BEFORE THE POLLUTION CONTROL BOARD
OF THE STATE OF ILLINOIS

SIERRA CLUB, PRAIRIE RIVERS NETWORK, and NATIONAL ASSOCIATION FOR THE ADVANCEMENT OF COLORED PEOPLE,	)	
Complainants,	)	**PCB 18-11** **(Enforcement – Water)**
v.	)	
CITY OF SPRINGFIELD, OFFICE OF PUBLIC UTILITIES d/b/a CITY WATER, LIGHT and POWER,	)	
Respondent.	)	

NOTICE OF FILING

To: Don Brown, Clerk
Illinois Pollution Control Board
100 W. Randolph Street, Suite 11-500
Chicago, IL 60601
don.brown@illinois.gov

And Attached Service List

PLEASE TAKE NOTICE that I have filed electronically with the Office of the Clerk of the Illinois Pollution Control Board the following **Complainants' Motion for Leave to Reply *Instanter* in Support of Complainants' Motion for Summary Judgment** and **Reply Memorandum in Support of Complainants' Motion for Partial Summary Judgment**, a copy of which is hereby served upon you.

Dated: February 27, 2020

Respectfully submitted,

Faith E. Bugel

_____

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Attorney for Sierra Club

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Respondent.	)	

COMPLAINANTS' MOTION FOR LEAVE TO REPLY *INSTANTER*
IN SUPPORT OF COMPLAINANTS' MOTION FOR SUMMARY JUDGMENT

Pursuant to Section 101.500(e) of the Pollution Control Board General Rules, Complainants Sierra Club, Prairie Rivers Network, and National Association for the Advancement of Colored People (collectively, "Complainants") by and through their counsel, move the Illinois Pollution Control Board ("Board") for leave to reply *instanter* to City of Springfield, Office of Public Utilities d/b/a City Water, Light and Power ("CWLP") Response to Complainants' Motion for Partial Summary Judgment. In support of this motion, Citizen Groups state as follows.

1. On January 29, 2020, Complainants filed a Motion for Partial Summary Judgment ("Motion").

2. On February 13, 2020, Respondent filed a Response to Complainants' Motion for Partial Summary Judgment ("Response").

3. Although Section 101.500(e) states that parties do not have a reply by right, the Board or Hearing Officer may grant a party leave to file a reply to prevent material prejudice. 35 Ill. Admin. Code § 101.500(e). *See, e.g., Elmhurst Memorial Healthcare v. Chevron U.S.A.*, PCB 09-066, 2009 WL 6506666, (Aug. 6, 2009). "Because petitioners allege that denying the reply would result in material prejudice, the Board grants the motion." *Id.* at *2; *see also Sierra Club v. Ameren Energy Medina Valley Cogen, LLC, et al.*, PCB 14-134, 2014 Ill. ENV LEXIS 489 at *8 (Nov. 6, 2014) (allowing a reply where necessary to respond to "substantial arguments" raised in opposition).

4. The Board may also allow parties to file replies when those replies would aid the Board in its consideration of the relevant factual and legal issues. *American Disposal Service of Illinois, Inc. v. Mclean County, et al*., PCB 11-60, 2014 Ill. Env Lexis 404 at *4 (Oct. 16, 2014) (allowing a reply "[i]n the interest of administrative efficiency and to aid in the consideration of the issues presented").

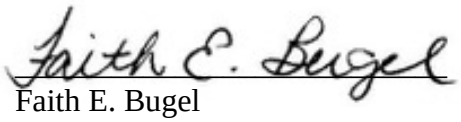
5. In its Response Brief, Respondent mischaracterizes the facts and misconstrues the law in a manner that would materially prejudice Complainants if Complainants are not provided an opportunity to reply. For instance, Respondent claims that Complainants have essentially argued that CWLP must "ceas[e] electricity and drinking water production." Resp't's Br. in Resp. to Complainants' Mot. for Partial Summ. J. at 7 (Feb. 13, 2020) ("Resp. Br."). Complainants have made no such statements, explicitly or implied, and would be prejudiced if not permitted to respond.

6. Respondent also makes certain claims as to the law that are incorrect. For instance, Respondent, without citing any legal support, claims that the Board may not make the determination at the summary judgment stage as to whether Respondent's actions are extensive

precautions. Resp. Br. at 13. Complainants would be prejudiced if not permitted to respond as to the question of extensive precautions being a matter of law within the Board's purview at the summary judgment stage. In addition, clarifying what the law allows would aid the Board in its consideration of the relevant issues. *American Disposal Service*, 2014 Ill. Env Lexis 404 at *4.

WHEREFORE, Complainants respectfully request that the Board grant Complainants' Motion for Leave to Reply *Instanter* in Support of Complainants' Motion for Partial Summary Judgment.

Respectfully submitted,



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REPLY MEMORANDUM IN SUPPORT OF COMPLAINANTS' MOTION FOR PARTIAL SUMMARY JUDGMENT

I. INTRODUCTION

Complainants Sierra Club, Prairie Rivers Network, and National Association for the Advancement of Colored People (collectively, "Complainants") by and through their counsel, hereby submit this reply memorandum ("Reply") in support of their Motion for Partial Summary Judgment ("Motion"). Granted the opportunity to respond comprehensively to Complainants' Motion, Respondent City of Springfield, Office of Public Utilities, d/b/a City Water, Light & Power ("CWLP") has instead offered an inaccurate and scattershot defense of practices that CWLP has itself admitted likely caused the groundwater contamination that is at issue in this case. Complainants offer the following legal and factual clarifications and corrections, intended to remedy CWLP's inaccuracies.

I. CWLP Failed to Fulfill Its Procedural and Legal Burden in Opposing Complainants' Motion

In order to aid the Board in identifying the undisputed material facts, Complainants provided a statement of numbered paragraphs listing the undisputed facts. Respondent opted not to respond sequentially to that list of facts and, further, provided no statement of facts at all. "The City will not reply to each fact individually to identify it as disputed or undisputed . . . ." Resp't's Br. in Resp. to Complainants' Mot. for Partial Summ. J. at 3 (Feb. 13, 2020) ("Resp. Br."). Instead, Respondent included facts scattershot throughout their brief, never indicating which paragraph in Complainants statement those facts were responding to or disputing, and at times, failing to even provide citations to the record. *See, e.g.,* "USEPA ash pond inspection", "IDNR . . . inspects ash ponds" and "CWLP meets with Illinois EPA." Resp. Br. at 10 (no citations provided). This approach fails to facilitate the Board's identification of undisputed material facts and fails to meet Respondent's burden of identifying facts, supported by the record, that create a genuine dispute.

II. CWLP Misstates Relevant Facts on Multiple Occasions Throughout Its Brief

a. CWLP Misrepresents Statements in Complainants' Brief

First, let us be clear about what Complainants do and do not argue. Respondent is prone to exaggeration and mischaracterization when discussing what Complainants have argued. For instance, Respondent claims that Complainants have implied that CWLP must "ceas[e] electricity and drinking water production" in order to meet the standard of taking extensive precautions. Resp. Br. at 7. Complainants have taken no such position. Complainants have argued that Respondent has not taken the necessary steps, based on Board precedent, to prevent contamination of groundwater. Comp.'s Br. in Supp. of Mot. for Partial Summ. J. at 17-18 (Jan.

29, 2020) ("Comp. Summ. J. Br."). Complainants have argued that reasonable steps like installing dry ash handling or capping, closing, lining, or removing the ash ponds, are necessary to meet the standard of extensive precautions preventing groundwater pollution. *Id.* This is not at all the same as arguing that anything short of shutting down the plants is insufficient.

b. CWLP Ignores Comprehensive Evidence, Including Evidence from Its Own Employees and Contractors, That Its Impoundments are Leaking and Leaching.

Respondent argues that there is a dispute as to whether the impoundments are leaking or leaching. But Respondent conveniently ignores the facts that (1) the ponds are unlined, (Comp. Summ. J. Br. Statement of Facts ("SOF") ¶¶ 2, 4, 6), (2) its own groundwater monitoring has documented exceedances of groundwater quality standards (Comp. Summ. J. Br. SOF ¶¶ 9-11), and (3) above-ground leaking is evidence of below-ground leaching. Respondent does not and cannot dispute that the ponds are unlined and that the groundwater monitoring reports document exceedances. Respondent also does not dispute that Illinois Environmental Protection Agency ("IEPA") documented multiple exceedances of Class I groundwater standards between 2010 and 2013 in a Notice of Violations sent to CWLP. Comp. Summ. J. Br. SOF ¶11. More importantly, IEPA attributed the exceedances directly to the Dallman and Lakeside Ash Ponds. Comp. Summ. J. Br. SOF ¶11. Respondent also does not and cannot dispute that it sent a letter to the IEPA that conceded the groundwater exceedances "appear to have resulted from CWLP's operation of its ash impoundments." Comp. Summ. J. Br. SOF ¶17. Below-ground leaching to groundwater would not be visible in inspections above-ground so cannot be detected in the same way that above-ground leaking is identified. In addition, the leaching below the roadway on the slope down to Sugar Creek indicates that the ponds are leaching below ground. Comp. Summ. J. Br. SOF ¶13 ("The slope from the roadway down to Sugar Creek west of the west berm of Lakeside

Ash Pond also had seepage, enough to require a sump pump to control it. Corcoran Dep. Tr. at 38:17-19, 40:10-12; Antonacci Dep. Tr. at 33:7-9, 37:3-7."); Antonacci Dep. Tr., Attach. D to Comp. Summ. J. Br.; Corcoran Dep. Tr., Attach. E to Comp. Summ. J. Br. Respondent's only dispute is how identified leaks are handled and points out that the above-ground leaks are captured, treated, and routed to a permitted discharge. Resp. Br. at 8-9. None of this has any bearing on below-ground leaching to groundwater. Respondent cannot genuinely dispute that coal ash constituents are leaching to groundwater at the CWLP site.

III. CWLP Misapplies the Law on Extensive Precautions

a. CWLP Confuses the Legal Question of Whether Certain Precautions Qualify as Extensive Precautions with the Factual Question of What Precautions Were Taken.

CWLP has failed to take action to stop the source of contamination and, as a result, they have not taken extensive precautions.. CWLP's brief includes a long list of occurrences that have taken place since 2009 that CWLP's claims as their own extensive precautions. Resp. Br. at 10-12. Nonetheless, based on the Board's precedent in *Sierra Club v. Midwest Generation*, none of these activities rise to the level of extensive precautions that would shield them from liability for their ash ponds causing groundwater contamination. *Sierra Club v. Midwest Generation*, PCB 13-15, slip op. at 79 (June 20, 2019). The actions need to be designed to identify the source if the source it is not yet known and then to bring a stop to the contamination coming from that source. Even though CWLP knew from the Part 620 monitoring that the source is the ponds, none of the actions contained in CWLP's list were designed to stop the source of contamination. These do not qualify as extensive precautions.

CWLP is incorrect when it argues that the Board cannot make the determination that its list of actions are not extensive precautions at the summary judgment stage.[1] There is no factual dispute as to the list of actions because Complainants do not dispute that CWLP took the actions listed. The only question is the legal one of whether these actions were extensive precautions. Based on the *Sierra Club v. Midwest Generation* precedent, the Board has already made the determination as to what actions rise to the level of extensive precautions in the context of coal ash impoundments causing groundwater pollution. PCB 13-15, slip op. at 79 (June 20, 2019). Once an owner/operator has obtained monitoring results showing groundwater contamination from their property or operations, and has identified the source, if they fail to take further action to stop the source, then they have not taken extensive precautions. *Id.* (citing People v. A.J. *Davinroy Contr.*, 249 Ill. App. 3d 788, 794 (5th Dist. 1993); *Perkinson v. PCB*, 187 Ill. App. 3d 689 (3rd Dist. 1989); *People v. William Charles*, PCB 10-108, slip op. at 25-27 (Mar.17, 2011); *City of Chicago v. Speedy Gonzales Landscaping, Inc.*, AC 06-39, AC 06-40, AC 04-41, AC 07-25, (Mar. 19, 2009); *County of Jackson v. Taylor*, AC 89-258, (Jan. 10, 1991); *Phillips Petro. Co. v. PCB*, 72 Ill. App. 3d 217 (2nd Dis. 1979); *IEPA v. Coleman*, AC04-46, at 7 (Nov. 4, 2004)). More specifically, in *Sierra Club v. Midwest Generation*, the PCB states that

> The record in this case shows the presence of coal ash in the fill areas and historic storage sites that have no liners, covers or any other protection from the surface of groundwaters. The record shows no actions by MWG to remove the coal ash from those areas or prevent leaking of contaminants from those areas in any other way.

