/L.<sup>11</sup> This is unlikely to represent a "safe" level of exposure—the EPA has noted, for example, that there may be no threshold for lead toxicity.<sup>12</sup> Groundwater concentrations of lead above the Illinois Class I GQS, 0.0075 mg/L, are potentially unsafe in drinking water.

17. Manganese is also known to be toxic to the nervous system.<sup>13</sup> The EPA has not updated its assessment of manganese toxicity in 16 years, so EPA standards and advisories may not reflect the latest scientific knowledge concerning effects on childhood neurological development,<sup>14</sup> and the EPA Lifetime Health Advisory for manganese – 0.3 mg/L – may not be adequately health-protective. In any event, manganese concentrations greater than 0.05 mg/L render water non-potable by discoloring the water, giving it a

<sup>10</sup> U.S. EPA, Integrated Risk Information System: Lead and Compounds (Inorganic),

https://cfpub.epa.gov/ncea/iris2/chemicalLanding.cfm?substance\_nmbr=277 (last visited June 22, 2017). <sup>11</sup> U.S. EPA National Primary Drinking Water Regulations, Basic Information about Lead in Drinking Water, https://www.epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water (last visited June 22, 2017).

<sup>&</sup>lt;sup>9</sup> Id.

<sup>&</sup>lt;sup>12</sup> U.S. EPA Integrated Risk Information System Chemical Assessment Survey: Lead and Compounds (Inorganic), 2, *available at* https://cfpub.epa.gov/ncea/iris/iris\_documents/documents/subst/0277\_summary.pdf.

<sup>&</sup>lt;sup>13</sup> See, e.g., U.S. EPA, Integrated Risk Information System: Manganese,

https://cfpub.epa.gov/ncea/iris2/chemicalLanding.cfm?substance\_nmbr=373 (last visited June 22, 2017).

<sup>&</sup>lt;sup>14</sup> See, e.g., G.A. Wasserman et al., Water manganese exposure and children's intellectual function in araihazar, Bangladesh. 114 ENVIRON. HEALTH PERSP. 124 (2006).

metallic taste, and causing black staining.<sup>15</sup> Groundwater with manganese above the Illinois Class I GQS - 0.15 mg/L - is unfit for human consumption and is potentially toxic.

18. High concentrations of sulfates in drinking water impart a salty taste and can cause diarrhea; to protect against these effects, the U.S. EPA has established a health-based advisory of 500 mg/L.<sup>16</sup> Groundwater with sulfate concentrations above the Illinois Cass I and Class II GQS of 400 mg/L is therefore unsuitable for human consumption.

19. Total Dissolved Solids (TDS) is a measure of multiple dissolved chemicals, and high TDS is generally associated with hardness, staining, salty taste, and deposits.<sup>17</sup> Groundwater with TDS above the Illinois Class I and Class II GQS, 1,200 mg/L, is unsafe as drinking water.

20. Finally, many of the contaminants associated with coal ash bioaccumulate in aquatic ecosystems cause tissue damage and other effects in fish and amphibians. One review, for example, noted that "the combined effects of multiple accumulated elements may lead to numerous changes in individuals that could compromise individual fitness or health," and provided several examples of coal ash-contaminated sites where the health of individuals and communities in aquatic ecosystems had been severely impaired.<sup>18</sup>

 <sup>&</sup>lt;sup>15</sup> See U.S. EPA secondary drinking water regulations, https://www.epa.gov/dwstandardsregulations /secondary-drinking-water-standards-guidance-nuisance-chemicals (last visited June 22, 2017).
 <sup>16</sup> U.S. EPA, Drinking Water Advisory: Consumer Acceptability Advice and Health Effects Analysis on

Sulfate (Feb. 2003).

<sup>&</sup>lt;sup>17</sup> See U.S. EPA secondary drinking water regulations, *supra* note 12.

<sup>&</sup>lt;sup>18</sup> C.L. Rowe et al., *Ecotoxicological implications of aquatic disposal of coal combustion residues in the United States: A review*, 80 ENVTL. MONITORING AND ASSESSMENT 207, 242 (2002); see also A.D. Lemly and J.P. Skorupa, Wildlife and the coal waste policy debate: Proposed rules or coal waste disposal ignore lessons from 45 years of wildlife poisoning, 46 ENVTL. SCI. TECH. 46 (2012).

### LEGAL BACKGROUND

21. The Illinois Environmental Protection Act prohibits "the discharge of any contaminants into the environment . . . so as to cause or tend to cause water pollution in Illinois, either alone or in combination with matter from other sources," 415 ILCS 5/12(a), and prohibits the deposition of "any contaminants upon the land in such place and manner so as to create a water pollution hazard." 415 ILCS 5/12(d). "Water pollution" is defined as the "alteration" or "discharge of any contaminant into any waters of the State, as will or is likely to create a nuisance or render such waters harmful or detrimental or injurious to public health, safety or welfare, or to domestic, commercial, industrial, agricultural, recreational, or other legitimate uses, or to livestock, wild animals, birds, fish, or other aquatic life." 415 ILCS 5/3.545. "Waters" of the State is defined to include "all accumulations of water, surface and underground, natural, and artificial, public and private, or parts thereof, which are wholly or partially within, flow through, or border upon this State." 415 ILCS 5/3.550.

22. Section 620.405 prohibits "the release of any contaminant to groundwater so as to cause a groundwater quality standard set forth in this Subpart to be exceeded."
35 Ill. Admin. Code § 620.405. The Illinois Administrative Code establishes different groundwater quality standards for Class I and Class II groundwater.

23. Section 620.410 establishes Class I GQSs that cannot be exceeded in potable resource groundwater. 35 Ill. Admin. Code § 620.410. "Potable resource groundwater" is defined as:

Groundwater located 10 feet or more below the land surface and within: (1) The minimum setback zone of a well which serves as a potable water supply and to the bottom of such well; (2) Unconsolidated sand, gravel or sand and gravel which is 5 feet or more in thickness and that contains 12

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percent or less of fines . . . ; (3) Sandstone which is 10 feet or more in thickness, or fractured carbonate which is 15 feet or more in thickness; or (4) Any geologic material which is capable of a: (A) sustained groundwater yield, from up to a 12 inch borehole, of 150 gallons per day or more from a thickness of 15 feet or less; or (B) Hydraulic conductivity of 1 x 10(-4) cm/sec or greater using one of the following test methods or its equivalent: (i) Permeameter; (ii) Slug test; or (iii) Pump test. 35 Ill. Admin. Code § 620.210(a).

