

ORAL ARGUMENT NOT YET SCHEDULED

**UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT**

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WATERKEEPER ALLIANCE, INC., <i>et al.</i> ,)	
)	
Petitioners,)	
)	
)	No. 18-1289
v.)	
)	
U.S. ENVIRONMENTAL PROTECTION)	
AGENCY, <i>et al.</i> ,)	
)	
Respondents.)	
<hr/>)	

**RESPONSE OF UTILITY SOLID WASTE ACTIVITIES GROUP
AND LUMINANT/DYNEGY COMPANIES IN SUPPORT OF
RESPONDENTS' MOTION FOR VOLUNTARY REMAND
WITHOUT VACATUR AND IN OPPOSITION TO PETITIONERS'
MOTION FOR PARTIAL STAY OR, IN THE ALTERNATIVE, FOR
PARTIAL SUMMARY VACATUR**

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Intervenor-Respondents the Utility Solid Waste Activities Group (“USWAG”) and the Luminant/Dynegy Companies¹ file this response in support of Respondents’ Motion for Voluntary Remand Without Vacatur and in opposition to Petitioners’ Motion for Partial Stay or Partial Summary Vacatur.

INTRODUCTION

Remand *without vacatur*—to allow the Environmental Protection Agency (“EPA”) to address this Court’s intervening decision in *USWAG v. EPA*, 901 F.3d 414 (D.C. Cir. 2018)—is the only responsible and appropriate path forward in this case. Doing so would permit EPA to issue a rule implementing this Court’s holding that the record before EPA did not support a rule authorizing unlined surface impoundments containing coal combustion residuals (“CCR”) to operate indefinitely, and to do so in an orderly fashion that preserves the reliability of the electric power grid and ensures public safety. In contrast, summarily vacating or staying the rule, as Petitioners request, would cause regulatory uncertainty and significant disruption to the Nation’s power supply and thus is wholly irresponsible and unnecessary. Petitioners have not met the high burden for such drastic relief.

¹ The individual Luminant/Dynegy Companies listed in the signature block of this response collectively own and/or operate 28 active electric generating units at 14 coal-fueled power plants in Illinois, Ohio, and Texas. Vodopivec Decl. ¶18.

BACKGROUND

The regulation at issue in this case provides for a very limited—but critical—additional amount of time for power plants to cease placing CCR and non-CCR wastestreams in unlined surface impoundments and initiate permanent closure of those units. When promulgated in 2015, the original CCR rule provided power plants only six months to initiate closure of impoundments that triggered forced closure due to failure to meet certain of the rule’s requirements. *See* 80 Fed. Reg. 21,302, 21,490 (Apr. 17, 2015), 40 C.F.R. § 257.101(a), (b). But the original timeframe proved to be overly-aggressive and insufficient in light of the major operational changes required to develop alternative disposal capacity for both types of wastestreams.

This practical reality was brought to EPA’s attention, both in meetings and in follow-up correspondence. *See* Roewer Decl. ¶¶ 4-5. USWAG, for example, explained that the amount of time needed to develop alternative capacity for the wastestreams managed in these units was significantly longer than six months, and in fact could take as long as seven years. *Id.* ¶ 7. This timing issue was particularly problematic for non-CCR wastestreams (such as boiler and cooling water blowdown) because non-CCR wastestreams are varied in nature and can exceed the volume of CCR wastestreams, meaning that implementation of alternative capacity can be more complex. While EPA recognized that CCR

impoundments are often used to manage non-CCR wastestreams, it did not take this into account when initially setting the deadline for initiating closure.

In the rule at issue here, EPA addressed this problem by extending the deadline for initiating closure to no later than October 31, 2020—an additional 18 months—for impoundments subject to closure due to groundwater contamination or failure to meet the rule’s aquifer location restriction. 83 Fed. Reg. 36,435 (July 30, 2018) (the “Phase 1 rule”). USWAG, the Luminant/Dynegy Companies, and others raised this issue to EPA in their comments on the proposed rule. Roewer Decl. ¶¶ 11-14; Vodopivec Decl. ¶ 15. In response, EPA acknowledged that “legitimate concerns have been raised about the feasibility of complying with the current closure timeframes” given the time necessary to develop alternative disposal capacity, and that these concerns are “shared by facilities across the industry.” 83 Fed. Reg. at 36,441. All other closure and corrective action elements of the CCR rule remained unchanged.