[1] Respondent argues that "Complainants might argue at hearing that those 50 precautions do not arise to the level of "extensive," but it may not do so in the context of a summary judgment motion that argues no factual issues support the City's position." Resp. Br. at 13. Complainants are baffled by Respondent's new and unsupported propositions of law. Since the determination of what qualifies as an extensive precaution is a question of law, there is absolutely no reason why Complainants can't argue that Respondent's activities are not extensive precautions and there is no reason why the Board cannot decide this issue at this summary judgment phase of the case. *Sierra Club v. Midwest Generation*, PCB 13-15, slip op. at 79 (June 20, 2019).

Sierra Club v. Midwest Generation, PCB 13-15, slip op. at 91 (June 20, 2019). Similarly, CWLP is aware of the monitoring results showing groundwater contamination but has failed to take action to stop the source. CWLP does not and cannot dispute that it has not installed dry ash handling or capped, closed, lined, or removed the ash ponds. Comp. Summ. J. Br. at 8-10. It has not prevented the leaking of contaminants. As a result, and as discussed further below, the 50+ activities do not rise to the level of extensive precautions.

b. CWLP Claims Credit for Undertaking Multiple Activities that Do Not Qualify as Extensive Precautions.

CWLP has provided an extensive list of actions it has taken, which it purports "demonstrate the extensive precautions the City has taken to prevent water pollution." Resp. Br. at 9-12. However, while this list of activities is long, it is notably devoid of any actions that might actually have remediated groundwater contamination at the CWLP Site. To illustrate this point, Complainants have prepared a Table that lists each of the actions that CWLP claims qualify as extensive precautions and then identifies the reason or reasons why each of the actions falls short of qualifying as such. This Table is attached as Exhibit 1.

As Exhibit 1 summarizes, CWLP's listed activities do not qualify as extensive precautions for a number of reasons. First, eleven of these actions were taken by state and federal regulatory agencies, not by CWLP itself. Resp. Br. at 10-12; *see also* Ex. 1. Activities by state or federal agencies cannot qualify as extensive precautions taken by CWLP. Specifically, the activities by state or federal agencies included, but were not limited to inspections, approval of rules, and suggestions of meetings. *Id.* One example of CWLP's overreaching in its claims of taking extensive precautions, is that CWLP included in its list of extensive precautions, "CCR rule final and effective." Resp. Br. at 11. Somehow, CWLP believes the federal government's finalization of the CCR rule is an extensive precaution taken by CWLP regarding the

groundwater contamination its own ponds were causing. To the contrary, under the *Sierra Club v. Midwest Generation* precedent and the numerous PCB cases cited therein, actions taken by agencies cannot qualify as CWLP's own extensive precautions.

Second, many actions CWLP identified as having taken itself involved publication of information rather than actual steps to reduce contamination. Resp. Br. at 10-12; *see also* Ex. 1. Specifically, uploading information to a publicly accessible website is not an extensive precaution. Ten of the activities on the list are instances where CWLP was uploading information to the federal CCR website. *Id.* Complainant is vigorously supportive of public participation in ash impoundment oversight and enforcement; however, uploading information to a website for the sake of compliance with the requirements of the federal CCR rule does not provide any source control at a source of groundwater contamination.

Third, many of CWLP's listed actions are best described as meetings or communications that did not lead to any direct action. Resp. Br. at 10-12; *see also* Ex. 1. Meetings and communications alone do not control a source of water pollution. Six of the activities on the list were communications and meetings between IEPA and CWLP regarding the Violation Notice and the CCA in response to the Violation Notice. *Id.* The hitch is that CWLP never implemented the activities proposed in that CCA. Proposals on paper that are not implemented are obviously ineffective at controlling a source of groundwater contamination. An example of CWLP's overreaching in their claims of taking extensive precautions is that CWLP included "CCA is rejected" as an extensive precaution. Resp. Br. at 11. Rejection of a proposed action that would have controlled the source of water pollution had it been implemented is not an extensive precaution.

Fourth, many of CWLP's actions refer to activities CWLP undertook to initially detect the contamination. Resp. Br. at 10-12; *see also* Ex. 1. These activities are an important first step to identifying where there is contamination; but learning about the problem is different from doing something about the problem. The monitoring under Part 620 that identified this groundwater contamination from the impoundments cannot be considered an extensive precaution in response to the very same contamination. Seven activities on the list involve assessments, programs, and plans for the monitoring or installation of and results from the monitoring. *Id.* And one of these activities dated 1/11/18 involves CWLP notifying IEPA of its discontinuation of the Part 620 monitoring in lieu of the CCR monitoring. Resp. Br. at 11. It is nonsensical that CWLP is claiming that discontinuing the Part 620 monitoring is somehow an extensive precaution that addresses violations under Part 620. Furthermore, preparation of reports, assessments, and certifications are not extensive precautions. Seventeen activities on the list involved preparation or reports, assessments, and certifications.[2] Resp. Br. at 10-12 *see also* Ex. 1. And finally on this point, plans, notifications, and demonstrations are not extensive precautions. Eight activities on the list involved preparation of plans, notifications, and demonstrations. *Id.* Similar to preparation of the CCA, plans do not invariably lead to action. In the course of all of these activities, Complainants agree that CWLP has collected valuable information, but these activities did not lead Respondent to actually control the source of contamination. As such, they cannot be considered extensive precautions.

Finally, CWLP lists numerous actions taken that constitute compliance with existing regulations: thirty of the activities involve compliance with the federal rule. Resp. Br. at 10-12; *see also* Ex. 1. While compliance with existing regulations may require a site operator to take

[2] This count does not include Assessment Monitoring activities, which we have viewed as monitoring activities instead of assessment activities or Assessments of Corrective Measures, which could lead to action that involves source control.

extensive precautions against further contamination, this is not necessarily the case with CWLP. Once again, CWLP has inflated its list with activities that are way beyond the purview of extensive precautions. For instance, one activity on CWLP's list involves obtaining an extension for CWLP's assessment of corrective measures. *Id.* at 12. Obtaining more time to do an assessment of possible corrective measures is not an extensive precaution. Furthermore, this list does not demonstrate that CWLP acted to comply with Illinois groundwater protection standards: to the contrary, CWLP has focused only on compliance with federal rules, which do not impose the same standards as the state rule. This is seen here because the only state exceedances that necessitate federally-mandated corrective action are those of the arsenic standard. *Compare* 40 CFR § 257.94, 257.95, App. III, App. IV *with* 35 Ill. Admin. Code §§ 620.410, 620.420; *see also* Brad Hunsberger Expert Dep. Tr. at 82:21-83:5 (Sept. 9, 2019) (admitting that he does not consider monitoring well readings indicating exceedances of state standards to be "actionable parameter[s]" because they are not actionable under federal regulations) (attached as Exhibit 2). In other words, CWLP has clearly taken the position that it need only act to resolve violations of federal regulations, which substantially undermines its claim to have taken any action in response to its multiple exceedances of state standards.

This is important because all of the exceedances of boron, chromium, manganese, sulfates, iron, and TDS are violations under the state rule, but are not violations at the federal level: these exceedances at most would only trigger additional monitoring under the federal CCR rule. As a result, remediating federally-actionable exceedances is extremely unlikely to also remediate exceedances of state groundwater standards. This is particularly true in this case: CWLP's expert has admitted that federally actionable levels of arsenic requiring remediation were only detected at a single well, RW-3, and that as a result, CWLP has only engaged in

extensive precautions to remediate the specific arsenic exceedances at that specific well. Brad Hunsberger, Resp. to: Supplemental Expert Report of Mark A. Hutson, PG, at 7 (May 2019) (attached as Exhibit 3). This of course falls far short of accomplishing anything to remediate the vast majority of exceedances documented at the site under state law. As a result, all of the compliance actions under the federal CCR rule are irrelevant to state-level boron, chromium, iron, lead, manganese, sulfate, and TDS violations that require a different response. Since CWLP has not closed either impoundment or taken any action that is source control for boron, chromium, manganese, sulfates, iron, and TDS, these thirty activities do not qualify as extensive precautions.

IV. CWLP Makes Multiple Legal Errors that Confuse the Standard for Summary Judgment

a. The Groundwater That CWLP Contaminated Has Been Rendered Injurious and Harmful as a Matter of Law

Respondent argues that "Sierra Club, Prairie Rivers and NAACP have not pointed to undisputed facts that demonstrate the City 'caused, threatened or allowed' a discharge of contaminants to groundwater and they have not demonstrated waters have been rendered harmful or injurious to public health." Resp. Br. at 5. Complainants refer the Board to the arguments made in their Motion for Partial Summary Judgment, which clearly establish the standard for what constitutes causing, threatening, or allowing such a discharge. Comp.'s Br. in Supp. of Mot. for Partial Summ. J. at 13-14.

As to groundwater being rendered injurious and harmful to public health, Respondent argues that "Complainants must present facts on this element to prevail as a matter of law." Resp. Br. at 13. Once again, Respondent is inventing propositions of law that are unsupported by Board precedent. The Board has found that a violation of the Board's groundwater quality

standards constitutes a violation of Section 12(a) of the Act. *International Union, et al v. Caterpillar,* PCB 94-420 slip op. at 33-34 (Aug. 1, 1996). The holding in *International Union* was not limited to just one class of groundwater violations. For purposes of concluding that an owner/operator caused water pollution, under the *International Union* holding, it does not matter what the class the groundwater is. *Id.* Thus, when there are violations of groundwater standards, then there is water pollution.

b. The Board May Decide as Matter of Law Which Groundwater Standards Apply

The Board may conclude as a matter of law that the groundwater beneath the Dallman and Lakeside ash ponds is Class 2. Both parties agree that there is no evidence indicating with certainty whether the water is Class 1, Class 2 or another class. As Respondent has pointed out in their Response Brief, Brad Hunsberger testified that no regulatory agency has made a conclusive determination as to whether the groundwater under the Dallman and Lakeside ash ponds is Class 1 groundwater or another class of groundwater. Resp. Br. at 18 (citing Ex. E, Hunsberger Fact Dep. Tr. at 147:23-148:8). In addition, no one—regulatory agency or otherwise—has formally classified the groundwater beneath the ash ponds. Hunsberger Fact Dep. Tr. at 150:3-7 (Ex. E to Resp. Br.). Complainants agree with Respondent that Brad Hunsberger's understanding regarding the groundwater at the landfill is that consultants assumed that the is Class 1. Resp. Br. at 18; Hunsberger Fact Dep. Tr. at 153:23-24 (Ex. E to Resp. Br.). Brad Hunsberger is aware of evidence that the groundwater under the impoundments consists of areas that are Class 1 and areas that are Class 2. Hunsberger Fact Dep. Tr. at 153:3-21 (Ex. E to Resp. Br.). As a result, there is not a material dispute of fact—both parties agree that the groundwater beneath the ash ponds is not formally classified and there is no proof as to the Class of that groundwater. In this situation and as a matter of law, the Board can treat the groundwater beneath the CWLP

impoundments as Class 2 groundwater and apply the Class 2 groundwater standards in determining violations. *People of the State of Illinois v. ESG Watts, Inc.*, 1998 WL 54020, at *36. "[A]bsent proof that the groundwater falls into one of the more specific categories, i.e. class I, III or IV, the groundwater is considered class II. 35 Ill. Adm. Code 620.220(a)." *People of the State of Illinois v. ESG Watts, Inc.*, 1998 WL 54020, at *36.

c. CWLP Improperly Argues Groundwater Constituent Levels in AP-l, AP-2 and AP-3 Must Be Compared to Background Concentrations

CWLP argues that there is a disputed factual issue as to whether wells AP-1, AP-2 and AP-3 have exceeded background and "[t]he City simply cannot be found to have caused a violation of the Act or a particular groundwater quality standard in Part 620 when its monitoring wells have not exceeded an established background value for that constituent." Resp. Br. at 20. Nevertheless, CWLP references no legal authority for this proposition. The City does not cite to any provision of the Illinois Environmental Protection Act or Illinois Administrative Code that supports their argument that one must establish an exceedance of background in order to establish a violation of Part 620 or the Illinois Environmental Protection Act's prohibition on water pollution. There is in fact no provision to cite in Part 620 that requires either establishment of a background level or a background monitoring well as a prerequisite to finding a violation of groundwater quality standards. Similarly, there is no provision in the Act that requires background either.