24. The definition of Class I groundwater specifically excludes: Class III "special resource groundwater," Class IV "other groundwater," which includes groundwater in a zone of attenuation; and groundwater in a "groundwater management zone." 35 Ill. Admin. Code § 620.210; *see also* 35 Ill. Admin. Code §§ 620.230, 620.240, 620.250. Section 620.115 provides that "No person shall cause, threaten or allow a violation of the Act, the [Illinois Groundwater Protection Act] or regulations adopted by the Board thereunder, including but not limited to this part." 35 Ill. Admin. Code § 620.115. Section 620.301(a) provides that "No person shall cause, threaten or allow the release of any contaminant to a resource groundwater such that: 1) Treatment or additional treatment is necessary to continue an existing use or to assure a potential use of such groundwater; or 2) An existing or potential use of such groundwater is precluded." 35 Ill. Admin. Code § 620.301.

25. Section 620.420 establishes Class II GQSs that cannot be exceeded in general resource groundwater. 35 Ill. Admin. Code § 620.420. "General resource groundwater" is defined as "groundwater which does not meet the provisions of . . . Class I. . . Class III . . . or . . . Class IV" and "groundwater which is found by the Board, pursuant to the petition procedures set forth in Section 620.260, to be capable of agricultural, industrial, recreational or other beneficial uses." 35 Ill. Admin. Code §

9

620.220. Groundwater in a zone of attenuation must meet Class II GQSs. 35 Ill. Admin. Code § 620.440(b).

26. The Illinois Class I and Class II GQSs for contaminants identified in this report are as follows:

Chemical	Class I GQS (mg/L) (35 Ill. Admin. Code § 620.410)	Class II GQS (mg/L) (35 IAC § 620.420)
Arsenic	0.01	0.2
Boron	2	2
Chromium	0.1	1.0
Iron	5	5
Lead	0.0075	0.10
Manganese	0.15	10
Sulfate	400	400
Total Dissolved Solids (TDS)	1,200	1,200

### COUNT 1

#### WATER POLLUTION AT DALLMAN

27. Paragraphs 1-26 are realleged and incorporated herein by reference.

28. CWLP, through its coal ash disposal ponds, landfill, unconsolidated coal ash fill, and/or other coal ash and coal combustion waste repositories at Dallman, has discharged contaminants into the environment at Dallman and thereby caused water pollution in violation of 415 ILCS 5/12(a) and (d), and 35 Ill. Admin. Code §§ 620.115, 620.301(a), and 620.405. As shown in Exhibit D, there have been at least 388 violations of Illinois Class I Groundwater Quality Standards and, as shown in Exhibit E, at least 235 violations of Illinois Class II Groundwater Quality Standards, since monitoring began in late 2010.

29. Since 2010, the groundwater at Dallman has exceeded the Class I GQSs for arsenic, boron, chromium, iron, lead, manganese, sulfate, and TDS, and the Class II

GQSs for arsenic, boron, iron, lead, manganese, sulfate, and TDS. 35 Ill. Admin. Code §§ 620.410, 620.420.

## **RELIEF REQUESTED**

WHEREFORE, Complainants respectfully request that the Pollution Control Board enter an order against the Respondent, City Water, Light and Power:

- A. DECLARE that Respondent, CWLP, has violated the Illinois Environmental Protection Act's prohibitions on groundwater pollution at its Dallman Station.
- B. IMPOSE civil penalties, pursuant to 415 Ill. Comp. Stat. 5/42.
- C. ORDER Respondent, pursuant to 415 Ill. Comp. Stat. 5/33, to:
  - i. Cease and desist from causing or threatening to cause water pollution,
  - Modify its coal ash and coal combustion waste disposal and storage practices so as to avoid future groundwater contamination,
  - iii. Remediate the contaminated groundwater so that it meets applicableIllinois Groundwater Quality Standards (GQSs); and
- D. Grant other such relief as the Board deems just and proper.

Respectfully Submitted,

Jaith E. Bugel

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Attorneys for Sierra Club, Prairie Rivers Network, and National Association for the Advancement of Colored People



Exhibit A: 2010 Map of Dallman Vicinity



Exhibit B: 2010 Map of Dallman Site



Exhibit C: 2011 Map of Dallman Groundwater Monitoring Wells

Exceedance	Well	Pollutant	Class I GQS (mg/L)	Sample Value (mg/L)	Collection Date
1	AP-1	Arsenic	0.01	0.0141	8/23/12
2	AP-1	Arsenic	0.01	0.158	2/26/14
3	AP-1	Boron	2	14.6	2/22/12
4	AP-1	Boron	2	10.4	4/25/12
5	AP-1	Boron	2	15.2	8/23/12
6	AP-1	Boron	2	4.3	11/28/12
7	AP-1	Boron	2	3.9	2/21/13
8	AP-1	Boron	2	7.76	5/23/13
9	AP-1	Boron	2	14.7	8/28/13
10	AP-1	Boron	2	18.9	11/20/13
11	AP-1	Boron	2	17.2	5/20/14
12	AP-1	Boron	2	18	8/26/14
13	AP-1	Boron	2	17.9	11/21/14
14	AP-1	Boron	2	17.9	2/24/15
15	AP-1	Boron	2	15.7	5/28/15
16	AP-1	Boron	2	17.5	8/20/15
17	AP-1	Boron	2	18.8	11/13/15
18	AP-1	Boron	2	16.1	2/26/16
19	AP-1	Boron	2	17.2	5/13/16
20	AP-1	Boron	2	17.9	8/4/16
21	AP-1	Boron	2	17.3	11/18/16
22	AP-1	Iron	5	5.08	06/01/10
23	AP-1	Iron	5	35.3	2/22/12
24	AP-1	Iron	5	18.3	4/25/12
25	AP-1	Iron	5	9.22	8/23/12
26	AP-1	Iron	5	23.4	11/28/12
27	AP-1	Iron	5	13.3	2/21/13
28	AP-1	Iron	5	12.2	5/23/13
29	AP-1	Iron	5	25.8	8/28/13
30	AP-1	Iron	5	27.1	11/20/13
31	AP-1	Iron	5	27.7	2/26/14
32	AP-1	Iron	5	48.3	5/20/14
33	AP-1	Iron	5	32.5	8/26/14
34	AP-1	Iron	5	32.7	11/21/14
35	AP-1	Iron	5	25.8	2/24/15
36	AP-1	Iron	5	30.1	5/28/15
37	AP-1	Iron	5	24.4	8/20/15

Exhibit D: Violations of Illinois Class I groundwater standards at CWLP's Dallman Generating Station. This table does not include pH violations.