After promulgation of the Phase 1 rule, this Court issued its decision in *USWAG*, the litigation arising from petitions for review of the 2015 CCR rule. In *USWAG*, the Court found the rule was arbitrary and capricious in allowing unlined impoundments to operate indefinitely unless and until an exceedance of a groundwater protection standard is detected under the rule’s groundwater monitoring program. *USWAG*, 901 F.3d at 449. This portion of the *USWAG*

decision involves the very provision—40 C.F.R. § 257.101(a)—containing one of the new closure deadlines promulgated in the Phase 1 rule. *Id.* The Court also vacated 40 C.F.R. § 257.71(a)(1)(i), which classified clay-lined impoundments as “lined” for purposes of the rule. *Id.* The *USWAG* decision did not address the October 31, 2020 closure deadline (as that rule was not before the Court) or the timeframe for unlined impoundments (including clay-lined impoundments) to initiate closure. Instead, it remanded these provisions to EPA for it to write a rule that comports with the Court’s decision.

ARGUMENT

The Phase 1 rule should be remanded to EPA *without vacatur*. EPA has stated that the *USWAG* decision warrants further consideration of the rule at issue here. *See* Resp. Mot. at 2. EPA should be given the opportunity to reevaluate the rule and write a regulation consistent with this Court’s remand instructions in *USWAG* to allow for closure in an orderly manner that does not threaten the reliability of the Nation’s power supply.

Most critically, the Phase 1 rule—which establishes the present regulatory deadlines for initiating closure—should remain in place during the remand proceedings to provide regulatory certainty. The law cannot compel the impossible. *See USWAG*, 901 F.3d at 448 (acknowledging the rule’s regulatory accommodation to avoid “forc[ing] facilities to close and create power shortages”);

see also Hughey v. JMS Development Corp., 78 F.3d 1523, 1529 (11th Cir. 1996) (explaining that “[o]ur jurisprudence has eschewed the rigid application of a law where doing so produces impossible, absurd, or unjust results”). But impossibility is precisely what power plants across the country would face if forced to immediately cease placing wastestreams into unlined CCR surface impoundments, which EPA states would be the case upon vacatur of the Phase 1 rule. Resp. Mot. at 2. Without time to develop alternative disposal capacity for the wastestreams generated during power plant operations, operators will face the untenable choice of either ceasing power production—with the attendant risks to power reliability for regions across the country—or continuing to place wastestreams in units that EPA says are required to immediately close. The Court should not subject regulated entities to this Hobson’s choice. Under these circumstances, remand of the Phase 1 rule *without vacatur* is the only appropriate path forward.

Petitioners, who would prefer regulatory chaos over an orderly and responsible transition to a new regulatory regime post-*USWAG*, have not and cannot meet the high threshold for a stay or summary vacatur of the Phase 1 rule’s limited extension for initiating closure. Not only do they mischaracterize this Court’s holding in *USWAG* and its corresponding impact on the October 31, 2020 closure deadline, they grossly understate the significant harm of a stay or vacatur to the power sector and ignore altogether the real risks to power reliability caused

by unplanned and abrupt cessation of power generation and the attendant safety risks to the public. Petitioners' motion for partial vacatur or stay of the Phase 1 rule should thus be denied.

I. The Court should remand the Phase 1 rule without vacatur to avoid severe disruptive effects to the Nation's power supply and public safety.