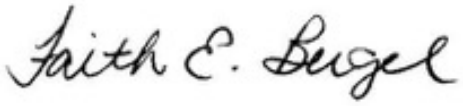
Contrast Part 620 of the Illinois Administrative Code with Part 820. Part 820 provides for consideration of background. 35 Ill. Adm. Code 811.320. In fact, in one adjusted standard proceeding before the Board, the petitioner was seeking relief from the background requirement in Part 820 and was seeking application of Part 620 instead. "LSI is seeking an adjusted standard from the background concentration requirement of groundwater quality standards pursuant to 35

Ill. Adm. Code 811.320(d). (Pet. at 1.) LSI requests that groundwater standards of Part 620 be applied instead." *In re Petition of Lone Star Industries, Inc.*, AS 94-15, 1995 WL 519869, at *1 (Aug. 24, 1995). This alone demonstrates that Part 620 does not require background at all, including for the Board to find a violation of Part 620 groundwater quality standards.

V. Conclusion

Therefore, for the reasons listed above, Complainants hereby reiterate their request that the Board grant Partial Summary Judgment on the question of Respondent's liability for violation of the Act at the CWLP Site.

Respectfully submitted,



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CERTIFICATE OF SERVICE

I, Faith E. Bugel, an attorney, certify that I have served electronically upon the Clerk and by email upon the individuals named on the attached Service List a true and correct copy of the **NOTICE OF FILING, COMPLAINANTS' MOTION FOR LEAVE TO REPLY *INSTANTER* IN SUPPORT OF COMPLAINANTS' MOTION FOR SUMMARY JUDGMENT** and **REPLY MEMORANDUM IN SUPPORT OF COMPLAINANTS' MOTION FOR PARTIAL SUMMARY JUDGMENT**, a 61-page document, before 5 p.m. Central Time on February 27, 2020 to the email addresses of the parties on the attached Service List.

SERVICE LIST
PCB 18-11

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Attorney for Sierra Club

Exhibit 1

Date and Activity	1. State or Federal Agency is Acting	2. Uploading information to a website	3. Negotiating the CCA	4. Part 620 Monitoring Activities	5. Reports, Assessments, Certifications	6. Plans, notifications, and demonstrations	7. Compliance Activities for Federal CCR Rule	8. Corrective Action solely related to arsenic exceedance
7/14/2009 CWLP initially proposes to add ash pond wells and begin sampling (Exhibit G)				X				
7/28/2010 USEPA request to access property for inspection (Doc. #5.3)	X							
8/13/2010 USEPA ash pond inspection	X							
9/22/2010 CWLP submits hydrological assessment and well sampling data to Illinois EPA (Doc. #6.1)				X				
5/10/2011 USEPA ash pond inspection final report with recommendations (Doc. #5.12)	X				X			
8/3/2011 Illinois EPA reviews une 2010 groundwater data and requests a meeting (Doc. #4.28)	X							
8/8/2011 CWLP responds to USEPA inspection report and provides an action plan (Doc. #5.5)						X		
1O/6/2011 Illinois Department of Natural Resources (UIDNRU) inspects ash ponds	X							
10/19/2011 Illinois EPA requests backgrounds to be developed (Doc. #4.15)	X							
10/26/2011 IDNR inspection letter finding ash ponds low hazard and well maintained (Exhibit H)	X							
11/18/2011 CWLP submits groundwater monitoring program to Illinois EPA (Doc. #4.17)				X				
12/29/2011 Illinois EPA approves the groundwater monitoring program (Exhibit I)	X							
5/30/2012 Andrews Engineering submits logs, well reports and data for AP1, AP2 and AP3 (Doc. #4.12)				X	X			
May 2010 to August 2013 CWLP submits 14 quarters of groundwater data to Illinois EPA				X				
6/21/13 Andrews submits statistical backgrounds for ash pond network to Illinois EPA (Doc. #4.4)				X				
2/20/2014 CWLP receives Violation Notion (UVN") from Illinois EPA (Document #4.6)			X					
4/2/14 CWLP proposes Compliance Commitment Agreement ("CCA") to Illinois EPA (Doc. #4.7)			X					
4/11/14 Illinois EPA acknowledges receipt of CCA and proposes a 4/22/14 meeting (Doc. #4.8)	X		X					
4/22/2014 CWLP meets with Illinois EPA on VN			X					
5/12/2014 CWLP proposes a revised CCA (Doc. #4.10)			X					
5/29/2014 CCA is rejected (Document #4.11)	X		X					
4/17/2015 CCR rule final and effective	X							
5/28/2015 CWLP uploads fugitive dust program on CCR website		X					X	
10/17/2016 CWLP uploads the following documents on the CCR website "Run on and Run off Control System Plan for CCR Unit 2 Landfill" and "Closure, Post Closure Plans for CCR Unit 2 Landfill"		X				X	X	
10/17/2016 Liner Status Report for Coal Combustion Residuals Surface Impoundments (Doc. #11.1 03)					X		X	
10/17/2016 History of Construction Report for CCR Surface Impoundments (Doc. #11.2)					X		X	
10/17/2016 Initial Hazard Potential Classification Assessment Report for CCR Surface Impoundments (Doc. #31.8)					X		X	
10/17/16 Structural Stability Assessment for CCR Surface Impoundments (Exhibit)					X		X	
10/17/2016 Initial Safety Factor Assessment for CCR Surface Impoundments (Doc. #31.9)					X		X	
10/17/2016 Inflow Design Flood Control Report for CCR Surface Impoundments (Exhibit K)					X		X	
10/17/2016 Closure Plan for Coal Combustion Residuals Surface Impoundments						X	X	
10/17/2016 Post Closure Plan for Coal Combustion Residuals Surface Impoundments						X	X	
1/15/2016 CWLP uploaded Annual Inspection report for CCR Landfill and CCR Surface Impoundments		X			X		X	
12/15/2017 CWLP uploaded Annual Fugitive Dust Control Report		X			X		X	
10/17/2017 CCR Surface Impoundment Groundwater Monitoring Program (Doc. #10.15)							X	
10/17/2017 CCR Landfill Groundwater Monitoring System Certification (Doc. #10.18)					X		X	
10/17/2017 CCR Landfill Groundwater Statistical Method Certification					X		X	
10/17/2017 CCR Surface Impoundments Groundwater Monitoring System Certification (Doc. #24.9)					X		X	
10/17/2017 CCR Surface Impoundments Groundwater Statistical Method Certification (Doc. #16.15)					X		X	
1/11/18 CWLP notification to Illinois EPA of ceasing Part 620 sampling to follow Part 257 (Doc. #4.3)				X			X	
1/31/2018 CWLP uploaded Annual Groundwater Monitoring and Corrective Action Reports for Dallman and Lakeside CCR Surface Impoundments and Landfill (Doc. #6.5)		X			X			
2/28/2018 CWLP uploaded Assessment Monitoring Program notification (Doc. # 10.20)		X				X	X	
7/11/2018 CWLP established Groundwater Protection Standards (Doc. # 10.19)							X	
7/11/18 CCR Surface Impoundments Notification of Statistically Significant Increase (Doc. # 10.21)						X	X	
11/16/2018 CCR Surface Impoundment Location Restrictions Demonstration (Doc. # 10.22)						X	X	
11/16/2018 Annual inspection for the Dallman and Lakeside CCR Surface Impoundments and Landfill							X	
12/17/2018 CWLP uploaded the Annual Fugitive Dust Control Report		X			X		X	
1/31/2019 CWLP uploaded the following Annual inspection for Dallman and Lakeside CCR Surface Impoundments; Annual inspection for CCR Landfill; Annual Groundwater Monitoring and Corrective Action Report for Dallman and Lakeside CCR Surface Impoundments and Annual Groundwater Monitoring and Corrective Action Report for our CCR Landfill		X			X		X	
4/5/2019 CWLP uploaded Initiation of Assessment of Corrective Measures (Doc. #10.30)		X						X
5/6/2019 Notification of Intent to Comply with Alternative Closure Requirements (Doc. #10.31)						X		
5/6/2019 Assessment of Corrective Measures Extension (Doc. #10.28)							X	X
May 2019 to uly 2019 CWLP performed Assessment Investigation for well RW 3 (Doc. #6.13)							X	X
8/5/2019 CWLP uploaded Completion of Corrective Measures (Doc. #10.29)		X						X

Exhibit 2

BEFORE THE POLLUTION CONTROL BOARD

SIERRA CLUB, PRAIRIE RIVERS NETWORK, AND NATIONAL ASSOCIATION FOR THE ADVANCEMENT OF COLORED PEOPLE,	)	
Complainants,	)	
vs.	)	Case No. PCB 18-11
	)	Enforcement-Water
CITY OF SPRINGFIELD, OFFICE OF PUBLIC UTILITIES, d/b/a CITY WATER LIGHT AND POWER,	)	
Respondent.	)	

Deposition of BRAD HUNSBERGER, taken at the instance of the Complainants, on September 9, 2019, scheduled for the hour of 10:30 A.M., at 800 East Monroe, Fourth Floor, Springfield, Illinois, before Donna M. Dodd, Certified Shorthand Reporter and Notary Public, pursuant to the attached stipulation.

DONNA M. DODD, CSR
donnadoddcsr@att.net
(217) 652-2474

APPEARANCES:

DEBORAH WILLIAMS
Regulatory Affairs Director
General Office
800 East Monroe Street, Fourth Floor
Springfield, Illinois 62757

Appeared on behalf of the Respondent,

GREG WANNIER
Sierra Club
Staff Attorney
Environmental Law Program
2101 Webster Street, Suite 1300
Oakland, California 94612

Appeared on behalf of Complainants.

FAITH BUGEL
Attorney at Law
Fbugel@gmail.com
(312) 282-9119

Appeared on behalf of Complainants.

I N D E X

EXHIBITS	MARKED
Exhibit No. 0.04	7
Exhibit No. 0.05	9
Exhibit No. 0.06	11
Exhibit No. 0.07	15
Exhibit No. 0.08	58
Exhibit No. 0.09	89
Exhibit No. 0.10	107
Exhibit No. 5.12	47

**Exhibits retained by court reporter.

A. Yes.

Q. Are there upstream wells at the CWLP site that would register background concentration?

A. Yes. We've established those.

Q. You have.

And so assuming that --

MS. WILLIAMS: I think focussing on his table, making him testify about his table as opposed to just what he knows what's in the report might be making it more --

BY MR. WANNIER:

Q. Right.

So assuming that the background on this table is accurate, and I will grant that you're not conceding one way or the other whether it is, but we'll assume that the background on the table is accurate, but would you agree that the boron concentration at Wells AP-1, AP-2, and AP-3 constitute a statistically significant increase over background concentrations?

A. They do exceed it under the Groundwater Monitoring Program of 40 CFR Part 257. It goes nowhere.

Boron is a parameter in Appendix 3

which then kicks it into Appendix 4, which is what we use to evaluate whether there is an actual impact or not. So even though boron in this graph exceeds the background, it's not an actionable parameter.

Q. Under the CFR regulations?

A. Under the federal rules, yes.

Q. Okay. But just to be clear, you agree that this is a statistically significant increase over background concentrations at those three wells?

A. It's a -- it's statistically -- the concentrations exceed the statistical background.

Q. Okay.

MS. WILLIAMS: Can I ask a quick follow up?

MR. WANNIER: Yes.