38	AP-1	Iron	5	26.3	11/13/15
39	AP-1	Iron	5	27.3	2/26/16
40	AP-1	Iron	5	25.6	5/13/16
41	AP-1	Iron	5	24.6	8/4/16
42	AP-1	Iron	5	25	11/18/16
43	AP-1	Lead	0.0075	0.0184	2/22/12
44	AP-1	Lead	0.0075	0.0291	2/26/14
45	AP-1	Manganese	0.15	0.27	6/1/10
46	AP-1	Manganese	0.15	0.702	2/22/12
47	AP-1	Manganese	0.15	0.864	4/25/12
48	AP-1	Manganese	0.15	0.564	08/23/12
49	AP-1	Manganese	0.15	0.744	11/28/12
50	AP-1	Manganese	0.15	0.732	2/21/13
51	AP-1	Manganese	0.15	0.182	5/23/13
52	AP-1	Manganese	0.15	0.447	8/28/13
53	AP-1	Manganese	0.15	0.468	11/20/13
54	AP-1	Manganese	0.15	0.47	2/26/14
55	AP-1	Manganese	0.15	0.877	5/20/14
56	AP-1	Manganese	0.15	0.484	8/26/14
57	AP-1	Manganese	0.15	0.482	11/21/14
58	AP-1	Manganese	0.15	0.319	2/24/15
59	AP-1	Manganese	0.15	0.391	5/28/15
60	AP-1	Manganese	0.15	0,353	8/20/15
61	AP-1	Manganese	0.15	0.546	11/13/15
62	AP-1	Manganese	0.15	0.493	2/26/16
63	AP-1	Manganese	0.15	0.398	5/13/16
64	AP-1	Manganese	0.15	0.378	8/4/16
65	AP-1	Manganese	0.15	0.399	11/18/16
66	AP-1	Sulfate	400	521	2/22/12
67	AP-1	Sulfate	400	463	4/25/12
68	AP-1	Sulfate	400	469	08/23/12
69	AP-1	Sulfate	400	488	11/28/12
70	AP-1	Sulfate	400	506	2/21/13
71	AP-1	Sulfate	400	603	5/23/13
72	AP-1	Sulfate	400	597	8/28/13
73	AP-1	Sulfate	400	581	11/20/13
74	AP-1	Sulfate	400	436	2/26/14
75	AP-1	Sulfate	400	615	5/20/14
76	AP-1	Sulfate	400	594	8/26/14
77	AP-1	Sulfate	400	619	11/21/14
78	AP-1	Sulfate	400	504	2/24/15

79	AP-1	Sulfate	400	486	5/28/15
80	AP-1	Sulfate	400	550	8/20/15
81	AP-1	Sulfate	400	594	2/26/16
82	AP-1	Sulfate	400	597	5/13/16
83	AP-1	Sulfate	400	612	8/4/16
84	AP-1	Sulfate	400	589	11/18/16
85	AP-1	TDS	1200	1390	5/23/13
86	AP-1	TDS	1200	1380	8/28/13
87	AP-1	TDS	1200	1250	11/20/13
88	AP-1	TDS	1200	1360	5/20/14
89	AP-1	TDS	1200	1300	8/26/14
90	AP-1	TDS	1200	1490	11/21/14
91	AP-1	TDS	1200	1230	2/24/15
92	AP-1	TDS	1200	1260	5/28/15
93	AP-1	TDS	1200	1280	11/13/15
94	AP-1	TDS	1200	1430	5/13/16
95	AP-1	TDS	1200	1390	8/4/16
96	AP-1	TDS	1200	1320	11/18/16
97	AP-2	Arsenic	0.01	0.0331	8/24/12
98	AP-2	Arsenic	0.01	0.0156	11/28/12
99	AP-2	Arsenic	0.01	0.0783	2/21/13
100	AP-2	Arsenic	0.01	0.034	5/23/13
101	AP-2	Arsenic	0.01	0.0224	8/28/13
102	AP-2	Boron	2	2.63	6/1/10
103	AP-2	Boron	2	5	2/22/12
104	AP-2	Boron	2	5.51	4/25/12
105	AP-2	Boron	2	6.88	8/24/12
106	AP-2	Boron	2	6.24	11/28/12
107	AP-2	Boron	2	10	2/21/13
108	AP-2	Boron	2	5.01	5/23/13
109	AP-2	Boron	2	5.46	8/28/13
110	AP-2	Boron	2	4.78	11/20/13
111	AP-2	Boron	2	4.1	2/26/14
112	AP-2	Boron	2	4.36	5/20/14
113	AP-2	Boron	2	4.84	8/26/14
114	AP-2	Boron	2	4.87	11/21/14
115	AP-2	Boron	2	4.12	2/24/15
116	AP-2	Boron	2	4.51	5/28/15
117	AP-2	Boron	2	5.01	8/20/15
118	AP-2	Boron	2	4.62	2/26/16
119	AP-2	Boron	2	4.43	5/13/16

