MEMORANDUM

SUBJECT:	Executive Order 12866 Meeting, "Hazardous and Solid Waste Management System: Disposal of CCR; A Holistic Approach to Closure Part B: Alternate Demonstration for Unlined Surface Impoundments; Implementation of Closure; Legacy Units"
FROM:	Earthjustice
TO:	Office of Information and Regulatory Affairs, Office of Management and Budget; Environmental Protection Agency
DATE:	February 12, 2020

In August 2018, the U.S. Court of Appeals for the D.C. Circuit issued a decision ordering that the 2015 Coal Combustion Residuals ("CCR") Rule¹ be vacated and remanded with respect to the provisions "that permit unlined impoundments to continue receiving coal ash unless they leak, *see* [40 C.F.R.] § 257.101(a), classify 'clay-lined' impoundments as lined, *see* 40 C.F.R. § 257.71(a)(1)(i), and exempt from regulation inactive impoundments at inactive facilities, *see* 40 C.F.R. § 257.50(e)." *Util. Solid Waste Activities Grp. v. EPA*, 901 F.3d 414, 449 (D.C. Cir. 2018).

"CLAY-LINED" SURFACE IMPOUNDMENTS

Before issuing any new proposed rule addressing "Alternate Demonstration[s] for Unlined Surface Impoundments," EPA must ensure "no reasonable probability of adverse effects on health or the environment," as the Resource Conservation and Recovery Act requires. 42 U.S.C. § 6944(a). Information provided by owners/operators in compliance with the 2015 CCR Rule, as assessed by EPA and by Earthjustice, highlights significant risks associated with unlined surface impoundments, including clay-lined surface impoundments.

For example, in a recent memorandum, EPA provided information on 30 surface impoundments certified as "clay lined." *See* EPA, Memo. re: Request for Underlying Data for Exhibits 2-1-A, B, and C of the Regulatory Impact Analysis of the A Holistic Approach to Closure Part A: Deadline to Initiate Closure, Docket ID No. EPA-HQ-OLEM-2019-0172-0044 (Jan. 2020). This information is outlined in the table below. A unit was assumed to be "leaking" if groundwater monitoring efforts had identified either an Appendix III Statistically Significant Increase relative to baseline monitoring ("App. III SSI") or Appendix IV Statistically Significant Levels ("App. IV SSL") without demonstrating an alternative source for the contaminants ("alleged ASD"). EPA, Regulatory Impact Analysis, Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals from Electric Utilities; a Holistic Approach to Closure Part A:

¹ EPA, Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities, 80 Fed. Reg. 21,302 (Apr. 17, 2015).

Deadline to Initiate Closure, Docket ID No. EPA-HQ-OLEM-2019-0172-0016, at 2-7 note b (Oct. 2019).

Of the 25 clay-lined surface impoundments with status designations, 16 of them (or nearly two thirds) are listed as leaking. A majority of these leaking clay-lined surface impoundments were listed as meeting all location restriction requirements.

State	Unit	Unit	NOI to Close	Liner Type	Location	Leaking
	Status	Closed	Posted		Restrictions	Status
IA	Inactive		Yes	Clay Lined	n - NOI	Not Reported
LA	Active		No	Clay Lined	Pass All	Not Leaking
LA	Active		No	Clay Lined	Pass All	Not Leaking
LA	Active		No	Clay Lined	Pass All	Not Leaking
MI	Active		No	Clay Lined	Fail	Leaking
MN	Inactive	Yes	Yes	Clay Lined	n - NOI	Not Reported
MN	Active		No	Clay Lined	Pass All	Leaking
MN	Active		No	Clay Lined	Pass All	Leaking
MN	Active		No	Clay Lined	Fail Aquifer Only	Leaking
ND	Active		Yes	Clay Lined	Pass All	Not Leaking
OH	Active		No	Clay Lined	Pass All	Leaking
OH	Active		No	Clay Lined	Pass All	Leaking
PA	Active		No	Clay Lined	Pass All	Leaking
PA	Active		No	Clay Lined	Pass All	Leaking
PA	Active		No	Clay Lined	Pass All	Leaking
PA	Active		No	Clay Lined	Pass All	Leaking
TX	Active		No	Clay Lined	Pass All	Leaking
TX	Active		No	Clay Lined	Pass All	Leaking
TX	Active		No	Clay Lined	Pass All	Not Reported
TX	Active		No	Clay Lined	Missing All	Not Reported
TX	Active		No	Clay Lined	Missing All	Not Reported
TX	Active		No	Clay Lined	Fail Aquifer Only	Not Leaking
TX	Active		No	Clay Lined	Fail Aquifer Only	Not Leaking
TX	Active		No	Clay Lined	Fail Aquifer Only	Not Leaking
TX	Active		No	Clay Lined	Pass All	Leaking
TX	Active		No	Clay Lined	Pass All	Leaking
TX	Active		No	Clay Lined	Pass All	Leaking
TX	Active		No	Clay Lined	Pass All	Not Leaking
TX	Active		No	Clay Lined	Pass All	Not Leaking
WV	Active		Yes	Clay Lined	Pass All	Leaking

Table 1. EPA Summary of Clay-Lined Surface Impoundment Compliance Information(Collection Effort Completed on July 12, 2019)

Although EPA does not appear to have provided the public with any additional details or analysis related to these clay-lined surface impoundments, Earthjustice is aware of 26 open surface impoundments at 14 plants that are certified as "clay-lined,"² and they may all be causing adverse effects on health or the environment. Of these, many are leaking, and only about five³ are known to be in non-compliance of at least one location restriction. Overall, information posted in compliance with the 2015 CCR Rule related to these units and other units must be reviewed to assess risks associated with unlined surface impoundments.