When considering whether remand without vacatur is appropriate, this Court considers two factors: (1) “the seriousness of the order’s deficiencies (and thus the extent of doubt whether the agency chose correctly)”; and (2) “the disruptive consequences of an interim change that may itself be changed.” *Allied-Signal, Inc. v. NRC*, 988 F.2d 146, 150-51 (D.C. Cir. 1993) (internal quotations omitted). Under the first factor, remand without vacatur is appropriate where “[i]t is conceivable that the [agency] may be able to explain” its rationale. *Id.* at 151. Under the second factor, remand without vacatur is appropriate where vacatur “would be unnecessarily disruptive to the [relevant] industries.” *Am. Water Works Ass’n v. EPA*, 40 F.3d 1266, 1273 (D.C. Cir. 1994); *see also Minnesota v. NRC*, 602 F.2d 412, 418 (D.C. Cir. 1979) (remanding without vacatur because vacatur or stay “would effectively shut down the plants”). Either factor alone can justify remanding a rule without vacatur. *See, e.g., North Carolina v. EPA*, 550 F.3d 1176, 1178 (D.C. Cir. 2008) (per curiam).

Here, both factors are met. On remand, EPA may be able to explain or revise the Phase 1 rule in a manner consistent with the holding in *USWAG* that the

rule authorizing unlined CCR impoundments to continue to operate indefinitely was arbitrary and capricious. More critically, remand of the rule without vacatur is the only remedy that will avoid significant disruption to the electric utility industry and the risks to the public associated with lack of power reliability.

A. Power plants cannot operate if there is no place to manage the waste produced during power generation.

The production of power at coal-fired power plants necessarily results in both CCR and non-CCR wastestreams, including, for example, boiler and cooling tower blowdown, air heater washwater, and water treatment waste. Non-CCR wastestreams are produced in large volumes—sometimes in larger quantities than CCR, reaching hundreds of millions of gallons a day. *See* Roewer Decl. ¶ 6. Non-CCR wastestreams are often co-managed with CCR in on-site impoundments that serve multiple functions critical to power plant operations and power generation, including for treatment or settling prior to recirculation of water for power plant operations or permitted discharge. *Id.* ¶ 5.

Immediately prohibiting the placement of wastestreams into these units—as EPA says would be the case if vacatur or stay were granted (Resp. Mot. at 2)—would preclude generation of power.² Put simply, if there is no available capacity

² As EPA itself recognized, it is not possible to send wet-generated wastestreams off-site. *See* 80 Fed. Reg. at 21,423; *see also* Jenkins Decl. at ¶ 4.

to manage wastestreams generated during plant operations, power generation must stop.³ *Id.* ¶ 9; Jenkins Decl. ¶ 4; Vodopivec Decl. ¶ 29; Jackson Decl. ¶ 4; Tucker Decl. ¶ 7; McManus Decl. ¶¶ 11, 15; Navarro Decl. ¶ 7; Hamrick Decl. ¶ 5; Morgan Decl. ¶ 6.

That would be the result for many power plants across the country. That disruptive effect, and associated risk to the public, should not be allowed to occur. As recognized by EPA in promulgating the 2015 CCR rule, and acknowledged by this Court in *USWAG*, the risks to the public from the lack of power reliability outweigh the short term risks associated with allowing units to remain open for a limited period of time (in this case, until October 31, 2020) during the development of alternative disposal capacity for CCR and non-CCR wastestreams. *See* 901 F.3d at 448; *see also* 83 Fed. Reg. 11,584, 11,595 (Mar. 15, 2018).

B. Alternative disposal capacity cannot be constructed overnight.

Contrary to Petitioners' speculation, alternative disposal capacity cannot be developed overnight. The operation of power plants is complex, and the development of alternative management capacity for affected wastestreams must

³ If required to initiate closure immediately, a facility would have the opportunity to demonstrate a lack of alternative disposal arrangements for CCR and avail itself of the alternative closure timeline found in 40 C.F.R. § 257.103(a). But EPA says that this provision is not available to allow continued use of the impoundments for non-CCR wastestreams. *See* Resp. Mot. at 19.

be done in a manner that is safe, protects the environment, and does not interrupt the reliable provision of power to the public. *See, e.g.*, Jenkins Decl. ¶ 13; McManus Decl. ¶ 17.