120	AP-2	Boron	2	4.4	8/4/16
121	AP-2	Boron	2	4.28	11/18/16
122	AP-2	Chromium	0.1	0.277	2/22/12
123	AP-2	Chromium	0.1	0.111	8/24/12
124	AP-2	Iron	5	242	2/22/12
125	AP-2	Iron	5	59.2	4/25/12
126	AP-2	Iron	5	90.8	8/24/12
127	AP-2	Iron	5	134	11/28/12
128	AP-2	Iron	5	87.9	2/21/13
129	AP-2	Iron	5	15.8	5/23/13
130	AP-2	Iron	5	25.1	8/28/13
131	AP-2	Iron	5	33.9	11/20/13
132	AP-2	Iron	5	29.7	5/20/14
133	AP-2	Iron	5	20.1	8/26/14
134	AP-2	Iron	5	20.4	11/21/14
135	AP-2	Iron	5	20.2	2/24/15
136	AP-2	Iron	5	21.3	5/28/15
137	AP-2	Iron	5	22.8	8/20/15
138	AP-2	Iron	5	15.7	2/26/16
139	AP-2	Iron	5	6.73	5/13/16
140	AP-2	Iron	5	2.56	8/4/16
141	AP-2	Iron	5	1.55	11/18/16
142	AP-2	Lead	0.0075	0.226	2/22/12
143	AP-2	Lead	0.0075	0.047	4/25/12
144	AP-2	Lead	0.0075	0.0599	8/24/12
145	AP-2	Lead	0.0075	0.0433	11/28/12
146	AP-2	Lead	0.0075	0.0104	8/28/13
147	AP-2	Lead	0.0075	0.015	11/20/13
148	AP-2	Manganese	0.15	2	6/1/10
149	AP-2	Manganese	0.15	21.4	2/22/12
150	AP-2	Manganese	0.15	20.7	4/25/12
151	AP-2	Manganese	0.15	22.5	8/24/12
152	AP-2	Manganese	0.15	46	11/28/12
153	AP-2	Manganese	0.15	21.6	2/21/13
154	AP-2	Manganese	0.15	20.7	5/23/13
155	AP-2	Manganese	0.15	20.4	8/28/13
156	AP-2	Manganese	0.15	20.3	11/20/13
157	AP-2	Manganese	0.15	11.5	2/26/14
158	AP-2	Manganese	0.15	16.7	5/20/14
159	AP-2	Manganese	0.15	19.8	8/26/14
160	AP-2	Manganese	0.15	16.6	11/21/14

161	AP-2	Manganese	0.15	25.1	2/24/15
162	AP-2	Manganese	0.15	25.5	5/28/15
163	AP-2	Manganese	0.15	31.1	8/20/15
164	AP-2	Manganese	0.15	16.7	2/26/16
165	AP-2	Manganese	0.15	8.42	5/13/16
166	AP-2	Manganese	0.15	7.21	8/4/16
167	AP-2	Manganese	0.15	8.17	11/18/16
168	AP-2	Sulfate	400	463	11/21/14
169	AP-2	Sulfate	400	497	2/24/15
170	AP-2	Sulfate	400	686	5/28/15
171	AP-2	Sulfate	400	711	8/20/15
172	AP-2	Sulfate	400	531	2/26/16
173	AP-2	Sulfate	400	418	5/13/16
174	AP-3	Arsenic	0.01	0.0144	6/1/10
175	AP-3	Arsenic	0.01	0.0254	8/24/12
176	AP-3	Arsenic	0.01	0.0136	11/28/12
177	AP-3	Arsenic	0.01	0.0784	2/21/13
178	AP-3	Arsenic	0.01	0.016	5/23/13
179	AP-3	Boron	2	11.9	6/1/10
180	AP-3	Boron	2	17.7	2/22/12
181	AP-3	Boron	2	18.4	4/25/12
182	AP-3	Boron	2	20	8/24/12
183	AP-3	Boron	2	8.03	11/28/12
184	AP-3	Boron	2	29.1	2/21/13
185	AP-3	Boron	2	18.7	5/23/13
186	AP-3	Boron	2	21.3	8/28/13
187	AP-3	Boron	2	20.6	11/20/13
188	AP-3	Boron	2	19.3	2/26/14
189	AP-3	Boron	2	19.3	5/20/14
190	AP-3	Boron	2	19.2	8/26/14
191	AP-3	Boron	2	19.5	11/21/14
192	AP-3	Boron	2	17.8	2/24/15
193	AP-3	Boron	2	16.4	5/28/15
194	AP-3	Boron	2	17.6	8/20/15
195	AP-3	Boron	2	20.1	11/13/15
196	AP-3	Boron	2	16.9	2/26/16
197	AP-3	Boron	2	16.2	5/13/16
198	AP-3	Boron	2	16.5	8/4/16
199	AP-3	Boron	2	18.6	11/18/16
200	AP-3	Iron	5	10.1	6/1/10
201	AP-3	Iron	5	13.6	2/22/12

202	AP-3	Iron	5	14	4/25/12
203	AP-3	Iron	5	19.2	8/24/12
204	AP-3	Iron	5	15.5	11/28/12
205	AP-3	Iron	5	165	2/21/13
206	AP-3	Iron	5	14	5/23/13
207	AP-3	Iron	5	12.2	8/28/13
208	AP-3	Iron	5	18.1	11/20/13
209	AP-3	Iron	5	23.9	2/26/14
210	AP-3	Iron	5	16.9	5/20/14
211	AP-3	Iron	5	14.4	8/26/14
212	AP-3	Iron	5	14.3	11/21/14
213	AP-3	Iron	5	18.3	2/24/15
214	AP-3	Iron	5	22.2	5/28/15
215	AP-3	Iron	5	11.5	8/20/15
216	AP-3	Iron	5	14.1	11/13/15
217	AP-3	Iron	5	15.5	2/26/16
218	AP-3	Iron	5	12.6	5/13/16
219	AP-3	Iron	5	17.8	8/4/16
220	AP-3	Iron	5	13	11/18/16
221	AP-3	Lead	0.0075	0.008	2/22/12
222	AP-3	Lead	0.0075	0.0188	8/24/12
223	AP-3	Manganese	0.15	9.25	6/1/10
224	AP-3	Manganese	0.15	10.6	2/22/12
225	AP-3	Manganese	0.15	7.24	4/25/12
226	AP-3	Manganese	0.15	8.15	8/24/12
227	AP-3	Manganese	0.15	8.64	11/28/12
228	AP-3	Manganese	0.15	6.18	2/21/13
229	AP-3	Manganese	0.15	8.9	5/23/13
230	AP-3	Manganese	0.15	7.61	8/28/13
231	AP-3	Manganese	0.15	8.99	11/20/13
232	AP-3	Manganese	0.15	5.58	2/26/14
233	AP-3	Manganese	0.15	7.73	5/20/14
234	AP-3	Manganese	0.15	8.94	8/26/14
235	AP-3	Manganese	0.15	8.24	11/21/14
236	AP-3	Manganese	0.15	8.34	2/24/15
237	AP-3	Manganese	0.15	9.11	5/28/15
238	AP-3	Manganese	0.15	8.29	8/20/15
239	AP-3	Manganese	0.15	9.64	11/13/15
240	AP-3	Manganese	0.15	9.97	2/26/16
241	AP-3	Manganese	0.15	7.91	5/13/16
242	AP-3	Manganese	0.15	7.8	8/4/16