Name of Plant	Operator	State	"Clay-Lined" CCR	Location	Leaking Status
or Site (link to			Unit	Status of	of "Clay-Lined"
website)				"Clay-	Unit per
				Lined" Unit	Certifications
				per	
				Certifications	
Ames Electric	City of Ames	IA	Surface	Certifications	App. III SSI
Services Power			Impoundments	due April	
<u>Plant</u>			(Notice of Intent to	2020	
			close 12/15/15)		
Brame Energy	CLECO	LA	Bottom Ash Pond		None reported
<u>Center</u>			Fly Ash Pond		None reported
(formerly					
Rodemacher)					
Dolet Hills	CLECO	LA	Ash Basin No. 1		None reported
Power Station					
Boswell Energy	Minnesota Power	MN	Bottom Ash Surface		App. IV SSL
<u>Center</u>			Impoundment		(alleged ASD)
			Unit 3 Impoundment	Failed aquifer	App. IV SSL
				restriction	(alleged ASD)
			Unit 4 Impoundment		App. IV SSL
					(alleged ASD)
Lewis & Clark	Montana-Dakota	MT	Scrubber Pond (East)		App. IV SSL
<u>Station</u>	Utilities Co.		Scrubber Pond (West)		App. IV SSL
Zimmer Power	Luminant	OH	Coal Pile Runoff Pond		App. III SSI
<u>Station</u>	(formerly Dynegy				
	Inc.)		Gypsum Recycle Pond		App. III SSI
Hugo Power		OK	CCR Unit 2 & 3	Failed aquifer	App. III SSI
<u>Station</u>			Surface Impoundment	restriction	(alleged ASD)
	GenOn	PA	Bottom Ash Filter		App. III SSI
			Pond - B (#3283201)		(alleged ASD)

Table 2. Earthjustice Summary of Clay-Lined Surface Impoundment Compliance Certifications

² The liner evaluation and certification reports for these known units are submitted along with this memorandum. The certifications for regulated surface impoundments are available on the publicly accessible owner/operator websites and were also previously submitted to EPA for consideration. *See* Comments of Earthjustice *et al.*, Docket ID No. EPA-HQ-OLEM-2017-0286-1820 (Apr. 27, 2018). ³ According to EPA, "[b]ased on the data on the CCR publicly accessible websites there are 28 active surface impoundments that certified as 'clay-lined'. Of these 28, *seven* failed at least one location restriction" 84 Fed. Reg. 65,941, 65,944 (Dec. 2, 2019) (emphasis added).

Name of Plant	Operator	State	"Clay-Lined" CCR	Location	Leaking Status
or Site (link to	-		Unit	Status of	of "Clay-Lined"
website)				"Clav-	Unit per
,				Lined" Unit	Certifications
				per	
				Certifications	
Conemaugh			Bottom Ash Filter		App. III SSI
Generating			Pond - C (#3283201)		(alleged ASD)
Station			Bottom Ash Filter		App. III SSI
			Pond - D (#3283201)		(alleged ASD)
			Bottom Ash Filter		App. III SSI
			Recycle Pond - A		(alleged ASD)
			(#3283201)		
Big Brown	Luminant	TX	N. Bottom Ash Pond		App. III SSI
Steam Electric	Generation Co.,		S. Bottom Ash Pond		App. III SSI
Station	LLC				
Limestone	NRG	TX	Secondary E Pond		App. III SSI
Electric			Unit (Unit 003)		(alleged ASD)
Generating					-
Station					
Martin Lake	Luminant	TX	Permanent Disposal		App. III SSI
Steam Electric	Generation Co.,		Pond 5		(alleged ASD)
Station	LLC				-
Monticello	Luminant	TX	Northeast Ash Water	Failed aquifer	None reported
Steam Electric	Generation Co.,		Retention Pond	restriction	_
Station	LLC		Southwest Ash	Failed aquifer	None reported
			Settling Pond	restriction	
			West Ash Settling	Failed aquifer	None reported
			Pond	restriction	
Oak Grove	Luminant	TX	FGD-A Pond		App. IV SSL
Steam Electric	Generation Co.,				
<u>Station</u>	LLC				
W.A. Parish	NRG	ΤX	Air Preheater Pond		App. III SSI
Electric					(alleged ASD)
Generating			FGD Emergency Pond		App. III SSI
Station					(alleged ASD)

It is important to note that EPA is aware of significant noncompliance with the 2015 CCR Rule's requirements, as explained in recent comments submitted to the agency. *See* Comments of Earthjustice *et al.*, Docket No. EPA-HQ-OLEM-2019-0172, at 95-107 & related appendix (Jan. 31, 2020) ("Part A Comments"). In other words, the two tables above, which are based on information provided by owners/operators in compliance with the 2015 CCR Rule on compliance websites, offer only a preliminary look at the extent of the leaking and risks associated with clay-lined surface impoundments.

The 2015 CCR Rule requires groundwater monitoring near certain units and prescribes methods for collecting and analyzing groundwater quality data. 40 C.F.R. §§ 257.90-257.98. Among other things, the Rule requires each owner or operator to sample groundwater from "background"

wells, which "represent the quality of background groundwater that has not been affected by leakage from a CCR unit," *id.* § 257.91(a)(1), and to compare groundwater from downgradient wells to these background wells. *Id.* §§ 257.94, 257.95.