BY MS. WILLIAMS:

Q. For purposes of detection monitoring program under 40 CFR, did you look at whether there were statistically significant increases in any parameters?

A. Absolutely.

Q. Okay. Is that what you're basing your

Exhibit 3

City Water, Light & Power
Ash Impoundments
Springfield, Sangamon County, Illinois

Response to:
Supplemental Expert Report of
Mark A. Hutson, PG (March 26, 2019)

May 2019

Prepared for:
City Water, Light & Power
3100 Stevenson Drive
Springfield, Illinois 62703

ANDREWS ENGINEERING

3300 Ginger Creek Drive, Springfield, IL 62711 | 217.787.2334

ILLINOIS | MISSOURI | INDIANA

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FIGURE

ATTACHMENTS

1. INTRODUCTION

The information provided below is in response to opinions presented in a report (Supplemental Expert Report of Mark A. Hutson, PG) dated March 26, 2019 "*on whether the data indicated the coal ash facilities at Dallman are impacting water quality so as to cause exceedances of water quality standards and if so, what remedial actions might be effective."* The Report was derived by Mr. Hutson as part of a Formal Complaint filed by the Sierra Club to the Illinois Pollution Control Board on September 27, 2017.

The author states in Section 4 of the Report that CWLP owns and operates CCW storage and disposal facilities that service Dallman, including two coal ash disposal ponds (the Lakeside Ash Pond and Dallman Ash Pond, an FGDS Landfill, a clarification pond, and three lime ponds that have been constructed over portions of the Lakeside Ash Pond (collectively, the Coal Ash Facilities)). The author discusses the Lakeside Ash Pond and FGDS Landfill as he states those facilities impact groundwater movement across the site. He focuses on exceedances of *"Background and Illinois Groundwater Quality Standards"* from the Dallman Ash Pond as a monitoring system has been established for that pond. The items discussed below are those that are incomplete, requiring additional discussion, misleading, or inaccurate.

This document has been derived by a Licensed Professional Geologist from Andrews Engineering with 32 years of hydrogeologic consulting experience in the State of Illinois, including site-specific experience dating back to 1988 at the subject facility. The site-specific experience includes designing and oversight of multiple drilling programs within the impoundment vicinity, earthen liner construction oversight, aquifer characterization, and regulatory permitting. A curriculum vitae for Brad Hunsberger is provided in Attachment A to this document.

Responses to the Hutson Report are presented as encountered in the report.

2. ITEMS OF ISSUE

2.1 Floodplain

- Section 4.1 of the Report states all of the coal ash facilities are located within the 100-year floodplain. An excerpt from the first paragraph of Section 4.1.1 states that:

> *The entirety of the coal ash ponds, lime storage ponds, FGDS Landfill, and gypsum storage areas are located within the 1% annual chance flood area[1] indicated on the current Federal Emergency Management Agency (FEMA) Flood Hazard map (Figure 2). The 1% annual chance flood, commonly referred to as the 100-year flood, is the area of the Sugar Creek floodplain that has a 1% chance of flooding during any calendar year.*

FEMA identifies the 100-year floodplain at the Dallman Ash Pond as elevation 454 feet above mean sea level (msl) (Report Figure 2 and Footnote #1). The berm elevation at the northwest corner of the Dallman Ash Pond (lowest point) is approximately 553 feet above msl (Aero-Metric Engineering, Inc., 1991 – See Attachment B). The perimeter berm elevations around the facilities increase to the south by approximately 10 feet to transition to the top of dam/bridge elevation. Therefore, there is no chance the structures will be inundated by floodwaters from the Sugar Creek floodplain during a 100-year storm event.

- An excerpt from Section 4.1.1 of the Report states that:

> *The location of the CWLP waste facilities on the floodplain and within the area of inundation of Sugar Creek is problematic for at least two reasons. First, the wastes in the unlined waste disposal cells will be re-wetted from below by rising groundwater associated with even relatively minor flood events. During high water events groundwater flows from the stream into the groundwater contained in surrounding sediments causing the groundwater elevation to increase. Where the bottoms of unlined waste disposal cells are located at or below the normal water table, such as at the CWLP site, rising groundwater elevations will re-wet wastes that might not be wet under normal conditions (See Section 4.2.2). Re-wetting of disposed wastes stimulates leachate production from higher elevation wastes that might normally be located above the groundwater.*

The surface water level in the Dallman Ash Pond is historically higher than the potentiometric surface elevations, even during periods of higher precipitation where Sugar Creek may be elevated. The water within with surface impoundment continually keeps the subsurface stratigraphy under saturated conditions. The Report is inaccurate as it states "*rising groundwater elevations will re-wet wastes that might not be wet under normal conditions"*. Furthermore, the last sentence of the paragraph states *"Re-wetting of disposed wastes stimulates leachate production from higher elevation wastes that might normally be located above the groundwater."* The Report tries to imply that additional leachate production will occur during periods of elevated groundwater levels. However, the Report states in Section 4.2.2 *"In reality, nearly the entire volume of waste held in the Dallman Ash Pond is likely saturated and leaching ash-related contaminants to groundwater. Constantly saturated coal ash creates the opportunity for continuous leaching and migration of contaminants from the Dallman Ash Pond."* The two sections of the Report contradict. Constantly saturated ash represents the most conservative scenario where maximum influence of the impoundment would be expected. As

reported in the History of Construction Report for Coal Combustion Residuals Surface Impoundments (October 2016) [Record Document 11.2 – Bates pages 9383-9403], the Lakeside Ash Pond was placed into service in 1958 and the Dallman Ash Pond in approximately 1976. Based on the hydrogeologic characteristics of the impoundment area, any influence of the impoundments to the groundwater quality should be present. Solute concentrations in the groundwater are stable and consistent.

- The second excerpt from Section 4.1 of the Report states:

> *The second issue with the location of the waste disposal facilities adjacent to Sugar Creek is the increased danger of damage and/or catastrophic release of coal ash during flood events. Eric Staley stated that flooding of areas of the site where monitoring well RW-3 is located is "almost an annual event."[2] Damage to monitoring wells and erosion of berms is a continuing problem associated with even moderate storm events. Monitoring wells AP-1, AP-2, and AW- 3 are known to have been damaged during high water events and replaced with new wells located near the original locations.[3] The events that damaged the monitoring system were minor flood events compared with the damage to the site that should be expected with a major flood.*

The first sentence of the above paragraph is speculative and without merit. The use of *"catastrophic release"* is used throughout the Report typically paired with *"during flood events"* or similar. The impoundments have been and are regularly inspected by licensed engineering professionals and other trained personnel skilled in monitoring and evaluating the structural integrity of the impoundments, including personnel from regulatory oversight authorities (Illinois Department of Natural Resources). In fact, compliance with 40 CFR Part 257 (Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals from Electric Utilities) required certification that unit must not be located in unstable areas. Criteria for such certification included at a minimum, evaluation of the structure design, soil conditions, geologic features, and potential impacts due to human features or events, both surface and subsurface. The certification was completed pursuant to 40 CFR 257.64. Additionally, 40 CFR 257.73 required an initial and subsequent potential hazard classification assessment of the impoundments as well as an initial and periodic structural stability assessments. The initial assessment was completed pursuant to 40 CFR 257.73(d) and (f). The Initial Hazard Potential Classification Assessment Report for Coal Combustion Residuals Surface Impoundments (October 2016 – See Attachment C) found the following:

> *The Dallman Ash Pond and the original (lower) portion of the Lakeside Ash Pond are not regulated by a state agency and were never designated a potential hazard rating. The expansion portion of the Lakeside Ash Pond is regulated by the Illinois Department of Natural Resources (IDNR) and was assigned a Hazard Classification of "Class III," which corresponds to U.S. Corps of Engineers (USACE) "Low Hazard Potential" category. Additionally, Lakeside Ash Pond is listed in the National Inventory of Dams (NID) with a Hazard Classification of "Low."*
>
> *This rating was determined by IDNR under the following classification system provided by 17 Ill. Adm. Code 3702.30(a)(1):*
>
> *C) Class III – Dams located where failure has low probability for causing loss of life, where there are no permanent structures for human habitation, or minimal economic loss in excess of that which would naturally occur downstream of the dam if the dam had not failed. A dam has a low probability for causing loss of life or minimal economic loss if it is located where its failure may cause*

> *additional damage to agricultural fields, timber areas, township roads or similar type areas where people seldom are present and where there are few structures. This corresponds to U.S. Army Corps of Engineers LOW HAZARD POTENTIAL category and U.S. Soil Conservation Service Class (a) dams.*

- It is stated in the second excerpt that "*Damage to monitoring wells and erosion of berms is a continuing problem associated with even moderate storm events. Monitoring wells AP-1, AP-2, and AW- 3 are known to have been damaged during high water events and replaced with new wells located near the original locations.*[3]*"*

  The damage referenced to the wells was simply a concern that sediment within the flood waters may have entered the well and deposited in the screen or sand pack of the well. Wells were replaced to ensure analytical data was representative of actual groundwater quality and not influenced by potential sediment that may have entered the well. There has never been any physical damage to the wells as a result of erosion or debris (limbs, branches, or similar) from flood water. Additionally, there has never been any evidence of erosion of the berms adjacent to the CCR impoundments due to flood water.

- The third excerpt from Section 4.1 of the Report states:

  > *Under major flood events such as the 1%-annual-chance-flood (Figure 2), erosion of the berms that currently contain the disposed coal wastes should be expected. The probability of significant berm erosion is enhanced by the location of a bedrock outcrop allocated across the stream channel from the normal Springfield Lake spillway. The bedrock outcrop forces flow in the creek to make a sharp eastward turn below the spillway. During flood conditions flow will impinge directly on the berms on the western side of the Lakeside ash ponds.*

  During flood conditions, water over the spillway flows northwest with energy dissipating against the bedrock outcrop. Additional dissipation occurs within the elevated body of water caused by slow drainage of the Sugar Creek floodplain. The *"sharp eastward turn"* referenced above occurs adjacent to the embankment of the west lime treatment pond, not the Lakeside Ash Pond. However, the embankment referenced is well vegetated to minimize or negate any erosional forces. As stated above, the impoundments have been and are regularly inspected by licensed engineering professionals and other trained personnel skilled in monitoring and evaluating the structural integrity of the impoundments pursuant to internal and regulatory requirements. If the statement in the Report was accurate, embankment erosion would be a reoccurring problem. There is no such documentation or recollection by CWLP personnel.

- The fourth excerpt from Section 4.1 of the Report States:

  > *Further enhancing the chance of significant release of wastes is the possibility of floodwater flowing across the roadway which crosses Spaulding Dam and onto the CWLP property near the Lakeside lime softening ponds. Water that flows over the dam and onto the ash pond site will have considerable erosive power due to its rapid drop in elevation as it crosses the dam (Figure 2).*

  The Report infers that flooding from Lake Springfield could top the Spaulding Dam, inundating the lime ponds and ultimately the ash impoundments. Comprehensive watershed studies were conducted as part of the original dam design and intensive regulatory reviews were conducted prior to construction of the dam and to ensure appropriate design and safe operation of the dam and reservoir. Subsequent comprehensive watershed studies were conducted as recent as 2010. Full pool for Lake

Springfield is 560 feet above msl. When the lake elevation exceeds 560, water exits the lake through the spillway on the west side of the dam. The dam contains five gates that can also be lowered to further control the lake level as necessary. There is no potential for lake water to cross the dam into the lime softening ponds.

2.2 Dallman Pool Elevation

- Section 4.1.2 (page 6) of the Report states that during a site visit on March 1, 2019 by Mr. Hutson, there was no freeboard and the pond level was *"nearly equal to the top of the berm elevation on the northwest corner of the Dallman Ash Pond"*. According to CWLP personnel on site during the visit (Eric Staley), the surface water perimeter along the west and north berms were tens of feet from the inside of the top of the berm, at a minimum, except where the ash line enters the pond. The sluiced material discharges into the pond in the northwest corner, resulting in a narrow channel running back to the east and then south. The channel is maintained to ensure flow is unimpeded to the main body of water to the east and south. The water is decanted to the clarification pond as the ash settles out. This is typical as can be seen in an aerial photograph of the impoundment (Figure 1). A large body of water is not present. Also noticeable is the Lakeside Ash Pond is nearly covered and vegetated with the exception of a small area near the southeast corner of the impoundment.