243	AP-3	Manganese	0.15	7.83	11/18/16
244	AP-4	Arsenic	0.01	0.0225	6/1/10
245	AP-4	Arsenic	0.01	0.0294	8/24/12
246	AP-4	Arsenic	0.01	0.025	5/23/13
247	AP-4	Arsenic	0.01	0.0193	8/28/13
248	AP-4	Iron	5	11.2	6/1/10
249	AP-4	Iron	5	11	2/22/12
250	AP-4	Iron	5	9.22	4/25/12
251	AP-4	Iron	5	10.8	8/24/12
252	AP-4	Iron	5	15.9	2/21/13
253	AP-4	Iron	5	20	5/23/13
254	AP-4	Iron	5	12.8	8/28/13
255	AP-4	Iron	5	11.8	11/20/13
256	AP-4	Iron	5	10	2/26/14
257	AP-4	Iron	5	10.1	5/20/14
258	AP-4	Iron	5	11.6	8/26/14
259	AP-4	Iron	5	12.8	11/21/14
260	AP-4	Iron	5	11.7	2/24/15
261	AP-4	Iron	5	11.8	8/20/15
262	AP-4	Iron	5	12.1	11/13/15
263	AP-4	Iron	5	12.2	2/26/16
264	AP-4	Iron	5	13	5/13/16
265	AP-4	Iron	5	11.7	8/4/16
266	AP-4	Iron	5	11.6	11/18/16
267	AP-4	Manganese	0.15	0.503	6/1/10
268	AP-4	Manganese	0.15	0.254	2/22/12
269	AP-4	Manganese	0.15	0.186	4/25/12
270	AP-4	Manganese	0.15	0.162	08/24/12
271	AP-4	Manganese	0.15	0.324	5/23/13
272	AP-4	Manganese	0.15	0.379	8/28/13
273	AP-4	Manganese	0.15	0.159	11/20/13
274	AP-4	Manganese	0.15	0.15	2/26/14
275	AP-4	Manganese	0.15	0.246	5/20/14
276	AP-4	Manganese	0.15	0.154	8/26/14
277	AP-4	Manganese	0.15	0.163	11/21/14
278	AP-4	Manganese	0.15	0.153	8/20/15
279	AP-4	Manganese	0.15	0.155	11/13/15
280	AP-4	Manganese	0.15	0.259	2/26/16
281	AP-4	Manganese	0.15	0.156	5/13/16
282	AP-5	Arsenic	0.01	0.076	6/4/12
283	AP-5	Arsenic	0.01	0.102	8/23/12

284	AP-5	Arsenic	0.01	0.0243	11/28/12
285	AP-5	Arsenic	0.01	0.0662	8/26/14
286	AP-5	Chromium	0.1	0.811	02/22/12
287	AP-5	Chromium	0.1	0.328	06/04/12
288	AP-5	Chromium	0.1	0.449	08/23/12
289	AP-5	Chromium	0.1	0.42	11/28/12
290	AP-5	Chromium	0.1	0.1113	11/20/13
291	AP-5	Chromium	0.1	0.174	08/26/14
292	AP-5	Iron	5	1140	02/22/12
293	AP-5	Iron	5	435	6/4/12
294	AP-5	Iron	5	430	8/23/12
295	AP-5	Iron	5	576	11/28/12
296	AP-5	Iron	5	62.6	2/21/13
297	AP-5	Iron	5	20.7	5/23/13
298	AP-5	Iron	5	49.4	8/28/13
299	AP-5	Iron	5	134	11/20/13
300	AP-5	Iron	5	563	2/26/14
301	AP-5	Iron	5	41.4	5/20/14
302	AP-5	Iron	5	264	08/26/14
303	AP-5	Iron	5	27.8	11/21/14
304	AP-5	Iron	5	7.67	2/24/15
305	AP-5	Iron	5	18	5/28/15
306	AP-5	Iron	5	17	8/20/15
307	AP-5	Iron	5	31.1	11/13/15
308	AP-5	Iron	5	63.9	8/4/16
309	AP-5	Iron	5	59.4	11/18/16
310	AP-5	Lead	0.0075	0.638	2/22/12
311	AP-5	Lead	0.0075	0.236	6/4/12
312	AP-5	Lead	0.0075	0.312	8/23/12
313	AP-5	Lead	0.0075	0.277	11/28/12
314	AP-5	Lead	0.0075	0.0244	2/21/13
315	AP-5	Lead	0.0075	0.0104	5/23/13
316	AP-5	Lead	0.0075	0.0312	8/28/13
317	AP-5	Lead	0.0075	0.0638	11/20/13
318	AP-5	Lead	0.0075	0.032	2/26/14
319	AP-5	Lead	0.0075	0.093	8/26/14
320	AP-5	Manganese	0.15	21.4	02/22/12
321	AP-5	Manganese	0.15	7.91	6/4/12
322	AP-5	Manganese	0.15	12.3	8/23/12
323	AP-5	Manganese	0.15	23.2	11/28/12
324	AP-5	Manganese	0.15	1.25	2/21/13