These analytical requirements are designed to detect spatial differences in contamination. Yet, many owners and operators are violating these requirements by conducting "intra-well" analyses of groundwater data. An intra-well analysis compares each well to itself over time. This kind of analysis can detect temporal trends – increasing or decreasing contamination – but says nothing about spatial patterns between and among wells. Intra-well analyses are plainly inconsistent with the CCR Rule for the simple reason that they do not compare downgradient groundwater to "background." The only circumstance in which a downgradient well might possibly provide evidence of background groundwater quality is in the case of a new CCR unit, with downgradient wells installed prior to construction. At existing CCR units, however, downgradient wells are not and cannot be background wells.

For example, per owner/operator certifications, the "leaking statuses" for the clay-lined Bottom Ash and Fly Ash Ponds at Cleco's Brame Energy Center are listed as "Not Leaking" in this memorandum's first table (*see* "LA" or Louisiana rows) and as "None Reported" in this memorandum's second table. However, as the comments detailed, the units should be in assessment monitoring. Part A Comments at Appendix to Section XV at 6. While chloride levels in the five wells upgradient of the ash ponds (wells D-1, D-2, D-3, L-1, and L-2) never exceed 20 mg/L, chloride levels in the following wells are consistently higher:⁴

- W-3: 45 to 195 mg/L
- W-19: 44 to 61 mg/L
- W-24: 66 to 175 mg/L

If Cleco were to conduct a proper inter-well analysis, it would find SSIs for chloride, and the site would be in assessment monitoring. *Id.* Instead, Cleco is using intra-well statistics for everything but pH, has not confirmed any SSIs, and has not initiated assessment monitoring.⁵ Cleco is violating the CCR Rule by failing to compare downgradient data to background wells and by failing to initiate assessment monitoring. EPA must properly assess and consider the risks associated with all unlined surface impoundments, like the clay-lined surface impoundments at the Brame Energy Center.

⁴ Cleco Power LLC, 2017 Annual Groundwater Monitoring Report for the Coal Combustion Residuals Rule, Cleco Power LLC Brame Energy Center Bottom Ash Pond and Fly Ash Pond (Jan. 2018).

⁵ Cleco Power LLC, 2018 Annual Groundwater Monitoring Report for the Coal Combustion Residuals Rule, Cleco Power LLC Brame Energy Center Bottom Ash Pond and Fly Ash Pond (Jan. 2019).

INACTIVE IMPOUNDMENTS AT INACTIVE FACILITIES (OR "LEGACY PONDS")

As summarized in the Risk Assessment for the 2015 CCR Rule:⁶

[t]he 2010 Risk Assessment relied on a 1997 Electric Power Research Institute (EPRI) survey to characterize the type, size, design and location of CCR surface impoundments and landfills. However, two more-recent EPA surveys of on-site [Waste Management Units] have since been completed: 2009 Information Request Responses [obtained under Section 104(e) of the Comprehensive Environmental Response, Compensation, and Liability Act] together with Impoundment Assessment Reports, ...; and 2010 Questionnaire for the Steam Electric Power Generating Effluent Guidelines

The data from these EPA surveys are collectively referred to as the "2014 CCR database" in this memorandum.⁷

The 2014 Risk Assessment summarized that there were 218 known surface impoundments discovered to be outside the scope of the 2015 CCR Rule for one of the following reasons: (1) The facility was no longer a coal-fired electric utility according to the 2012 EIA database; (2) The landfill or surface impoundment was found to be inactive or retired; or (3) The surface impoundment was not designed to accumulate CCRs (e.g., cooling water ponds).⁸ The 2014 Risk Assessment does include data collected on the number of coal ash surface impoundments and landfills present at each relevant facility, among other things.⁹ Although the Assessment does not appear to include why each individual unit was originally excluded, EPA has this information and should use it, or other readily available information, to regulate coal ash legacy ponds without any further delay, as required by the D.C. Circuit decision.

https://archive.epa.gov/epawaste/nonhaz/industrial/special/fossil/web/html/index-3.html ("Database Results (Excel) 04-12-12" links to a 2012 spreadsheet of units, referred to as "2012 xlsx" in Table 3); https://archive.epa.gov/epawaste/nonhaz/industrial/special/fossil/web/html/index-4.html ("Summary Table for Impoundment Reports (.xls) - July 31, 2014" links to a 2014 spreadsheet of units, referred to as "2014 xlsx" in Table 3);

see generally EPA, Steam

 ⁶ EPA, Human and Ecological Risk Assessment of Coal Combustion Residuals, Docket ID No. EPA-HQ-RCRA-2009-0640-11993, at 2-6 to 2-8 (Dec. 2014) ("2014 Risk Assessment") (footnotes omitted).
 ⁷ EPA, Information Request Responses from Electric Utilities,

Electric Power Generating Effluent Guidelines Questionnaire, <u>https://www.epa.gov/eg/steam-electricpower-generating-effluent-guidelines-questionnaire</u>

⁽includes response database). The fields and entries in the database were extracted and made available online in PDF and Microsoft Excel spreadsheets. The Web archive includes additional information, including extensive expert reports based on visual assessments of sites, interviews with site personnel, and, when available, reviews of geotechnical reports, studies related to the design, construction and operation of those impoundments, and past state and federal inspections of the impoundments. ⁸ 2014 Risk Assessment at 4-16.

⁹ *Id.* at Attachment A-1.