- The Report also states (Section 4.1.2 on page 6) "*erosion of the outside of the berm on the northwest corner of the Dallman Ash Pond was observed during the site (sic)."* According to CWLP personnel on site during the visit (Eric Staley), the erosion feature was approximately 6 inches deep by 6 inches wide by approximately 30" long and was located at the edge of the haul road, within the haul road base material and not in the berm. However, the Report implies the erosion was occurring in the berm. The roads are graded such that no runoff occurs as any precipitation on the haul road will drain back to the interior ponds.

- The Report states in the same paragraph that "*an active seep and associated slump of berm sediment was observed during the site visit."* According to CWLP personnel on site during the visit (Eric Staley), the slump of berm sediment was the result of vegetative maintenance on the sideslope of the berm where the bucket of a backhoe was used to remove vegetation from the surface of the berm and that the "slump" was the leading edge of the limit of the reach of the backhoe. It was simply the area where vegetation was not scraped from the surface. There was no slump of berm sediment. Additionally, as stated by Mr. Staley, no seep was present in the northwest corner of the Dallman Ash Pond. Mr. Staley stated it was ponded water from recent precipitation events, which is a common occurrence as the area immediately north of the impoundment drains back towards the base of the Dallman Ash Pond.

2.3 Lakeside Ash Pond

- The first paragraph on page 7 of the Report states:

> *The vertical expansion berms were reportedly constructed using compacted Flue Gas Desulfurization (FGD) scrubber sludge and clay as the base berm material and a silty clay lining on the interior of the berms.[15] Use of FGD sludge in construction of the berms introduced a source of potential groundwater contaminants outside of the pond's clay lining.*

The "vertical expansion berms" were constructed with an offset to enhance structural stability. The vertical berms tied into the existing berm system but largely overlie existing ash as the offset was to the interior of the pond. Use of FGD sludge aided in structural stability of the berm and presents no potential for groundwater contaminants outside the pond's clay lining as any vertical migration of solutes would be to the underlying ash deposits within the original Lakside Ash Pond perimeter.

- The third paragraph from page 7 of the Report states:

> *Subsequent to construction of the original and expansion berms CWLP installed a toe drain system at the base of the expansion berm to collect leakage along the west side of the Lakeside Ash Pond. Water collected in the toe drain system is pumped to the clarification pond for disposal. This toe drain system was originally installed soon after pond expansion in 1988 and redone again in 2018.[19] Common leakage though the connection between the original and expansion berm has been attributed to a "poor design".[20]*

Ms. Corcoran stated in her deposition (page 36) that the toe drain was redone the summer of 2018 and *"there is no leakage now, that that's been corrected."*

2.4 Hydrogeology

Section 4.2.2 of the Report erroneously references potentiometric surface maps as Figures 2 and 3. The correct references are Figures 3 and 4. Likewise, the footnotes carryover the same error.

2.5 Groundwater Classification

Section 4.3.1 of the Report states the Hanson Engineers (1995) document identified groundwater in the Creek Fill, Shallow Sand Unit, Lower Cohesive Deposit and the Basal Sand Unit as Class I. However, the Table of the "Summary of Geologic Material Properties" (Section 4.2.1) identifies the groundwater in the Upper Cohesive Deposit, Lower Cohesive Unit, Channel Fill, and Pennsylvanian Bedrock as Class II, or other based on the criteria presented in 35 Illinois Administrative Code Section 620.210(a)(4)(B). Due to the complexity of the depositional environment, it is difficult to accurately differentiate between the Class I and Class II groundwater. It is reasonable to assume, for purposes of being conservative, a Class I designation was provided to all groundwater in the near vicinity of the site facilities.

2.6 Background Groundwater Quality

- Section 4.3.2 of the Report states *"Six years after the initiation of groundwater sampling CWLP has established proposed background water quality values."* This statement implies no background concentrations were established for six years after implementation of the groundwater monitoring program. As stated in the Report, a systematic monitoring program was implemented in 2012 pursuant to Illinois EPA approval. Four quarters of background sampling and analyses were conducted in 2012 with statistical background concentrations being presented to the Illinois EPA, Bureau of Water, in June 2013, approximately 18 months after implementation of the monitoring program. Background concentrations were slightly modified pursuant to compliance with 40 CFR Section 257.90 as presented in the Groundwater Monitoring Program (October 2017) [Record Document 16.15 – Bates pages 12911-12983]. 40 CFR Part 257 was not enacted until April, 2015.

The table provided in Section 4.3.2 (Proposed Background Concentrations) contains two errors. The background concentrations for antimony and cadmium should be .016 mg/L and .0128 mg/L, respectively.

- Section 4.4.5 of the Report states:

> *Total Dissolved Solids (TDS) is a very common parameter that is found, sometimes at very high concentrations, at ash disposal sites. The above graph shows that the concentration of TDS in downgradient monitoring well AP-1 is routinely above both background concentrations and the Illinois Class I Groundwater Quality Standards. The concentration of TDS in monitoring well AP-2 is variable with the most recent sample showing concentrations well above both background and the Class 1 standard. Monitoring well AP-3 shows concentrations of TDS that are elevated above background at concentrations and below the Class 1 Standard. Upgradient wells AP-4 and AP-5 contain low concentrations of TDS by comparison. These results are similar to the sulfate concentration trends that were previously described.*

  TDS are inorganic compounds that are present in water that include metals, salts, and some organic compounds. TDS is not a specific parameter but an indication of one or more solutes (ions) dissolved in the water. The TDS concentration is typically associated with one or a small number of solutes: the concentration trend will mimic that of an existing solute or solutes. As stated in the last sentence of the above excerpt, TDS appears to be associated with the sulfate concentration. Even though TDS is a separate parameter, it does not represent an additional solute present in the groundwater.

- The first sentence of the second paragraph in Section 4.4.5 states *"In summary, each of the downgradient wells is impacted with ash contaminants."* The groundwater monitoring wells have been sampled and evaluated pursuant to 40 CFR Sections 257.93 through 257.95. Only arsenic in well RW-3 was determined to be a statistically significant increase exceeding the background concentration requiring further evaluation pursuant to 40 CFR Section 257.95(g). As such, an assessment monitoring program has been implemented to characterize the nature and extent of the occurrence of arsenic in the vicinity of RW-3.

- The first sentence in the last paragraph of Section 4.4.5 states "*There is no indication that there have been any actions taken to reduce or eliminate the groundwater contamination that IEPA had indicated were violations in 2012 and 2013."* There are no references cited for the 2012 and 2013 IEPA indications of violations. A search found no Illinois documents or references to "violations" in 2012 and 2013.

2.7 Potential Remedies

- Section 5 of the Report discusses potential remedies for assumed groundwater impacts. As stated previously, only arsenic had been identified as a statistically significant increase above the background concentration, at well RW-3. Assessment monitoring is ongoing and characterization of the nature and extent of arsenic has been initiated in the vicinity of RW-3 pursuant to 40 CFR Section 257.95(g). 40 CFR Part 257 has been organized in a manner requiring relevant tasks to be completed sequentially. The sequences applicable to CWLP surface impoundments are:

  1. Establishment of a groundwater monitoring system (Section 257.91) including a sampling and analyses plan (Section 257.93),

2. Establishment of statistical background concentrations for comparison to downgradient groundwater quality for all Appendix III and IV parameters (Section 257.93),
3. Conduct Appendix III sampling and analyses (Section 257.93),
4. Conduct Appendix IV sampling and analyses – Assessment Monitoring (Section 257.94),
5. Establishment of groundwater protection standards (Section 257.94),
6. Characterize the nature and extent of the statistically significant increase of arsenic at well RW-3,
7. Assessment of corrective measures (Section 257.96) [subsequent to characterization of the nature and extent investigation],
8. Selection of remedy (257.97), and
9. Implementation of the corrective action program (257.98).

CWLP has completed items 1 through 5 above and is in the process of completing item 6. Once the characterization of the nature and extent is complete, CWLP will conduct the assessment of corrective measures, select a remedy or remedies, and implement the remedy or remedies. It is premature to assess, select and design corrective measures until information is obtained and evaluated from the investigation characterizing of the nature and extent of the arsenic exceedence.

The potential remedies presented in Section 5 of the Report are typical, assuming a facility and hydrogeologic characteristics are conducive for such remedy. However, that has not been determined for the CWLP impoundments at this time. Therefore, it is premature to present information as to whether or not a potential remedy is appropriate.

- The Report continues to state the impoundments are susceptible to damage or catastrophic release of wastes during flood events in each potential remedy. As stated previously, the impoundments have been and are regularly inspected by licensed engineering professionals and other trained personnel skilled in monitoring and evaluating the structural integrity of the impoundments, including personnel from regulatory oversight authorities (Illinois Department of Natural Resources). The potential for a catastrophic release is improbable, even under flood conditions. Section 5.2.6 (Retrofit Impoundments) states *"Once completed, the retrofitted impoundments could again be utilized for waste disposal. The newly retrofitted impoundments would however remain potentially susceptible to damage or catastrophic release of wastes during flood events".* However, Section 257.102(k) [Criteria for conducting the closure or retrofit of CCR units] states any retrofitted units must comply with the requirements of Section 257.72 (Liner design for new CCR surface impoundments and any lateral expansion of a CCR surface impoundment). This includes the structural integrity criteria for new CCR surface impoundments pursuant to Section 257.74. Retrofitted surface impoundment(s) would not be susceptible to a catastrophic release of waste during flood events.

- Section 5.2.6 of the Report states:

> *Retrofitting the impoundments may meet the CCR location restrictions but would commit CWLP to additional costs associated with long term operation and maintenance as well as eventual closure of these facilities,[91] including at least 30 years of post-closure monitoring if waste remains in place and the impoundment*

would remain susceptible to damage or catastrophic release of waste into Sugar Creek during a major flood.

The Report does not provide a reference for the *"additional costs"* as no comparison was provided for excavation and disposal costs as recommended in Section 5.2.10. A cost analyses is an integral part of the decision process for remedial design and closure goals. Until such time the assessment is complete (CFR Section 257.95(g)), a remedial design will not be selected so as a cost benefit analyses can be completed.

- Section 5.2.9 of the Report states *"Waste removed from the current leaking impoundments should be removed to a properly sited and constructed disposal facility."*

  The provisions of the Illinois Environmental Protection Act do not require that CCR be placed in *sited* facilities, nor do the regulations provided in 40 CFR Part 257.

- Section 5.2.10 of the Report states:

  A combination of retrofitting the impoundments with a composite liner system, leachate collection and treatment, and eventually capping the waste in place would allow the impoundments to continue operation and likely reduce the impact of ash disposal on groundwater, at least until the next major flood event.

  The Report continues to imply that even if the impoundments are retrofitted, impacts to the groundwater will be reduced only until the next major flood event. As stated previously, pursuant to 40 CFR Part 257, a retrofitted unit must comply with all requirements of a new CCR impoundment, including structural integrity.

- Section 5.2.10 of the Report provides four bullet items summarizing the impoundments setting/description from previous sections. Those are:

  - *impoundments that have been described by CWLP personnel as poorly designed and constructed impoundments,*
  - *impoundments known to be releasing ash-related contaminants to groundwater in concentrations well above Illinois Class I Groundwater Quality Standards,*
  - *Impoundments with bottoms located at or below the water table, and*
  - *Impoundments located on the Sugar Creek floodplain and completely within the zone of inundation during the 100-year flood.*

  - The first bullet item is taken out of context and is misleading. Report Footnote 20 (page 7 of the Report) is specific to the Lakeside Ash Pond Expansion where leakage had occurred at the connection between the two berms in an area. CWLP had subsequently completed maintenance of the area, including installation of a toe drain. Ms. Corcoran stated in her deposition (page 36) that maintenance was conducted on the toe drain during the summer of 2018 and there is no leakage now. She also stated the Illinois EPA inspected the facility as part of the facility NPDES permit and had no comments with respect to the impoundment berm system.