325	AP-5	Manganese	0.15	0.356	5/23/13
326	AP-5	Manganese	0.15	1.05	8/28/13
327	AP-5	Manganese	0.15	5.96	11/20/13
328	AP-5	Manganese	0.15	1.09	2/26/14
329	AP-5	Manganese	0.15	1.04	5/20/14
330	AP-5	Manganese	0.15	4.96	8/26/14
331	AP-5	Manganese	0.15	0.631	11/21/14
332	AP-5	Manganese	0.15	0.244	2/24/15
333	AP-5	Manganese	0.15	0.39	5/28/15
334	AP-5	Manganese	0.15	0.352	8/20/15
335	AP-5	Manganese	0.15	0.599	11/13/15
336	AP-5	Manganese	0.15	1.4	8/4/16
337	AP-5	Manganese	0.15	1.36	11/18/16
338	AW-3	Arsenic	0.01	0.0653	6/1/10
339	AW-3	Arsenic	0.01	0.131	8/23/12
340	AW-3	Arsenic	0.01	0.121	11/28/12
341	AW-3	Arsenic	0.01	0.104	2/21/13
342	AW-3	Arsenic	0.01	0.015	5/23/13
343	AW-3	Arsenic	0.01	0.134	11/20/13
344	AW-3	Arsenic	0.01	0.139	2/26/14
345	AW-3	Arsenic	0.01	0.138	5/20/14
346	AW-3	Arsenic	0.01	0.134	8/26/14
347	AW-3	Arsenic	0.01	0.118	11/21/14
348	AW-3	Arsenic	0.01	0.105	2/24/15
349	AW-3	Arsenic	0.01	0.114	5/28/15
350	AW-3	Arsenic	0.01	0.121	8/20/15
351	AW-3	Arsenic	0.01	0.151	11/13/15
352	AW-3	Arsenic	0.01	0.0982	2/26/16
353	AW-3	Arsenic	0.01	0.169	5/13/16
354	AW-3	Arsenic	0.01	0.231	8/4/16
355	AW-3	Arsenic	0.01	0.224	11/18/16
356	AW-3	Iron	5	12	6/1/10
357	AW-3	Iron	5	11.5	8/23/12
358	AW-3	Iron	5	12.3	11/28/12
359	AW-3	Iron	5	13	2/21/13
360	AW-3	Iron	5	14.3	11/20/13
361	AW-3	Iron	5	11	2/26/14
362	AW-3	Iron	5	23	5/20/14
363	AW-3	Iron	5	11	8/26/14
364	AW-3	Iron	5	11	11/21/14
365	AW-3	Iron	5	9.1	2/24/15

366	AW-3	Iron	5	9.53	5/28/15
367	AW-3	Iron	5	11	8/20/15
368	AW-3	Iron	5	11.5	11/13/15
369	AW-3	Iron	5	0.901	2/26/16
370	AW-3	Iron	5	25.7	5/13/16
371	AW-3	Iron	5	12.1	8/4/16
372	AW-3	Iron	5	11.5	11/18/16
373	AW-3	Manganese	0.15	0.348	6/1/10
374	AW-3	Manganese	0.15	0.329	8/23/12
375	AW-3	Manganese	0.15	0.334	11/28/12
376	AW-3	Manganese	0.15	0.306	2/21/13
377	AW-3	Manganese	0.15	0.434	11/20/13
378	AW-3	Manganese	0.15	0.323	2/26/14
379	AW-3	Manganese	0.15	0.744	5/20/14
380	AW-3	Manganese	0.15	0.266	8/26/14
381	AW-3	Manganese	0.15	0.255	11/21/14
382	AW-3	Manganese	0.15	0.263	5/28/15
383	AW-3	Manganese	0.15	0.255	8/20/15
384	AW-3	Manganese	0.15	0.302	11/13/15
385	AW-3	Manganese	0.15	0.223	2/26/16
386	AW-3	Manganese	0.15	0.84	5/13/16
387	AW-3	Manganese	0.15	0.304	8/4/16
388	AW-3	Manganese	0.15	0.296	11/18/16

Exceedance	Well	Pollutant	Class II GQS (mg/L)	Sample Value (mg/L)	Collection Date
1	AP-1	Boron	2	14.6	2/22/12
2	AP-1	Boron	2	10.4	4/25/12
3	AP-1	Boron	2	15.2	8/23/12
4	AP-1	Boron	2	4.3	11/28/12
5	AP-1	Boron	2	3.9	2/21/13
6	AP-1	Boron	2	7.76	5/23/13
7	AP-1	Boron	2	14.7	8/28/13
8	AP-1	Boron	2	18.9	11/20/13
9	AP-1	Boron	2	17.2	5/20/14
10	AP-1	Boron	2	18	8/26/14
11	AP-1	Boron	2	17.9	11/21/14
12	AP-1	Boron	2	17.9	2/24/15
13	AP-1	Boron	2	15.7	5/28/15
14	AP-1	Boron	2	17.5	8/20/15
15	AP-1	Boron	2	18.8	11/13/15
16	AP-1	Boron	2	16.1	2/26/16
17	AP-1	Boron	2	17.2	5/13/16
18	AP-1	Boron	2	17.9	8/4/16
19	AP-1	Boron	2	17.3	11/18/16
20	AP-1	Iron	5	5.08	06/01/10
21	AP-1	Iron	5	35.3	2/22/12
22	AP-1	Iron	5	18.3	4/25/12
23	AP-1	Iron	5	9.22	8/23/12
24	AP-1	Iron	5	23.4	11/28/12
25	AP-1	Iron	5	13.3	2/21/13
26	AP-1	Iron	5	12.2	5/23/13
27	AP-1	Iron	5	25.8	8/28/13
28	AP-1	Iron	5	27.1	11/20/13
29	AP-1	Iron	5	27.7	2/26/14
30	AP-1	Iron	5	48.3	5/20/14
31	AP-1	Iron	5	32.5	8/26/14
32	AP-1	Iron	5	32.7	11/21/14
33	AP-1	Iron	5	25.8	2/24/15
34	AP-1	Iron	5	30.1	5/28/15
35	AP-1	Iron	5	24.4	8/20/15
36	AP-1	Iron	5	26.3	11/13/15
37	AP-1	Iron	5	27.3	2/26/16

Exhibit E: Violations of Illinois Class II groundwater standards at CWLP's Dallman Generating Station. This table does not include pH violations.