Further, Petitioners baselessly assume that operators are failing to take action to address unlined CCR impoundments. To the contrary, operators with unlined CCR impoundments are diligently taking steps to transition away from the use of these units. Jenkins Decl. ¶ 3; Hamrick Decl. ¶ 4; Jackson Decl. ¶ 4; McManus Decl. ¶ 7; Vodopivec Decl. ¶ 24. The steps and timing for implementation at each power plant varies, depending on the specific approach taken to manage CCR and non-CCR wastestreams,⁴ but one thing is clear: development of alternative capacity is a complex and time-consuming process that takes many years to properly plan and safely execute to comply with the many regulatory requirements applicable to the power industry and to ensure continued provision of power to the public.⁵ Vodopivec Decl. ¶ 26 (estimating between two

⁴ For example, some facilities have chosen to convert to dry ash handling systems, which requires installation of new equipment and construction of new CCR disposal units and new impoundments for the management of non-CCR wastewaters. *See* Comments of Southern Company at 12-14, Dock. ID EPA-HQ-OLEM-2017-0286-1408 (Apr. 30, 2018).

⁵ Petitioners appear to believe (though they do not explain how) staying or a summarily vacating the October 31, 2020 deadline would result in the closure deadline becoming April 2019. The declarations attached as Exhibit A demonstrate

to four years or more to address non-CCR wastestreams); Jenkins Decl. ¶ 3 (development of alternative capacity cannot be completed until October 2020); Jackson Decl. ¶ 10 (estimating three to five years to complete necessary projects); Navarro Decl. ¶ 17 (estimating 2.5 to 3.5 years to develop alternative capacity).

Development of alternative capacity involves fundamental changes to power plant operations requiring design, engineering, permitting, construction, and testing, all before the new systems can be rendered operational. And the timing for many of these steps is out of the plant's control. For example, equipment designed to the specific requirements of the power plant must be procured from third-party vendors; construction and operation of new disposal units often requires new permits from federal, state, and local authorities; and companies may face a limited construction season due to long winters or construction delays caused by inclement weather. Jenkins Decl. at ¶¶ 10 & 13-23; Vodopivec Decl. ¶ 26; McManus Decl. ¶ 16; Jackson Decl. at ¶¶ 9-10; Navarro Dec. at ¶¶ 16-17; Hamrick Decl. ¶ 9.

Nor can the timeframes for constructing alternative disposal capacity be materially expedited, as the tasks necessary to design, construct, and render operational new systems capable of managing hundreds of millions of gallons of wastestreams generated during power production must be appropriately phased and

that even this is not enough time for utilities to develop alternative disposal capacity for non-CCR wastestreams managed in unlined impoundments.

sequenced, while at the same time ensuring worker safety and maintaining plant reliability. *See* Jenkins Decl. ¶ 25; Vodopivec Decl. ¶ 27; McManus Decl. ¶¶ 13. At bottom, changes to a power plant's system for managing and disposing of wastestreams are substantial modifications requiring a considerable amount of time.

Even where operators have taken steps to initiate closure of unlined surface impoundments on a more expedited timeframe than what is required by the federal CCR rule—for example, to meet state requirements—alternative disposal capacity still is not complete at this time for certain facilities. *See* Hamrick Decl. ¶ 4. Therefore, it is fanciful for Petitioners to suggest that facilities operating in accordance with the 2015 CCR rule can simply flip a switch and cease the use of units needed to manage hundreds of millions of gallons of non-CCR wastestreams generated on a daily basis during power production.

This problem is further exacerbated for facilities that have surface impoundments that were classified as “clay-lined” under the 2015 CCR rule or are unlined but not exceeding a groundwater protection standard. These categories of impoundments were not subject to forced closure under the 2015 CCR rule, and, thus, operators were not expecting to have to close these units until the *USWAG* decision. 901 F.3d at 430-31, 449 (holding that clay-lined units should be regulated as “unlined” and, based on the record before EPA, “unlined” units should

close regardless of demonstrated groundwater impacts). USWAG members report that at least eighty-eight more surface impoundments operated by 18 different companies will be subject to closure as a result of the Court's ruling. Roewer Decl. ¶ 15. These facilities are understandably just beginning the process of developing alternative disposal capacity and cannot immediately stop using these units without ceasing power generation. *Id.* ¶ 18; Navarro Decl. ¶¶ 12-13; Tucker Decl. ¶¶ 6-7; Vodopivec Decl. ¶ 28.