  - The second bullet item referenced the Illinois Class I Groundwater Quality Standards, the most stringent groundwater classification. As explained in Section 2.5 above, due to the complexity of the depositional environment beneath and adjacent to the impoundments, it is difficult to accurately differentiate between the Class I and

Class II groundwater. Andrews Engineering personnel participated in multiple discussion with Illinois EPA staff regarding the classification of the groundwater beneath and adjacent to the FGDS landfill. For purposes of being conservative, a Class I designation was provided to the near vicinity groundwater.

The use of the groundwater classification system is specific to 35 Illinois Administrative Code Part 620. The purpose of the subject regulations are defined in Section 620.105, which states:

> *This Part prescribes various aspects of groundwater quality, including method of classification of groundwaters, nondegradation provisions, standards for quality of groundwaters, and various procedures and protocols for the management and protection of groundwaters.*

The Report utilizes the most stringent groundwater quality standards, yet does not discuss or acknowledge subsequent sections of the regulations which allows for the establishment of a groundwater management zone (GMZ) as listed in Section 620.250. The GMZ is a three-dimensional area containing groundwater being managed to mitigate impairment caused by a release from a source. The GMZ must be approved by the Illinois EPA and is accompanied by corrective action activities. Establishment of a GMZ mitigates the groundwater impairment but allows the facility to continue to operate.

- The fourth bullet item states the impoundments are located within the zone of inundation of the 100-year floodplain. As provided in Section 2.1 of this document, FEMA identifies the 100-year floodplain at the Dallman Ash Pond as elevation 454 feet above mean sea level (msl). The berm elevation at the northwest corner of the Dallman Ash Pond (lowest point) is approximately 553 feet above msl. The perimeter berm elevations around the facilities increase to the south to transition to the roadway/bridge elevation. Therefore, there is no chance the structures will be inundated by floodwaters from the Sugar Creek floodplain.

2.8 Opinions Formed

The following bullet items present discussions pertaining to Section 6 of the Report.

- The first sentence in Section 6.3 of the Report states:

> *Groundwater monitoring data collected regularly since 2012 show that groundwater downgradient of the Dallman Ash Pond is contaminated above background by the ash basin with boron, sulfate, manganese, TDS, and to a lesser extent arsenic.*

Pursuant to 40 CFR 257.90 through 257.95, only arsenic at well RW-3 exceeded a groundwater protection standard requiring additional activities.

- The last sentence in Section 6.3 of the Report states:

> *The available documentation indicates that although IEPA at one time intended to enforce compliance with groundwater quality standards,[95] no such enforcement has occurred and groundwater contamination downgradient of the Dallman Ash Pond continues unabated as of this date.*

At the time of the referenced document (Report Footnote 95), the Illinois EPA was in the process of drafting regulations identified as Title 35: Environmental Protection, Subtitle G: Waste Disposal, Chapter I: Pollution Control Board, Subchapter j: Coal Combustion Waste Surface Impoundments, Part 841 – Coal Combustion Waste Surface Impoundments at Power Generating Facilities (R14-10). The Illinois EPA strategy is to obtain US EPA approval pursuant to the Water Infrastructure Improvements for the Nation Act (WIIN) such that the State program would be legally binding. This would allow the resolution of State regulations that conflict with current 40 CFR Part 257 regulations. It is typical and expected that the proposed Part 841 regulations will be generally similar to the existing Federal regulations.

3. CONCLUSION

City Water, Light & Power has complied with the regulations specifically set forth by the US EPA to address Disposal of Coal Combustion Residuals from Electric Utilities (40 CFR Part 257). All applicable documentation is made available pursuant to Section 257.105 of the aforementioned regulations.

Expires 3-31-21

Brad J. Hunsberger

May 28, 2019

Brad J. Hunsberger, LPG
Illinois No. 196.000287

Date

FIGURE 1:
SITE FACILITIES

NOTE:

BACKGROUND IMAGE DERIVED GOOGLE EARTH: JUNE 7, 2016.

N

0 200 400 800

SCALE: IN FEET

REVISIONS

NO.	DATE	DESCRIPTION	BY

ANDREWS ENGINEERING, INC.
3300 GINGER CREEK DRIVE
SPRINGFIELD, ILLINOIS 62711-7233
PH (217) 787-2334 FAX (217) 787-9495
PONTIAC, IL • LOMBARD, IL • INDIANAPOLIS, IN • WARRENTON, MO
PROFESSIONAL DESIGN ENGINEERING AND LAND SURVEYING FIRM # 184-001541

APPROVED BY: BJH | DESIGNED BY: BJH | DRAWN BY: MPN

SITE FACILITIES

PLANS PREPARED FOR

CITY, WATER, LIGHT & POWER

SPRINGFIELD, SANGAMON COUNTY, ILLINOIS

DATE: MAY 2019

PROJECT ID: 170306/0001

SHEET NUMBER:

FIGURE 1

J:\S\Springfield CWLP\CWLP\dwg\2019\Existing Groundwater Monitoring Network.dwg Tab: Layout1 Last Saved: May 17, 2019, by Mike Nguyen Plotted: Tuesday, May 28, 2019 8:37:19 AM

ATTACHMENT A

CURRICULUM VITAE
BRAD HUNSBERGER

ANDREWS ENGINEERING INC

Bradley J. Hunsberger, L.P.G.

Vice President
Director of Hydrogeological Services

Years of Experience
Andrews: 31
Other Firms:

Education
B.S., Geology, Illinois State University

Licenses
Licensed Professional Geologist – IL, WI, IN, & TN

Registrations/Certifications
Registered Geologist – MO

Certified Professional Geologist (AIPG)

OSHA Hazardous Waste Site Worker Certification – IL (40 hr)

OSHA Hazardous Waste Site Worker Refresher – IL (8 hr)

Permit-Required Confined Space Entry

Specialties
Siting Testimony

Hydrogeologic investigations for local siting and regulatory permitting (including assessment and remedial investigations)

Solid Waste Management

Professional Summary

Mr. Hunsberger has over 31 years of experience in environmental consulting. He is responsible for design and implementation of hydrogeologic site investigations and studies at environmentally sensitive sites. These sites include solid waste disposal facilities, clean construction demolition debris (CCDD) facilities, compost facilities, CCB sites, Leaking Underground Storage Tank (LUST) sites, industrial facilities and agri-chemical facilities. The subject criteria includes design of subsurface investigations, field classification of soil and rock, oversight of monitoring wells and other subsurface detection devices, aquifer characterization, and design and implementation of various types of monitoring programs Mr. Hunsberger has provided hydrogeological-related consulting services for over 100 disposal facilities in Illinois and Indiana.

As Director of Hydrogeological Services, Mr. Hunsberger is responsible for the oversight of groundwater/leachate sampling services, analytical database management, data evaluation and related regulatory reporting, project planning and management, cost projections, and budgeting. Work experience includes utilization of various computer models to determine groundwater movement and chemical fate transport associated with waste disposal facilities. He has also used flow models for dewatering design for excavations and cell development related to waste disposal and remediation design, and providing expert reporting and testimony for projects regarding geologic and hydrogeologic issues relating to public health, safety, and welfare.

Representative Project Experience

Waste Disposal Services

Confidential – Central Illinois.
This site is an operating solid waste disposal facility. Previous property owners of the facility constructed an ash pond for sluicing operations within the current limits of cell development. The pond was subsequently removed, but residual influences to the groundwater quality remained. Mr. Hunsberger designed and permitted a multi-phased investigation to evaluate the extent of influences to the groundwater. Andrews provided the field oversight to the drilling operations, and collected soil and groundwater samples for analyses. All reports, including a proposed groundwater management zone, were reviewed and approved by the Illinois EPA.

City Water, Light & Power – Springfield, Illinois.
Mr. Hunsberger was responsible for the design and implementation of hydrogeologic investigations for the units identified as the flue gas desulfurization landfill (FGDS Landfill) and Lakeside and Dallman Ash Ponds at the CWLP facility, dating from 1988 to current (2019). Early work at CWLP included defining potential migration pathways for the FGDS Landfill, construction oversight and analysis of the test liner, and liner construction quality control at the landfill. The hydrogeologic investigations required drilling oversight of borings and wells, acquisition of soil and groundwater samples, documentation and reporting of the results. Identification of an old drainage system aided in modification of the existing monitor well network.

Mr. Hunsberger provided project management for the design of a groundwater monitoring program pursuant to the Illinois EPA's Ash Impoundment Strategy. The Illinois EPA requested the facility establish a groundwater monitoring program which identifies the monitor well network, methods and procedures for collection of the groundwater samples, and calculation of background groundwater concentrations. The proposed monitor well network was approved and implemented, allowing more accurate evaluation of potential influences of the impoundment to the local groundwater. Recently, Mr. Hunsberger has provided services related to compliance of 40 CFR Part 257.

Harsco Minerals – Kincaid, Illinois.
Harsco Minerals assists other industrial organizations by providing economically and environmentally viable solutions for recycling various industrial production by-products. Harsco reclaims usable ash generated from Dominion's Kincaid power plant production from on-site impoundments as part of its materials processing/recycling operations. Harsco contracted Andrews Engineering, Inc. to perform a feasibility study to characterize a surface impoundment of approximately 30 acres and determine if ash types within the pile could be segregated and mined to increase reclamation.

Under the direction of Mr. Hunsberger, Andrews performed an initial site investigation and prepared a plan for characterizing the ash pile at the site. Upon approval from the client, the Andrews field team conducted sampling of the impoundment, with sample quality control and oversight provided by one of the firm's licensed professional engineers. Andrews also provided drilling oversight and completion of boring logs as part of the overall investigation.

After sampling and data review, Andrews prepared volumetric calculations and provided facility maps to identify the differentiable ash types within the impoundment.

Lake County Grading Company – Libertyville, Illinois.
The Lake County Grading Company facility is a closed construction and demolition debris landfill. Fly and/or bottom ash was placed within the waste unit and appears to have impacted the groundwater quality adjacent to the unit. Andrews designed and permitted via the Illinois EPA a subsurface investigation to determine the rate and extent of contamination pursuant to applicable regulations. Results indicated ash was present outside the waste boundary in the matrix of the shallow soil which influenced the groundwater quality.

In addition to the investigation defined above, Andrews obtains quarterly groundwater data from the laboratory and provides statistical evaluations/reporting pursuant to the facility permit.

Litchfield-Hillsboro Landfill – Litchfield, Illinois.
Mr. Hunsberger was responsible for all aspects of site geology and hydrogeology studies for the active municipal solid waste landfill. These duties included groundwater and leachate quality evaluations, evaluations of remedial activities, a corrective action assessment and report generation and submittals. He also provided annual assessments of remedial activities at the site, prepared annual reports, and supplied expert testimony at a public meeting for permitting and corrective action measures. The corrective action was driven by solutes in the groudnwater related to coal ash deposited in early cells of the site operation. Andrews redesigned the corrective action to be more effective than the early design.

Brickyard Disposal and Recycling – Danville, Illinois.
Brickyard Disposal and Recycling is a municipal solid waste dispoal facility which consists of two units separated by a haul road, which allows independent groundwater and gas monitoring systems. Mr. Hunsberger designed the boring program, provided field oversight for boring and piezometer installation, and review for the initial permit application pursuant to the new solid waste rules. Mr. Hunsberger's resposibilities now include oversight for quartelry groundwater evalautions, groundwater assessment, and annual corrective action assessments. Mr. Hunsberger designed the phased extransous materials investigation, revised the Unit 1 monitoring well network, and created the technical documentation for an Illinois Pollution Control Board Adjusted Standard Petition to revise the Unit 1 groundwater compliance boundary. The complexities of Unit 1 include the combination of underground and surface mining of coal within the waste limits and use of area coal for brick production.

Streator Area Landfill – No. 3, Livingston County, Illinois.
Mr. Hunsberger was responsible for conducting a site hydrogeologic investigation and reports for local siting requests and regulatory permit application for an approximately 20-acre fill area. This included a report of hydrogeologic investigation, and coordination and review of the groundwater impact assessment and groundwater monitoring program. This facility was undermined by coal mining operations and contained surface mines due to shale mining for brick productions. His responsibilities also included construction oversight of test liners and dewatering feasibility studies for the coal seam and mined areas. He also designed and directed studies for methane migration through the shale and wall units.