As explained in the D.C. Circuit, EPA's "asserted difficulty in locating the owners or operators responsible for legacy ponds does not hold water." In other words, "EPA knows where existing legacy ponds are and, with that and other information, the EPA already is aware of or can feasibly identify the responsible parties."¹⁰ Although this memorandum does not aim to memorialize the full or confirmed universe of legacy ponds, it presents preliminary research to demonstrate that information regarding potential legacy ponds is readily available and has been known for over a decade.

To identify facilities that may have legacy units that must be regulated, Earthjustice compared facility level information in the 2014 Risk Assessment with the facilities now regulated by the 2015 CCR Rule.¹¹ Based on publicly available information, there are potentially legacy ponds and landfills at around 100 sites. Looking at legacy ponds specifically, Table 3 below includes a list of 75 sites with 193 potential legacy ponds.

In addition, Earthjustice compared this information with the publicly available spreadsheets related to the 2014 CCR database. These spreadsheets confirm that EPA had detailed information about units, including the *names and mailing addresses* of the last known owners or operators, for over half of the potential sites identified, or 45 of the 75. In addition, EPA had the names of the last known owners and operators and additional details for an additional 8 sites in the 2014 CCR database. For the last remaining 24 potential sites, many common resources, like the U.S. Energy Information Administration Monthly Electric Generator Inventory ("EIA 860M"), can be used to help identify related owners and operators.

Legacy ponds at a number of the plants and sites listed in this document have already been documented to have caused harm to health and the environment. In addition, many of the legacy ponds are known to present serious risks. For example, the Vermilion legacy ash ponds sit on the banks of the Middle Fork of the Vermilion river, Illinois' only National Scenic River, in an area frequented by kayakers and tubers. The river is quickly and significantly eroding its banks, posing the risk that the ash ponds will collapse, and the ponds are known to be leaking.

It is past due for EPA to protect communities near dozens of known legacy coal ash ponds by requiring them to meet the CCR Rule's standards as quickly as possible.

¹⁰ Util. Solid Waste Activities Grp., 901 F.3d at 433 (citing 2014 CCR database, in part).

¹¹ EPA, List of Publicly Accessible Internet Sites Hosting Compliance Data and Information Required by the Disposal of Coal Combustion Residuals Rule, <u>https://www.epa.gov/coalash/list-publiclyaccessible-internet-sites-hosting-compliance-data-and-information-required</u>.

Table 3. Preliminary information on plants appearing in the 2014 Risk Assessment which (1) do not appear to have regulated coal ash units and (2) have or potentially have legacy surface impoundments.

	# of SIg	# of I Fa			Example of Readily	Example
Potential Plant or Site	# 01 515	# OI LFS	City (A-1) ¹²		available Operator	Information
	(A-1)	(A-1)			Information	Source
Greene County	1	0	Forkland	AL	Alabama Power Co	2012 xlsx
					Tennessee Valley	
Widows Creek	12	0	Stevenson	AL	Authority	2012 xlsx
Arapahoe	6	0	Denver	СО	Xcel Energy	2012 xlsx
Cameo	2	0	Palisade	CO	Xcel Energy	2012 xlsx
					Tri-State G & T Assn	
Craig	2	1	Craig	СО	Inc	2012 xlsx
NRG Energy Center					NRG Energy Center	
Dover	1	0	Dover	DE	Dover, LLC	2012 xlsx
Scholz	3	0	Sneads	FL	Gulf Power Co	2014 xlsx
Mitchell (GA)	3	0	Albany	GA	Georgia Power Co	2012 xlsx
		0	Milledgevill	0.11		2012 11011
Harllee Branch	5	0	e	GA	Georgia Power Co	2012 xlsx
	5	0	Cedar	011	Georgia i ower eo	2012 ABA
Sixth Street	4	0	Rapids	IA	Alliant Energy	2012 xlsx
Dubuque	1	0	Dubuque	IA	Alliant Energy	2012 xlsx
Dubuque	1	0	Dubuque	17.1	Central Iowa Power	2012 AISA
Fair Station	2	1	Muscatine	IA	Cooperative	FIA 860M
Meredosia (*may be	2	1	Widseattlie	17.1	cooperative	LIN OOOM
undergoing closure in					Ameron Energy	
nlace)	2	0	Maradosia	п	Generating Co	2012 yley
Pearl Station (*may be	2	0	Wieredosia	112	Ocherating Co	2012 AISA
closed in place)	1	0	Pearl	п	Prairie Power Inc	2014 ylsy
elosed in place)	1	0	1 carr	112	Dynagy Midwast	2014 AISA
Vermilion	2	1	Oakwood	п	Generation Inc	2012 xlsx
Crawford (*may have	2	1	Oakwood	112	Midwest Generations	2012 AISA
been excepted)	1	0	Chicago	п	FMELLC	EIA 860M
been excavated)	1	0	Cineago	112	Midwest Generations	
Fisk	3	0	Chicago	п	FMF LLC	FIA 860M
Hutsonville (*may have	5	0	Cineago	112	Ameren Energy	
been closed in place)	4	0	Hutsonville	п	Generating Co	2012 yley
Edwardsport	+ 2	1	Edwardsport	IL	Duka Energy Corn	2012 AISA
Edwardsport	2	1	Edwardsport	11 N	Hoosier Energy DE	2012 XISX
Fronk F. Dotto	Q	0	Dotorsburg	IN	C Inc	$2012 {\rm ylev}$
TTallK E. Katts	0	0	retersourg	11 N	Vortharn Indiana Dub	2012 XISX
Doon H Mitcholl	Q	0	Corry	IN	Sorv Co	$2012 {\rm ylev}$
Dean II Mitchell	0	0	Lauranaahu	11 N	American Electric	2012 XISX
Tannars Craak	5	1	ra	IN	Power	$2012 {\rm ylev}$
	5	1	Ig	11 N	ACC Division of	2012 XISX
Warrick Power Plant	1	0	Nowburgh	IN	AGC DIVISION OF	ELA 860M
Warnek Fower Flain	1	0	Newburgh	11 N	Empire District	LIA 000M
Divorton	1	0	Divorton	KG	Elliptic District	2012 ylay
Dala Station (*******	1	0	Kiventon	L2		2012 XISX
Date Station ("ponds					Fast Kantualar Dorrer	
may be undergoing	2	0	Winghaster	WW	Coop Inc	2012
closure by excavation)	5	0	winchester	ĽΥ	Coop Inc	2012 XISX