38	AP-1	Iron	5	25.6	5/13/16
39	AP-1	Iron	5	24.6	8/4/16
40	AP-1	Iron	5	25	11/18/16
41	AP-1	Sulfate	400	521	2/22/12
42	AP-1	Sulfate	400	463	4/25/12
43	AP-1	Sulfate	400	469	08/23/12
44	AP-1	Sulfate	400	488	11/28/12
45	AP-1	Sulfate	400	506	2/21/13
46	AP-1	Sulfate	400	603	5/23/13
47	AP-1	Sulfate	400	597	8/28/13
48	AP-1	Sulfate	400	581	11/20/13
49	AP-1	Sulfate	400	436	2/26/14
50	AP-1	Sulfate	400	615	5/20/14
51	AP-1	Sulfate	400	594	8/26/14
52	AP-1	Sulfate	400	619	11/21/14
53	AP-1	Sulfate	400	504	2/24/15
54	AP-1	Sulfate	400	486	5/28/15
55	AP-1	Sulfate	400	550	8/20/15
56	AP-1	Sulfate	400	594	2/26/16
57	AP-1	Sulfate	400	597	5/13/16
58	AP-1	Sulfate	400	612	8/4/16
59	AP-1	Sulfate	400	589	11/18/16
60	AP-1	TDS	1200	1390	5/23/13
61	AP-1	TDS	1200	1380	8/28/13
62	AP-1	TDS	1200	1250	11/20/13
63	AP-1	TDS	1200	1360	5/20/14
64	AP-1	TDS	1200	1300	8/26/14
65	AP-1	TDS	1200	1490	11/21/14
66	AP-1	TDS	1200	1230	2/24/15
67	AP-1	TDS	1200	1260	5/28/15
68	AP-1	TDS	1200	1280	11/13/15
69	AP-1	TDS	1200	1430	5/13/16
70	AP-1	TDS	1200	1390	8/4/16
71	AP-1	TDS	1200	1320	11/18/16
72	AP-2	Boron	2	2.63	6/1/10
73	AP-2	Boron	2	5	2/22/12
74	AP-2	Boron	2	5.51	4/25/12
75	AP-2	Boron	2	6.88	8/24/12
76	AP-2	Boron	2	6.24	11/28/12
77	AP-2	Boron	2	10	2/21/13
78	AP-2	Boron	2	5.01	5/23/13

79	AP-2	Boron	2	5.46	8/28/13
80	AP-2	Boron	2	4.78	11/20/13
81	AP-2	Boron	2	4.1	2/26/14
82	AP-2	Boron	2	4.36	5/20/14
83	AP-2	Boron	2	4.84	8/26/14
84	AP-2	Boron	2	4.87	11/21/14
85	AP-2	Boron	2	4.12	2/24/15
86	AP-2	Boron	2	4.51	5/28/15
87	AP-2	Boron	2	5.01	8/20/15
88	AP-2	Boron	2	4.62	2/26/16
89	AP-2	Boron	2	4.43	5/13/16
90	AP-2	Boron	2	4.4	8/4/16
91	AP-2	Boron	2	4.28	11/18/16
92	AP-2	Iron	5	242	2/22/12
93	AP-2	Iron	5	59.2	4/25/12
94	AP-2	Iron	5	90.8	8/24/12
95	AP-2	Iron	5	134	11/28/12
96	AP-2	Iron	5	87.9	2/21/13
97	AP-2	Iron	5	15.8	5/23/13
98	AP-2	Iron	5	25.1	8/28/13
99	AP-2	Iron	5	33.9	11/20/13
100	AP-2	Iron	5	29.7	5/20/14
101	AP-2	Iron	5	20.1	8/26/14
102	AP-2	Iron	5	20.4	11/21/14
103	AP-2	Iron	5	20.2	2/24/15
104	AP-2	Iron	5	21.3	5/28/15
105	AP-2	Iron	5	22.8	8/20/15
106	AP-2	Iron	5	15.7	2/26/16
107	AP-2	Iron	5	6.73	5/13/16
108	AP-2	Lead	0.1	0.226	2/22/12
109	AP-2	Manganese	10	21.4	2/22/12
110	AP-2	Manganese	10	20.7	4/25/12
111	AP-2	Manganese	10	22.5	8/24/12
112	AP-2	Manganese	10	46	11/28/12
113	AP-2	Manganese	10	21.6	2/21/13
114	AP-2	Manganese	10	20.7	5/23/13
115	AP-2	Manganese	10	20.4	8/28/13
116	AP-2	Manganese	10	20.3	11/20/13
117	AP-2	Manganese	10	11.5	2/26/14
118	AP-2	Manganese	10	16.7	5/20/14
119	AP-2	Manganese	10	19.8	8/26/14

120	AP-2	Manganese	10	16.6	11/21/14
121	AP-2	Manganese	10	25.1	2/24/15
122	AP-2	Manganese	10	25.5	5/28/15
123	AP-2	Manganese	10	31.1	8/20/15
124	AP-2	Manganese	10	16.7	2/26/16
125	AP-2	Sulfate	400	463	11/21/14
126	AP-2	Sulfate	400	497	2/24/15
127	AP-2	Sulfate	400	686	5/28/15
128	AP-2	Sulfate	400	711	8/20/15
129	AP-2	Sulfate	400	531	2/26/16
130	AP-2	Sulfate	400	418	5/13/16
131	AP-3	Boron	2	11.9	6/1/10
132	AP-3	Boron	2	17.7	2/22/12
133	AP-3	Boron	2	18.4	4/25/12
134	AP-3	Boron	2	20	8/24/12
135	AP-3	Boron	2	8.03	11/28/12
136	AP-3	Boron	2	29.1	2/21/13
137	AP-3	Boron	2	18.7	5/23/13
138	AP-3	Boron	2	21.3	8/28/13
139	AP-3	Boron	2	20.6	11/20/13
140	AP-3	Boron	2	19.3	2/26/14
141	AP-3	Boron	2	19.3	5/20/14
142	AP-3	Boron	2	19.2	8/26/14
143	AP-3	Boron	2	19.5	11/21/14
144	AP-3	Boron	2	17.8	2/24/15
145	AP-3	Boron	2	16.4	5/28/15
146	AP-3	Boron	2	17.6	8/20/15
147	AP-3	Boron	2	20.1	11/13/15
148	AP-3	Boron	2	16.9	2/26/16
149	AP-3	Boron	2	16.2	5/13/16
150	AP-3	Boron	2	16.5	8/4/16
151	AP-3	Boron	2	18.6	11/18/16
152	AP-3	Iron	5	10.1	6/1/10
153	AP-3	Iron	5	13.6	2/22/12
154	AP-3	Iron	5	14	4/25/12
155	AP-3	Iron	5	19.2	8/24/12
156	AP-3	Iron	5	15.5	11/28/12
157	AP-3	Iron	5	165	2/21/13
158	AP-3	Iron	5	14	5/23/13
159	AP-3	Iron	5	12.2	8/28/13
160	AP-3	Iron	5	18.1	11/20/13