Envirofil of Illinois Recycling and Disposal Facility – McDonough County, Illinois.
Mr. Hunsberger was responsible for site hydrogeologic investigation and reports for local siting requests and regulatory permit applications of an approximately 75.6-acre area containing 28 wells. This included a Report of Hydrogeologic Investigation and Groundwater Monitoring Program. Additional investigations included aquifer analysis for potential offsite contaminant source and with the utilization of an electromagnetic survey. Mr. Hunsberger's responsibilities included a proposed liner

redesign and related contaminant transport modeling, annual evaluation of the corrective action measures and groundwater management zone.

Thomas 12th Street Landfill – Danville, Illinois.
Responsibilities included design and implementation of a revised groundwater monitoring program and a groundwater impact assessment to evaluate contributions from surface-mined (coal) areas to groundwater quality degradation. This included the study of a burn area located adjacent to a contaminated monitoring well that contained coal ash. Mr. Hunsberger conducted the site evaluations and regulatory interface for approval of the release of the facility from Illinois EPA control.

Macon County Landfill – Existing Unit 1, Macon County, Illinois.
Responsibilities included regulatory permit applications to combine the existing Unit 1 with the horizontal expansion area of approximately 20 acres of fill and 12 wells. This work included feasibility studies for the separation of a pre-Illinois Environmental Protection Agency contiguous landfill from Unit 1. Applications included a Groundwater Impact Assessment (using one-and two-dimensional contaminant transport modeling for multiple liner configurations), Groundwater Monitoring Program, and hydrogeologic evaluation for off-site groundwater quality degradation sources. He also provided review and comments on the hydrogeologic aspects of the siting application and provided expert testimony during the hearing.

Macon County Landfill – Unit 2, Macon County, Illinois.
Responsibilities included conducting a site hydrogeologic investigation and reports for local siting requests at an approximately 45-acre fill area containing 22 wells. He also participated in the siting hearings and preparing the facility's regulatory permit applications. The applications included a report of hydrogeologic investigation, groundwater impact assessment (including one- and two-dimensional contaminant transport modeling), groundwater monitoring program, and dewatering feasibility studies of confined and unconfined aquifers (affecting design and construction activities) beneath the unit. An extensive dewatering program was designed and implemented. Dewatering studies evaluated potential impacts of neighboring water wells.

Macon County Landfill – Horizontal and Vertical Expansion, Macon County, Illinois.
Mr. Hunsberger was responsible for the design and implementation of the hydrogeologic investigation for siting the horizontal expansion of Unit 4. The subject investigation included field oversight, report preparation and compilation, derivation of a multi-tiered groundwater monitoring program, and testimony at the hearing. As part of the siting investigation, he participated in feasibility studies for the separation of a pre-Illinois Environmental Protection Agency contiguous landfill from Unit 1. Subsequent to the siting approval, Mr. Hunsberger conducted a Groundwater Impact Assessment (multiple liner configurations) and hydrogeologic evaluation for off-site groundwater quality degradation sources. These studies were submitted as part of the initial significant modification for the expansion area.

Proppant Specialists, LLC – Arcadia, Wisconsin.
Mr. Hunsberger provided technical consulting, assisted with the coordination of meeting logistics and provided on-site technical support for two public meetings with the Town of Arcadia, Wisconsin, in support of a proposed sand mine. He prepared the overall zoning application for the proposed sand mine related to the hydrogeology of the proposed facility to assist in the demonstration that no potential for contamination to the underlying aquifer located on site. He also participated in the public hearing held by Trempealeau County, Wisconsin, for the zoning application and provided information for lay persons on both the County Board and from the community related to the hydrogeological aspects of the application. The zoning application was subsequently approved.

ADS/McLean County Landfill – Bloomington, Illinois.
Responsibilities included conducting site hydrogeologic investigations and reports for regulatory permitting requirements and facility development. The investigations included boring and well/piezometer installation oversight for revisions to the groundwater monitor well network and the proposed expansion of the facility, and test pit evaluations for liner construction planning. Mr. Hunsberger conducted the initial liner evaluation including identification of useable soils for liner construction in the South Fill Area. He was also the on-site quality control representative for construction of the Initial Fill Area (first cell), which included oversight of the cell excavation, and placement of the clay liner, leachate collection pipe and sand drainage layer. Mr. Hunsberger has conducted work at the facility since 1987, providing continuity with three facility owners.

Dixon/GROP Landfill – No. 2, Lee County, Illinois.
Responsibilities included regulatory permit applications for an approximately 40-acre fill area containing four separate units and 30 wells. This work included subsurface investigations and a report of the hydrogeologic investigation, groundwater impact assessment (peer review), groundwater monitoring program, and dewatering feasibility studies of a confined aquifer (affecting design and construction activities). This was done using MIGRATE and two-dimensional flow equations. He designed the remedial investigation that resulted in the installation of a slurry wall around an old waste unit. The groundwater assessments require differentiating solutes from historical site usage, including ash from coal-fired boilers used as part of World War II munitions production.

Winnebago Landfill – Rockford, Illinois
Mr. Hunsberger has provided hydrogeologic related services for Winnebago Landfill since 1990. Responsibilities included design and implementation of the subsurface investigation for an expansion of the Northern Unit which had been designated as a CERCLA site by the US EPA. The subsurface investigation included the installation of monitor wells and piezometers and aquifer characterization testing. Mr. Hunsberger provided peer review of the Groundwater Impact Assessment and completed the Groundwater Monitoring Plan. He also provided test liner oversight and subsequent documentation/reporting. He has assisted in three subsequent facility expansions by providing peer review of draft applications and related materials. Mr. Hunsberger provides oversight for groundwater and leachate quality review and regulatory reporting, including review of residential well analyses. He

has completed or provided oversight of the five-year corrective action status reports and assists with the evaluation of the draft US EPA's Five-Year Review Report prior to publishing.

Sangamon Valley Landfill – Sangamon County, Illinois.
Responsibilities included regulatory permit applications consisting of subsurface investigations, peer review of the Groundwater Impact Assessment (GIA), creation of a groundwater transport model groundwater monitoring program, and groundwater flow studies for two separate solid waste units that were approximately 75 acres that contain in excess of 55 wells. Responsibilities also include design and oversight of groundwater management zone investigations and related mitigation, including the design and implementation of a reactive barrier at multiple locations to control VOC migration. The groundwater quality appears to have been influenced by historical property use, including the use of coal-fired boilers as part of the World War I munitions production facility.

Republic Services – Upper Rock Island County Landfill, Rock Island County, Illinois.
Mr. Hunsberger was responsible for all aspects of site geology and hydrogeology studies for this active municipal solid waste landfill. He prepared two siting applications and maintained regulatory compliance and permitting including an approved expansion permit application. His other specific duties at the facility included oversight of flow and contaminant transport modeling, preparation of annual reports and assessments of potential groundwater impact, remedial investigations of the site including field classification and oversight, groundwater and leachate quality testing, soils and gas testing, and assessments of potential groundwater impact.

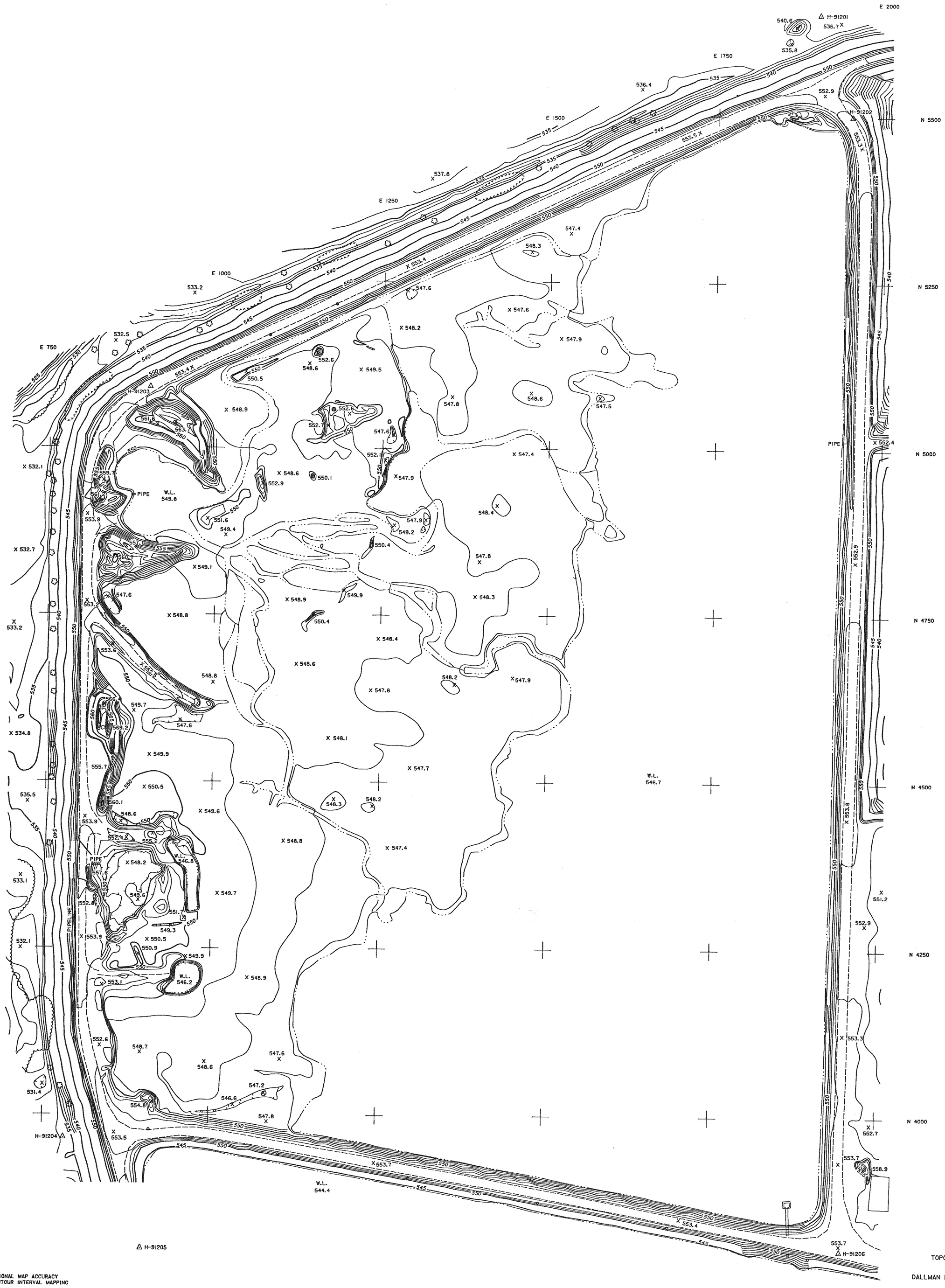
Livingston Landfill – Pontiac, Illinois.
Mr. Hunsberger provided oversight and review for the hydrogeological aspects of the county siting application submitted on behalf of Envirite Corporation. Subsequent to the siting approval, Mr. Hunsberger was the project hydrogeologist for the initial significant modification application, including design of the groundwater monitoring program and review and oversight of the Groundwater Impact Assessment. He also designed the Groundwater Monitoring Program for the Parcel D expansion and provided assistance with the Parcel D Groundwater Impact Assessment for the Illinois EPA application. Mr. Hunsberger designed and supervised drilling operations for a 50 million cubic yard expansion, which included the installation of 54 wells and piezometers. Other responsibilities at the facility have included monitor well installations, boring oversight, field hydraulic conductivity tests, methane migration investigations, slurry wall design, and groundwater quality evaluations as well as related documentation and reporting in accordance with regulatory requirements and facility compliance for groundwater and surface water. Mr. Hunsberger was one of two staff members that conducted an experimental investigation that allowed direct calculation of dispersivity values for the in-situ liner beneath Parcel A. The values were subsequently used in a revised Groundwater Impact Assessment for permitting requirements and resulted in a publication - Reconciling Old Liner Designs with New Liner Standards (MSW Management).