C. Cessation of power generation by affected power plants threatens power reliability.

If power plants are forced to immediately cease the use of unlined impoundments before alternative disposal capacity is available, many facilities cannot operate. This abrupt cessation of power generation would threaten the reliability of the power grid. This threat is materially compounded because facilities across the country would simultaneously face the serious possibility of not being able to produce power and threatening the stability of the electricity grid. *See* Roewer Decl. ¶ 11; Jenkins Decl. ¶¶ 26-28; Vodopivec Decl. ¶¶ 30, 32 & Att. 1; McManus Decl. ¶¶ 18-21.

For example, Arizona Public Service's ("APS") Four Corners Power Plant provides baseload electricity to meet the needs of customers across Arizona and New Mexico. Jenkins Decl. ¶ 26. If the plant were forced to cease power generation due to the premature closure of its unlined impoundments before

alternative capacity is in place, APS would be unable to meet its power reserve margin requirements which allow APS to provide reliable electricity service to its customers. *Id.* The absence of reliable power service during the summer months in Arizona “poses potentially very serious public health and safety consequences.” *Id.*

Additionally, reliability concerns in the ERCOT⁶ region of Texas—where Intervenor Luminant Generation Company LLC (“Luminant”) and other USWAG members operate—are heightened, as ERCOT is a unique “power island” that has very limited capability to import electricity. Vodopivec Decl. ¶ 33. ERCOT is already forecasting reserve margins for summer 2019 to be the lowest reserve margin ever predicted for the following summer peak since it began providing such forecasts in 2001. *Id.* Att. 1 at 2. As the reserve margin gets smaller, ERCOT has concluded, power disruptions can be expected to “be more frequent, longer, and deeper.” *Id.* ¶ 36.

Moreover, Regional Transmission Organizations (“RTOs”)—charged by federal law with overseeing the reliability of the Nation’s power grids—play a critical role in reviewing reliability and transmission requirements that would be circumvented by the immediate, simultaneous cessation of power generation at

⁶ The Electric Reliability Council of Texas, which manages the flow of electric power to 25 million customers.

multiple power plants. *Id.* ¶ 31. If an operator is unable to fulfill its RTO capacity obligation, it could be subjected to capacity performance and/or capacity deficiency penalties. Jackson Decl. ¶ 11. Thus, outages must be scheduled in advance and coordinated with the RTO to ensure electricity demand is continuously met. McManus Decl. ¶ 7. The RTO may conclude in some circumstances that the facility is critical to reliability and must continue to operate. Vodopivec Decl. ¶ 31. If plants immediately stop operating, the RTOs could not perform this critical review, resulting in unprecedented, serious impacts to reliability across the grid. *Id.* ¶ 32; McManus Decl. ¶¶ 20, 21.

Indeed, ERCOT has cautioned EPA that if immediate closure of power plants results from this litigation, this “would effectively bypass Texas’s 150-day notice requirement [before ceasing generation], depriving ERCOT of any opportunity to conduct the required review of the impact or to commit the generator to continued service through an RMR contract.” Vodopivec Decl. Att. 1 at 2. ERCOT cautions further that the immediate cessation of power could result in inadequate power supply in Texas, causing ERCOT to take emergency measures—such as “the temporary disconnection of customers from the grid during periods of short supply”—to ensure system reliability and that “[g]iven [its] currently low reserve margins, any retirements could thus have a material reliability impact on electric service to consumers in Texas.” *Id.* Att. 1 at 3.

Given the disruptive consequences to the power sector and the risk to power reliability, remand without vacatur of the Phase 1 rule is the only appropriate remedy in this case. Indeed, this Court found remand without vacatur to be the appropriate remedy in circumstances where, like here, “reliance interests [on a rule have] accumulate[d]” over time. *EME Homer City Generation, LP v. EPA*, 696 F.3d 7, 38 (D.C. Cir. 2012), *rev’d on other grounds by EPA v. EME Homer City Generation, LP*, 134 S. Ct. 1584 (2014).