¹² Longitudes and Latitudes for each plant or site are readily available in the 2014 Risk Assessment.

Potential Plant or Site	# of SIs	# of LFs	City $(A-1)^{12}$		Example of Readily available Operator	Example Information
i otentiai i iant or Site	(A-1)	(A-1)	Chy (A-1)		Information	Source
Green River	5	0	Central City	KY	Kentucky Utilities Co	2012 xlsx
					Big Rivers/Western	
					Kentucky Energy	
Kenneth C Coleman	3	0	Hawesville	KY	Corp	2012 xlsx
Tyrone	2	0	Versailles	KY	Kentucky Utilities Co	2012 xlsx
					First Light Power	
Mount Tom	3	1	Holyoke	MA	Resources	2012 xlsx
					NRG Somerset	
Somerset Station	4	0	Somerset	MA	Power LLC	2012 xlsx
R. Paul Smith Power			Williamspor		Allegheny Energy	
Station	2	1	t	MD	Supply Co LLC	2012 xlsx
					Lansing Board of	
Erickson Station	1	0	Lansing	MI	Water & Light	2012 xlsx
Harbor Beach Power			Harbor		DTE Electric	
Plant	1	0	Beach	MI	Company	EIA 860M
					Lansing Board of	
Otto E. Eckert Station	1	0	Lansing	MI	Water and Light	EIA 860M
					Northern States	
Riverside	1	0	Minneapolis	MN	Power Co	2012 xlsx
					Kansas City Power &	
Lake Road	2	1	St. Joseph	MO	Light Co	2012 xlsx
					Central Electric	
Chamois Power Plant	1	0	Chamois	MO	Power Coop - (MO)	EIA 860M
					Kansas City Power &	
Hawthorn	1	1	Kansas City	MO	Light Co	2012 xlsx
JE Corette Plant	2	1	Billings	MT	Talen Montana LLC	EIA 860M
Cape Fear Steam						
Electric Plant (*to be	_				Progress Energy	
closed by excavation)	5	0	Moncure	NC	Carolinas Inc	2012 xlsx
					Greenidge	
~	_				Generation Holdings	
Greenidge	2	1	Dresden	NY	LLC	EIA 860M
		0		011	American Electric	2012 1
Muskingum River	4	0	Waterford	OH	Power	2012 xIsx
	2	0		011	Dayton Power &	2012 1
O H Hutchings	3	0	Miamisburg	OH	Light Co	2012 XISX
D' a c	1	0	T 1 1	OII	American Electric	2012 1
Picway	1	0	Lockbourne	OH	Power	2012 XISX
Walter C Deal is al	4	2	New	OII		2012 1
Walter C Beckjord	4	2	Richmond	OH	Duke Energy Corp	2012 XISX
A shéshala	1	0	Ashtabula	OU	FirstEnergy	ELA SCOM
Ashtabula	1	0	Township	UH	Generation Corp	EIA 800M
A	2	1	A		GenOn Power	
Avon Lake	2	1	Avon Lake	OH	Midwest, LP	EIA 860M
Bay Shore	1	1	Oregon	OH	Walleye Power, LLC	EIA 860M
Fastlaha	1	1	Eastlal		FirstEnergy	ELA SCOM
Еазпаке	1	1	Eastiake	OH	Generation Corp	EIA 800M
Lalas Chana	1	0	Classificat		FirstEnergy	
Lake Shore	1	0	Cieveland	OH	Generation Corp	EIA 800IVI
D E Durraam	2	1	Shedre: 1-		FirstEnergy	ELA SCOM
R. E. Durger	2	1	Shadyside	UH	Generation Corp	LIA 800M