Honeywell – Metropolis Works – Metropolis, Illinois.
Responsibilities included design and implementation subsurface investigations, and design of the environmental monitoring program for an onsite landfill (adjacent to manufacturing facility). Additional responsibilities included design and implementation of a three-phased RCRA soils and groundwater investigation at the plant, installation of lysimeters (via angle drilling), and investigation of subsurface contamination due to surface infiltration of process waters. The investigation included revisions to their Part B RCRA permit.

GERE Properties – Perry County, Illinois.
Responsibilities included design of the hydrogeologic investigation and oversight of boring and well installations for the design of a new 668-acre solid waste disposal facility in Perry County, Illinois. The subject property was formerly operated as a strip mine by Freeman United Coal Company. The investigation included characterization of the hydraulic gradients at varying depths within the mine spoil and slope and mass stability evaluations for the liner design.

Equistar – Tuscola, Illinois.
Mr. Hunsberger designed and managed a hydrogeologic investigation and groundwater assessment for a chemical plant containing seven closed landfill units. The investigation and assessment included the installation of nested wells and piezometers in three hydrostratigraphic units at strategic locations to isolate areas of elevated concentrations and differentiate the sources among the seven waste units.

ATTACHMENT B
AERO-METRIC ENGINEERING, INC. 1991



THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS FOR ONE FOOT CONTOUR INTERVAL MAPPING

CONTOUR INTERVAL ONE FOOT BASED ON CLIENT CONTROL

HORIZONTAL DATUM BASED ON CLIENT CONTROL

DATE OF PHOTOGRAPHY: 2-28-91

AERO-METRIC ENGINEERING PROJECT NO. 029121

NOTE: DASHED CONTOURS INDICATE APPROXIMATE ELEVATIONS AS DEFINED IN PARAGRAPH 7.1.3.6 OF THE MANUAL OF PHOTOGRAMMETRY, 4TH EDITION

0 50 100 150 200 250

SCALE: 1"=50'

TOPOGRAPHIC MAPPING
OF
DALLMAN POWER PLANT ASH POND

PREPARED FOR
CITY, WATER, LIGHT & POWER CO.
PREPARED BY
AERO-METRIC ENGINEERING, INC.
SHEBOYGAN, WISCONSIN

Drawing # TOPMAP9

ATTACHMENT C

INITIAL HAZARD POTENTIAL CLASSIFICATION ASSESSMENT REPORT FOR COAL COMBUSTION RESIDUALS SURFACE IMPOUNDMENTS – OCTOBER 2016

City Water, Light & Power
Ash Impoundments
Springfield, Sangamon County, Illinois

Initial Hazard Potential Classification Assessment Report for Coal Combustion Residuals Surface Impoundments

October 2016

Prepared for:
City Water, Light & Power
3100 Stevenson Drive
Springfield, Illinois 62703

Prepared by:

ANDREWS ENGINEERING INC
3300 Ginger Creek Drive
Springfield, IL 62711
Tel: (217) 787-2334; Fax: (217) 787-9495

TABLE OF CONTENTS

1. INTRODUCTION

City Water, Light and Power (CWLP) Lakeside Ash Pond and Dallman Ash Pond are coal combustion residuals (CCR) surface impoundments. An assessment of the hazard potential classification for the CCR surface impoundments was conducted as required by 40 CFR Part 257.73:

> *257.73 (a)(2) Periodic hazard potential classification assessments. (i) The owner or operator of the CCR unit must conduct initial and periodic hazard potential classification assessments of the CCR unit according to the timeframes specified in paragraph (f) of this section. The owner or operator must document the hazard potential classification of each CCR unit as either a high hazard potential CCR surface impoundment, a significant hazard potential CCR surface impoundment, or a low hazard potential CCR surface impoundment. The owner or operator must also document the basis for each hazard potential classification.*
>
> *257.73 (f) Timeframes for periodic assessments—(1) Initial assessments. Except as provided by paragraph (f)(2) of this section, the owner or operator of the CCR unit must complete the initial assessments required by paragraphs (a)(2), (d), and (e) of this section no later than October 17, 2016. The owner or operator has completed an initial assessment when the owner or operator has placed the assessment required by paragraphs (a)(2), (d), and (e) of this section in the facility's operating record as required by § 257.105(f)(5), (10), and (12).*

Andrews Engineering, Inc. (AEI) reviewed aerial maps and current hazard potential classification status information regarding the Lakeside Ash Pond and Dallman Ash Pond as part of this initial hazard potential classification assessment. A summary of this information, as well as conclusions for the assessment is provided below.

2. CCR UNIT INFORMATION

Both the Lakeside Ash Pond and the Dallman Ash Pond are owned and operated by CWLP. The ponds are operated under National Pollutant Discharge Elimination System (NPDES) Permit Number IL0024767.

The Lakeside Ash Pond is primarily a diked embankment with some incising along the east perimeter and was placed into service prior to 1958. The original Lakeside Ash Pond has been divided into four separate ponds since it was expanded vertically in 1988, including three lime softening ponds and the settling pond. The vertical expansion consists of berms built on top and inside of the existing embankments. The current Lakeside Ash Pond is approximately 27.6 acres and ceased receiving ash in 2009.

The second impoundment, the Dallman Ash Pond, which is a diked embankment, was placed into service in approximately 1976 and is approximately 34.5 acres. Fly ash and bottom ash are sluiced to the Dallman Ash Pond with raw lake water.

Settled water from both the Dallman Ash Pond and Lakeside Ash Pond flow into opposite sides of a Clarification Pond before being discharged to Sugar Creek at Outfall 004 pursuant to the aforementioned NPDES permit.

3. CURRENT CLASSIFICATION

The Dallman Ash Pond and the original (lower) portion of the Lakeside Ash Pond are not regulated by a state agency and were never designated a potential hazard rating. The expansion portion of the Lakeside Ash Pond is regulated by the Illinois Department of Natural Resources (IDNR) and was assigned a Hazard Classification of "Class III," which corresponds to U.S. Corps of Engineers (USACE) "Low Hazard Potential" category. Additionally, Lakeside Ash Pond is listed in the National Inventory of Dams (NID) with a Hazard Classification of "Low."

This rating was determined by IDNR under the following classification system provided by 17 Ill. Adm. Code 3702.30(a)(1):

> *Dams will be categorized in one of three classes, according to the degree of threat to life and property in the event of a dam failure. The three classes of dams are:*
>
> *A) Class I − Dams located where failure has a high probability for causing loss of life or substantial economic loss in excess of that which would naturally occur downstream of the dam if the dam had not failed. A dam has a high probability for causing loss of life or substantial economic loss if it is located where its failure may cause additional damage to such structures as a home, a hospital, a nursing home, a highly traveled roadway, a shopping center, or similar type facilities where people are normally present downstream of the dam. This is similar to U.S. Army Corps of Engineers HIGH HAZARD POTENTIAL category as defined in the Corps Guidelines, and the U.S. Soil Conservation Service Class (c) dams as defined in Soil Conservation Service Technical Release No. 60.*
>
> *B) Class II – Dams located where failure has a moderate probability for causing loss of life or may cause substantial economic loss in excess of that which would naturally occur downstream of the dam if the dam had not failed. A dam has a moderate probability for causing loss of life or substantial economic loss if it is located where its failure may cause additional damage to such structures as a water treatment facility, a sewage treatment facility, a power substation, a city park, a U.S. Route or Illinois Route highway, a railroad or similar type facilities where people are downstream of the dam for only a portion of the day or on a more sporadic basis. This is similar to U.S. Army Corps of Engineers SIGNIFICANT HAZARD POTENTIAL category and the U.S. Soil Conservation Service Class (b) dams.*
>
> *C) Class III – Dams located where failure has low probability for causing loss of life, where there are no permanent structures for human habitation, or minimal economic loss in excess of that which would naturally occur downstream of the dam if the dam had not failed. A dam has a low probability for causing loss of life or minimal economic loss if it is located where its failure may cause additional damage to agricultural fields, timber areas, township roads or similar type areas where people seldom*

are present and where there are few structures. This corresponds to U.S. Army Corps of Engineers LOW HAZARD POTENTIAL category and U.S. Soil Conservation Service Class (a) dams.

4. CLASSIFICATION ANALYSIS

The following information was considered for the hazard potential classification analysis of the CWLP surface impoundments performed by Paul Van Metre, P.E., in October 2016:

4.1 Downstream Conditions

Both the Dallman Ash Pond and Lakeside Ash Pond are immediately adjacent to Sugar Creek. There are no homes, recreational facilities, businesses, roads, or other permanent structures immediately downstream of the impoundments. The floodplain area adjacent to the immediate downstream Sugar Creek is entirely comprised of agricultural fields and timber areas. The closest structures downstream along Sugar Creek from the ash ponds are a pedestrian bridge servicing the Lost Bridge Trail system at more than 4,000 feet downstream from Dallman Ash Pond, and a vehicle bridge for IL Route 29 at more than a mile downstream from Dallman Ash Pond.

4.2 Safety Factor Assessment

A Safety Factor Assessment was performed by AEI for both the Dallman Ash Pond and Lakeside Ash Pond. This assessment included slope stability analyses for critical sections in the surface impoundments, including the constructed berms and underlying soils. Although there is a lack of construction records for the impoundments, conservative parameters derived from published literature, available geotechnical data from subsurface drilling and testing programs, and field surveys were used to assess factors of safety. The assessment concluded that all applicable factors of safety under 257.73(e) for both surface impoundments were exceeded by the results of these analyses.

4.3 Additional Information

The eastern portion of the original Lakeside Ash Pond is incised. The entire ash pond abuts the Lake Springfield dam to the south. The northern portion of the ash pond is separated by a roadway from the Unit 1 landfill and the clarification pond. The only portions of the Lakeside Ash Pond with open downstream slopes are the west dike of the original ash pond and the vertical expansion berms, which were constructed on the east, west and south boundaries of the ash pond.

The entire Dallman Ash Pond is partially incised. Material from the center of the ash pond were excavated and utilized in the construction of the dikes. The Dallman Ash Pond abuts the CWLP landfills to the east and the clarification pond to the south. The only open downstream slopes of the Dallman Ash Pond are on the west and south dikes.

A stability analysis was performed by Testing Service Corporation (TSC) in 1994 for the design of the adjacent Unit 2 Landfill. The landfill is located in the northeastern half of the site which is directly adjacent to the east of the Dallman Ash Pond and north of the Lakeside Ash Pond. This analysis included a review of all of the subsurface studies performed at the site (72 borings in total) as well as five additional borings drilled as part of the stability analysis study. Laboratory testing completed on cohesive soil samples from these five borings included analyses on:

moisture content, in-place dry density, unconfined compressive strength, and Atterberg limits. In addition, one sample was selected for triaxial shear testing, and another for direct shear testing.

The TSC analysis for Unit 2 included an evaluation of settlement and bearing capacity for the foundation, and mass stability for the various excavated and constructed slopes of the landfill. Both static and seismic conditions for short- and long-term scenarios were evaluated using the geologic data acquired from the aforementioned study. The safety factors resulting from these analyses exceeded all requirements for new solid waste landfills in Illinois under 35 Ill. Adm. Code 811.304.

The geologic characteristics at the site were determined via subsurface boring programs related to permitting and monitoring of the landfill units as well as the drilling conducted for the monitoring program currently implemented for the ash impoundments. The geologic characteristics were determined to be consistent throughout the site. The structural characteristics of the soils also apply to the entire site, which includes the ash ponds.

4.4 Hazard Classification

Based on the information presented in this report, there is a low probability of a failure for either unit. In addition, there is a low probability of a failure to cause loss of life, and a failure would cause minimal economic loss. Therefore, both the Dallman Ash Pond and the entire Lakeside Ash Pond qualify as "**Low Hazard Potential CCR Surface Impoundments**" under the qualifications described in Ill. Adm. Code 3702.30(a)(1), quoted in Section 3.

5. STATEMENT

This Initial Hazard Potential Classification Assessment Report for Coal Combustion Residuals Surface Impoundments was completed for CWLP by Andrews Engineering, Inc. in accordance with the requirements under 40 CFR Part 257.73.

Paul M. Van Metre, P.E.

10-14-2016
Date