II. Petitioners’ request for a stay or summary vacatur should be denied.

Petitioners’ request that this Court stay or, in the alternative, summarily vacate the October 31, 2020 closure deadline in the Phase 1 rule, Pet. Mot. at 8-9, is entirely unwarranted and should be denied. Because both forms of relief require the Court to consider the disruptive consequences of the relief and the attendant harm to the public, Petitioners cannot satisfy the high bar necessary for a stay or vacatur. Moreover, Petitioners misstate the legal effect of the *USWAG* decision on the October 31, 2020 closure deadline in the Phase 1 rule.

When considering a stay, this Court looks to four factors: (1) the likelihood movants will prevail on the merits; (2) the likelihood of irreparable harm to movants in the absence of a stay; (3) the possibility of substantial harm to others if a stay is granted; and (4) the public interest. *Wash. Metro. Area Transit Comm’n v. Holiday Tours, Inc.*, 559 F.2d 841, 842-43 (D.C. Cir. 1977). A stay is an

“extraordinary remedy,” and the movant must make a clear showing that it can satisfy the requirements. *Cuomo v. NRC*, 772 F.2d 972, 978 (D.C. Cir. 1985).

Additionally, summary disposition, such as summary vacatur, is “rarely granted and is appropriate only where the merits are ‘so clear, plenary briefing, oral argument, and the traditional collegiality of the decisions process would not affect [the Court’s] decisions.’” D.C. Cir. Handbook of Practice and Internal Procedures 35-36 (Dec. 1, 2018) (quoting *Sills v. Federal Bureau of Prisons*, 761 F.2d 792, 793-94 (D.C. Cir. 1985)). While, here, “EPA acknowledges further consideration of the [Phase 1 rule] is necessary,” Resp. Mot. at 2, this Court must still consider the two *Allied-Signal* factors as discussed above, particularly “the disruptive consequences” of vacatur. *Allied-Signal*, 988 F.2d at 150-51. Because a stay or vacatur of the rule would significantly disrupt the electric power industry with attendant harms to the public, and because Petitioners misstate the impact of the *USWAG* decision on this case and their likelihood of success on the merits, their request for a stay or, in the alternative, summary vacatur must be denied.

A. Petitioners misstate the implications of the *USWAG* decision to the Phase 1 rule closure deadline.

As a threshold matter, Petitioners overstate their likelihood of success on the merits. Contrary to Petitioners’ assertion, *USWAG* does not summarily invalidate the October 31, 2020 deadline promulgated in the Phase 1 rule. The Phase 1 rule,

including the deadline extension, was not before the Court in *USWAG*, and therefore its merits have not been adjudicated.

Nor does the *USWAG* decision implicitly invalidate the October 31, 2020 deadline or mean that it “*a fortiori*” violates RCRA. Pet. Mot. at 9. EPA’s motion states that the Phase 1 rule sets a deadline of October 31, 2020 for unlined impoundments to initiate closure, irrespective of their groundwater impact. *See* Resp. Mot. at 18. This is entirely consistent with *USWAG*, which, importantly, did not direct the timing of closure, and, in fact, recognized EPA’s rationale for providing additional time where needed to avoid “forc[ing] facilities to close and creat[ing] power shortage[.]” *USWAG*, 901 F.3d at 448. That same rationale applies here.

To implement its ruling, the Court vacated the portions of the rule allowing these units to operate until groundwater impacts are detected *and remanded* the rule to EPA “for additional consideration consistent with this opinion.” *USWAG*, 901 F.3d at 430. Under Petitioners’ view, this express direction by the Court was meaningless. But this Court’s instructions should not be cast aside so lightly. This Court in *USWAG* directed EPA to address this issue on remand, which requires the Agency to consider the appropriate timeframe for initiating closure consistent with the Court’s opinion. That is exactly what EPA has proposed to do on remand.

Petitioners and other interested parties will have a full and fair opportunity to have input on the issue.