Potential Plant or Site	# of SIs	# of LFs	$City (A 1)^{12}$		Example of Readily	Example Information
rotential riant of Site	(A-1)	(A-1)	City (A-1)		Information	Source
					Oklahoma Gas &	Source
Sooper	2	0	Pad Pack	OK	Electric Co	ELA 860M
500101	2	0	KCU KOCK	OK	NPG Power Midwest	
Elromo Dowor Diont	4	1	Elromo	DA	I D	2014 ylay
Ellana rowel rian	4	1	Hunlook	ГА	LF LICI Development	2014 XISX
Humlook Down Station	2	0	Greek	DA	Company	2012 ylay
Shoundle	<u> </u>	0	Cleek			2012 XISX
Shawvine	4	2	Shawville	rA	Support Constant	2014 XISX
Suphury Constian I.D.	1	0	Dom	DA		2012 ylay
Dortland	1	0	Dalli Mt. Dathal	PA	LP ConOn DEMA LLC	
Portland	3	4	Mt. Bethei	PA	GenOn KEMA, LLC	EIA 800M
(*undergoing elecure					South Carolina	
(¹ undergoing closure	2	0	Canadys	SC	Floatrich Gos Co	2012 ylay
Dolphus M Grainger	5	0	Calladys	sc	Santaa Cooper (South	2012 XISX
(*undergoing elegure					Carolina Pub Sorry	
(* undergoing closure	2	0	Conway	SC	Auth)	$2012 {\rm ylev}$
	2	0	Collway	sc	Auti) Santaa Coopar (South	2012 XISX
Laffarias (*undargaing			Monaka		Carolina Pub Saru	
closure by exception)	2	0	Corner	SC	Auth)	2012 yley
closure by excavation)	2	0	Corner	sc	Auui) Diask Hills Dower	2012 XISX
Bon Franch	1	0	Panid City	SD	Inc. d/b/a	ELA 860M
Carbon Dowar Dlant	1	0	Halpar		DecifiCorp	Online seerch
Carbon Fower Flain	2	2	Helpel	01	American Electric	Omme search
Clan Lyn	2	1	Glon Lyn	VΛ	American Elecurc	2014 yley
Hopowall	<u> </u>	1	Hopowall	VA VA	Dominion Energy	Online search
Pow Front	1	0	Achland	VA WI	Vool Eporgy	2014 ylay
WI Dower & Light Co	2	2	Asilialiu	VV I	Acei Ellergy	2014 XISX
Pock Piver Constraint	4	0	Baloit	WI	Allight Energy	2014 yley
Kock River Generating	4	0	Deloit	**1	Wisconsin Public	2014 AISA
Dulliam	1	1	Green Bay	WI	Service Corp	EIA 860M
Albright Power Station	2	2	Albright	WV	First Energy Corn	2014 ylsy
Alonghi I Ower Station	2	2	Albright	** *	American Electric	2014 AISA
Philip Sporn	2	1	New Haven	WV	Power	2012 yley
	2	1		** *	American	2012 AISA
Grant Town Power					Rituminous Power	
Plant	5	3	GrantTown	WV	I P	FIA 860M
	5	5	GrantTown	** *	American Electric	
Kammer	1	0	Moundsville	WV	Power	2012 ylsy
Kammer	1	0	Wouldsville	** *	American Electric	2012 AISA
Kanawha River	1	0	Glasgow	WV	Power	2012 xlsx
Rivesville Power	1		514550 1	,, ,	Monongahela Power	2012 AISA
Station	4	2	Rivesville	WV	Co	EIA 860M
Wyodak Plant	1	1	Gillette	WV	PacifiCorp	2012 xlev
•• youak i iant	1	1	Oneue		Black Hills Power	2012 1151
Osage	2	2	Osage	WY	Inc. d/b/a	EIA 860M
75	102	/1	00050	1 1	me. u/ 0/ u	
13	193	41				

Table 4. Notes regarding facilities listed in the 2014 Risk Assessment but omitted from Table 3.

	"The Calaveras Power Station includes two coal plants stations near San
	Antonio, operated by CPS Energy, the municipal utility serving San Antonio.
	The two plants, known as J.T. Deely and J.K. Spruce, share a common set of coal
	ash storage and disposal units. For purposes of the Coal Ash Rule, CPS Energy is
J K Spruce and J T Deely	monitoring four coal ash units."
	"JEA's Northside Generating Station ("NGS"), located in Duval County,
	Jacksonville, Florida, consists of three electric generation units that use a
	combination of natural gas, petroleum coke and coal to produce more than 1,300
	megawatts of peak electric capacity. Combustion residuals at the NGS are
	generated primarily from the combustion of fuels (including other fossil fuels)
Northside Generating	other than coal. The CCR Rule, therefore, does not apply to the management of
Station	byproducts and other combustion residuals at the NGS. (40 C.F.R. 257.50(f))"
Martin Drake	Appears to be covered by the regulated Clear Spring Ranch Landfill
Ray D Nixon	Appears to be covered by the regulated Clear Spring Ranch Landfill
	"If not otherwise beneficially reused, the Brandon Shores Generating Station
	sends CCR materials to the Fort Armistead Road - Lot 15 Industrial Landfill, also
	owned and managed by Raven Power, a wholly owned subsidiary of Talen
Brandon Shores	Energy."
	Appears that coal ash generated at the San Juan Generating Station may be
	returned to the adjacent mines for use in reclamation, and that the station may not
San Juan	have or utilize ash impoundments or landfills.
Southwest Power Station	Appears to have been the John Twitty Energy Center
Urquhart	Appears to be excavated
McMeekin	Appears to be excavated
	"The plant is retired, and the ash pond was removed prior to the effective date of
Kraft	the CCR rule."
Riverbend	Appears to be excavated

Although there are additional plants and sites that may have legacy surface impoundments that do not appear to be listed in the 2014 Risk Assessment and may still need to be regulated, such as Watts Bar Fossil Plant, Arkwright Power Plant, or Venice Station, EPA should not delay regulating known sites to identify potential additions.