161	AP-3	Iron	5	23.9	2/26/14
162	AP-3	Iron	5	16.9	5/20/14
163	AP-3	Iron	5	14.4	8/26/14
164	AP-3	Iron	5	14.3	11/21/14
165	AP-3	Iron	5	18.3	2/24/15
166	AP-3	Iron	5	22.2	5/28/15
167	AP-3	Iron	5	11.5	8/20/15
168	AP-3	Iron	5	14.1	11/13/15
169	AP-3	Iron	5	15.5	2/26/16
170	AP-3	Iron	5	12.6	5/13/16
171	AP-3	Iron	5	17.8	8/4/16
172	AP-3	Iron	5	13	11/18/16
173	AP-3	Manganese	10	10.6	2/22/12
174	AP-4	Iron	5	11.2	6/1/10
175	AP-4	Iron	5	11	2/22/12
176	AP-4	Iron	5	9.22	4/25/12
177	AP-4	Iron	5	10.8	8/24/12
178	AP-4	Iron	5	15.9	2/21/13
179	AP-4	Iron	5	20	5/23/13
180	AP-4	Iron	5	12.8	8/28/13
181	AP-4	Iron	5	11.8	11/20/13
182	AP-4	Iron	5	10	2/26/14
183	AP-4	Iron	5	10.1	5/20/14
184	AP-4	Iron	5	11.6	8/26/14
185	AP-4	Iron	5	12.8	11/21/14
186	AP-4	Iron	5	11.7	2/24/15
187	AP-4	Iron	5	11.8	8/20/15
188	AP-4	Iron	5	12.1	11/13/15
189	AP-4	Iron	5	12.2	2/26/16
190	AP-4	Iron	5	13	5/13/16
191	AP-4	Iron	5	11.7	8/4/16
192	AP-4	Iron	5	11.6	11/18/16
193	AP-5	Iron	5	1140	02/22/12
194	AP-5	Iron	5	435	6/4/12
195	AP-5	Iron	5	430	8/23/12
196	AP-5	Iron	5	576	11/28/12
197	AP-5	Iron	5	62.6	2/21/13
198	AP-5	Iron	5	20.7	5/23/13
199	AP-5	Iron	5	49.4	8/28/13
200	AP-5	Iron	5	134	11/20/13
201	AP-5	Iron	5	563	2/26/14

202	AP-5	Iron	5	41.4	5/20/14
203	AP-5	Iron	5	264	08/26/14
204	AP-5	Iron	5	27.8	11/21/14
205	AP-5	Iron	5	7.67	2/24/15
206	AP-5	Iron	5	18	5/28/15
207	AP-5	Iron	5	17	8/20/15
208	AP-5	Iron	5	31.1	11/13/15
209	AP-5	Iron	5	63.9	8/4/16
210	AP-5	Iron	5	59.4	11/18/16
211	AP-5	Lead	0.1	0.638	2/22/12
212	AP-5	Lead	0.1	0.236	6/4/12
213	AP-5	Lead	0.1	0.312	8/23/12
214	AP-5	Lead	0.1	0.277	11/28/12
215	AP-5	Manganese	10	21.4	02/22/12
216	AP-5	Manganese	10	12.3	8/23/12
217	AP-5	Manganese	10	23.2	11/28/12
218	AW-3	Arsenic	0.2	0.231	8/4/16
219	AW-3	Arsenic	0.2	0.224	11/18/16
220	AW-3	Iron	5	12	6/1/10
221	AW-3	Iron	5	11.5	8/23/12
222	AW-3	Iron	5	12.3	11/28/12
223	AW-3	Iron	5	13	2/21/13
224	AW-3	Iron	5	14.3	11/20/13
225	AW-3	Iron	5	11	2/26/14
226	AW-3	Iron	5	23	5/20/14
227	AW-3	Iron	5	11	8/26/14
228	AW-3	Iron	5	11	11/21/14
229	AW-3	Iron	5	9.1	2/24/15
230	AW-3	Iron	5	9.53	5/28/15
231	AW-3	Iron	5	11	8/20/15
232	AW-3	Iron	5	11.5	11/13/15
233	AW-3	Iron	5	25.7	5/13/16
234	AW-3	Iron	5	12.1	8/4/16
235	AW-3	Iron	5	11.5	11/18/16

# **CERTIFICATE OF SERVICE**

I hereby certify that the foregoing NOTICE OF ELECTRONIC FILING,

COMPLAINT, and ENTRY OF APPEARANCE were served to all parties of record listed

below by Certified Mail, Return Receipt Requested on September 27, 2017.

Kelly Chang Research Analyst Sierra Club 2101 Webster St. Suite 1300 Oakland, CA 94612 (415)977-5693

TO:

Clerk of the City of Springfield Municipal Center West, Room 106 300 S. Seventh Street Springfield, IL 62701

Douglas A. Brown, P.E. Chief Utility Engineer City Water Light and Power Municipal Center East 800 E. Monroe Street Springfield, Illinois 62701