Potential Plant or Site	# of SIs (A-1)	# of LFs (A-1)	City (A-1)	State (A-1)
Polk	0	1	Mulberry	FL
Earl F Wisdom	0	1	Spencer	IA
Streeter Station	0	1	Cedar Falls	IA
Quindaro	0	1	Kansas City	KS
Chalk Point LLC	0	2	Aquasco	MD
Morgantown				
Generating Plant	0	2	Newburg	MD
Allen S King	0	1	Bayport	MN
Taconite Harbor				
Energy Center	0	3	Schroeder	MN
Schiller	0	1	Portsmouth	NH
Danskammer				
Generating Station	0	1	Newburgh	NY
Armstrong Power				
Station	0	2	Adrian	PA
Foster Wheeler Mt				
Carmel Cogen	0	1	Marion Heights	PA
Titus	0	4	Birdsboro	PA
WPS Westwood				
Generation, LLC	0	1	Tremont	PA
Harrington	0	2	Amarillo	TX
Tolk	0	1	Sudan	TX
Genoa	0	2	Genoa	WI
John P. Madgett	0	2	Alma	WI
South Oak Creek	0	3	Oak Creek	WI
Valley	0	4	Milwaukee	WI
Willow Island	0	1	Willow Island	WV
21	0	37		

 Table 5. Other Facilities with Potential Legacy Waste (Landfills)

The numerous damage case reports prepared by EPA and by public interest organizations include evidence of the risks legacy ponds represent.¹³ EPA noted in promulgating the 2015 CCR Rule that "[d]amage cases generally provide extremely potent evidence in hazardous waste listings," and that the number of damage cases collected for coal ash up to 2014 was "by far the largest number of documented cases in the history of the RCRA program."¹⁴ Table 6 provides a summary of damage cases at sites that are not currently regulated by the 2015 CCR Rule and that included at least one surface impoundment.

Table 6. *Excerpt from Damage Case Database* – EPA's confirmed damage cases demonstrate the risks posed by coal ash waste, and many damages cases likely involved legacy ponds that could still be present and unregulated today.

#	Facility		Waste Unit Type	Year Damage Noted	Failure Mode	Status identified in 2014
PTa02	Widows Creek Fossil Fuel Plant, TVA	AL	3 major SIs (ash pond, gypsum pond, and gypsum settling pond) and several minor (de-minimis) ponds.	Early 1990s	GW (SW: 1/2009 gypsum pond spill killed fish; \$9.2 million in cleanup; declared FONSI).	Active
PTb03	Montville Generating Station - NRG Energy/Montville Power	СТ	Several primary coal ash settling ponds and disposal lagoon (active until 1971, when plant switched to oil) - implicated; and 3 unregulated, off site dumping areas.	SW: Late 1960s	GW & SW; Soil	Inactive (Plant switched fuel to oil)
PTa04	Lansing Smith Plant - Florida Power & Light	FL	A Primary SI (with 3 cells)	Pre-1985	GW	Active
None	Meredosia Power Station Ash Ponds - Ameren Energy Generating Company	IL	2 active SIs (Fly Ash pond and Bottom Ash pond); three inactive Sis (Fly Ash, Bottom Ash, ?).	2010	GW	Some active, some inactive
PTa10	Vermillion Power Station - Illinois Power (Dynegy Midwest)	IL	3 multi-cell Primary SIs - one active, two closed (one in the mid- 1970s and the other converted, in 1988, into a stormwater pond); and a cooling pond. Impact associated w/at least one of the two closed SIs.	Pre-2000	GW	Inactive

¹³ See Alexander Livnat, U.S. Environmental Protection Agency, CCR Damage Case Database, Technical Support Document on Damage Cases, Docket ID No. EPA-HQ-RCRA-2009-0640-12123 (Dec. 18, 2014) ("Damage Case Database"); Environmental Integrity Project and Earthjustice, Coming Clean: What the EPA Knows About the Dangers of Coal Ash (May 2009),

https://earthjustice.org/sites/default/files/library/reports/final-coming-clean-ejeip-report-20090507.pdf; Environmental Integrity Project and Earthjustice, Out of Control: Mounting Damages from Coal Ash Waste Sites (Feb. 24, 2010), <u>https://earthjustice.org/sites/default/files/library/reports/ej-eipreportout-ofcontrol-final.pdf</u>; Environmental Integrity Project, Earthjustice, and Sierra Club, In Harm's Way: Lack of Federal Coal Ash Regulations Endangers Americans And Their Environment (Aug. 26, 2010), <u>https://earthjustice.org/sites/default/files/files/report-in-harms-way.pdf</u>.

¹⁴ 80 Fed. Reg. at 21,452.

#	Facility		Waste Unit Type	Year Damage Noted	Failure Mode	Status identified in 2014
PTa08	Hutsonville Power Station - Central Illinois Public Service Co. (Ameren)	IL	Five Primary SIs, one of which (Pond D) is assoc. w/impact (closed in 2000, partially replaced by a LF).	Pre-2000 (as early as mid-1980s)	GW	Plant retired end of 2011. Closure of Pond D completed 1/2013.
PTb11	Venice Power Station – Union Electric/Ameren/Am erenUE	IL	3 Primary SIs (implicated; stopped receiving CCR in 1977, but kept receiving process wastewater till 2005), closed 2010.	1996	GW	Inactive. Plant retired.
PTb23	Mirant Dickerson's Generation Station's Westland Disposal Site	MD	1 LF (comprising one closed and one active phase); 2 settling/ leachate treatment ponds.	2005 (unauthorized discharges)	GW & SW	Active. NRG, new owner, plans to switch the Dickerson Plant from coal to oil or have it retired in mid- 2017.
PTb34	Cape Fear Steam Plant – Progress Energy	NC	5 unlined SIs: one Primary (active until plant's retirement); two ponds for stormwater management; and 2 inactive ponds. Inadequate info to pin point down specific source term.	2007	GW	Some Active, some not (prior to Plant's retirement in 10/2012).
PTa29	W.J. Neal Plant - Basin Electric	ND	Unlined Primary SI, closed since late 1980s.	1982	GW & SW; Sediments	Inactive (closed) 1989/90.
PTa30	Beckjord Station - Cinergy W.C.	OH	3 Primary (unlined) SIs, one of which is active.	1985	GW	Active/ modified
PTb41	Muskingum River Plant – AEP/Ohio Power	ОН	4 Primary, ulined SIs - one is implicated.	2005	GW	Active. Generation Units 1-4 to retire by Dec. 31, 2014, while Unit 5 might be then switched to natural gas.
PTb43	Phillips Power Plant – Duquesne Light Co.	PA	LF (FGD); 2 (unlined) wastewater treatment lagoons (implicated). All WUs closed (the ponds were clean- closed).	SIs: Late 1980s; LF: mid-1990s	GW & SW	Inactive; early and late-1990s. Plant decommissioned 2002, demolished 2011/2012.
PTb44	Hunlock Power Station – UGI Development Co.	PA	2 unlined SIs, operated until Plant's decommissioning (2010), implicated.	1999	GW	Inactive. As of 5/22/2010, the Hunlock PP is no longer operative, including all associated disposal activities.
PTb46	Portland Generating Station's Bangor Quarry Ash Disposal Site – RRI Energy, Inc	PA	LF in a quarry, lined above existing ash only in 1999 (implicated); 2 Secondary Ponds: Stormwater sedimentation pond & leachate collection pond (NPDES-regulated outfalls)	GW: 2001; SW: 2006	GW & SW	Active. Plant slated to close in January 2015.
None	McMeekin Station Ash Landfill and Ponds - South Carolina Electric & Gas Company (SCANA)	SC	LF and 3 SIs.	2005	GW	Active

#	Facility		Waste Unit Type	Year Damage Noted	Failure Mode	Status identified in 2014
PTb48	Dolphus M. Grainger Generating Station - South Carolina Public Service Authority	SC	2 Primary, unlined SIs, one of which had been converted (1977) into dry ash storage area prior to the recent retirement of the Plant. At least one of the SIs is implicated.	1996	GW & SW	Inactive: the Plant shut down operation in May 2012.
PTb54	Fayette Power Project (Sam Seymour) – Lower Colorado River Authority	TX	2 Primary SIs (at least one implicated), coal pile runoff pond, 2,400-acre cooling lake, 1 CCR (FGD) LF and 1 Class II Sanitary LF.	2005	GW	Pond closed; LF Active
PTa41	Rock River Ash Disposal Facility - Alliant (WP&L)	WI	4 Primary ponds (discontinued in 2000, but not yet closed).	1976-1977	GW	Inactive (decommissione d: 2000)
PTa34	Alma Off-site Fly Ash Landfill - Dairyland Power	WI	One Primary SI, converted to LF in 1995. The current, lined LF not implicated.	Pre-1993	GW	Some Active, some not
PR06	Morgantwon Faulkner Offsite Landfill, PEPCO (Mirant, GenOn, NRG)	MD	3 LFs & 3 associated sets of stormwater/ leachate management ponds (implicated); artificial wetland.	1991	GW & SW; Ecol (veget. Damage)	Closed (2010)
PR20	Fern Valley Landfill, Orion Power Holdings	PA	LF (implicated) with a leachate collection/storm water pond.	1995	GW, SW, ecologic	Inactive/2007
PR22	Martins Creek Power Plant, PPL	PA	4 SI: two closed (# 2 &3); one retired during the spill and partially closed since 1999, and completely closed afterwards (# 1, implicated in GW impact), and one active during spill (# 4, implicated in dike breach) subsequently decommissioned.	2005	GW, SW	All four basins are inactive. Plant's 2 coal- fired units closed 2007 (demolished 2009) due to air pollution impacts on New Jersey.
PR23	Canadys Plant, SCE&G	SC	2 Primary SIs. Old pond deactivated 1989 and a new one kicked in (both implicated). Also, waste water treatment ponds (i.e., Coal pile runoff basins #1 and #2, coal pile runoff detention basin, low-volume waste ponds A, B, and C, and spray pond.	1982 2008	GW	Inactive since Plant's closure (Nov. 2013)
PR25	Urquhart Station, SCE&G	SC	LF & SIs (2 Settling basins, receiving only small amount of fly ash and stormwater, and dredged every 12-18 months - implicated). Also, wastewater treatment ponds (i.e., metals pond, low-volume waste pond, ash-landfill runoff basin, low-volume waste polishing pond, and stormwater runoff pond.)	1989; 2007	GW, Soil	Active
PR27	Oak Ridge Y-12 OU# 2, DOE	TN	Ash retention SI and an abandoned (Lst.?) quarry. Presently LF (not implicated).	1989	SW/Ecol, GW	Inactive
PR34	Chisman Creek, VEPCO	VA	4 (now abandoned) sand and gravel pits and three man-made ponds.	1980	GW & SW	Inactive/1974. One (out of two) coal-fired unit would likely close by 2015 and a second unit would likely be converted to natural gas.

#	Facility		Waste Unit Type	Year Damage Noted	Failure Mode	Status identified in 2014
PR40	E.J. Stoneman, Dairyland Power	WI	Primary SI	1976	GW	Inactive. Plant recently converted into a biomass-fueled facility.