Equally flawed is Petitioners' argument that the *USWAG* decision "casts serious doubt" and therefore invalidates the October 31, 2020 deadline to commence closure for impoundments that fail to meet the CCR rule's aquifer location standard (40 C.F.R. § 257.101(b)). Pet. Motion at 11. The substance of the aquifer location standard *was not even before the Court* in *USWAG*, and therefore the Court's decision and the basis of its holding simply does not address the regulatory timeframe for units failing to meet the aquifer location restriction, including lined units, to initiate closure.

B. A stay or summary vacatur will not address Petitioners' claim of irreparable harm.

Nor is a stay or vacatur of the current deadline needed to "prevent grave and irreparable harm to [Petitioners'] members." Pet. Mot. at 19. Petitioners claim that, absent a stay, impoundments will continue receiving more wastes, "subjecting [their] members to an increased risk of harm." *Id.* But a stay or vacatur would not provide the relief that Petitioners seek.

As detailed above, operators cannot simply flip a switch and stop using affected impoundments without also ceasing power generation, which itself would threaten power reliability and pose a risk to the public at large, including presumably to some of Petitioners' members. *See Sierra Club v. Ga. Power Co.*,

180 F.3d 1309, 1311 (11th Cir. 1999) (“[A] steady supply of electricity during the summer months, especially in the form of air conditioning to the elderly, hospitals and day care centers, is critical.”); *Texas v. EPA*, 829 F.3d 405, 435 (5th Cir. 2016); *Tri-State Generation & Transmission Ass’n, Inc. v. Shoshone River Power, Inc.*, 805 F.2d 351, 357 (10th Cir. 1986). And even when a facility stops generating power, non-CCR wastestreams are still produced and must be managed somewhere. Morgan Decl. ¶ 5; McManus Decl. ¶ 15. The bottom line is operators require additional time to develop alternative disposal capacity before they can stop placing wastestreams in unlined impoundments and initiate closure. A stay or vacatur will not accelerate the timing for completing this process because facilities cannot do the impossible.

Further, a stay or summary vacatur will not accelerate remedial measures at units that have triggered the requirement to undertake corrective action to address groundwater contamination under the CCR rule. The deadline that Petitioners seek to vacate did not impact the requirement or the timing to initiate corrective action—these steps must be undertaken irrespective of whether the October 31, 2020 date is stayed or remains in place. *See* 40 C.F.R. §§ 257.96-.98. For units that have triggered corrective action, these steps are already underway. Accelerating the timeframe for initiating closure will not hasten this process.

Finally, Petitioners argue that a stay is needed to maintain Petitioners' right to meaningful appellate review. But appellate review of the new closure deadline is not necessary here. EPA has stated it must take the rule back for re-evaluation in light of the Court's decision in *USWAG*. In fact, proceeding with this case now in light of EPA's plans to review and revise the closure deadline as appropriate would be a waste of judicial and party resources.

C. A stay or summary vacatur would result in significant harm to the power industry and the public.

Petitioners are wrong that a stay or vacatur would not cause substantial harm. As detailed above, that assertion grossly understates the significant harm industry faces in the event of a stay or summary vacatur and the associated risks to the public. If power plants must immediately cease placement of wastestreams into unlined impoundments, they will have nowhere to manage their waste and will have to cease power generation. And as detailed in the declarations of multiple power plants, the cessation of power will threaten the provision of reliable power to the public and prevent RTOs from conducting reliability reviews, posing a substantial public safety risk. *See* Jenkins Decl. at ¶¶ 26-28; Vodopivec Decl. ¶¶ 32-33; McManus Decl. ¶¶ 20-21; Tucker Decl. ¶ 8; Jackson Decl. ¶ 11; Hamrick ¶ 6.

Petitioners baldly claim that a "prudent utility" should already be prepared to close its impoundments (even those that did not require closure prior to the

USWAG decision), and thus no further time is needed. In other words, Petitioners would have operators commit hundreds of millions of dollars to design, permit, and construct new disposal units before even knowing whether such alternative capacity would in fact be needed in the first instance. This naïve view ignores the complexities of the power utility industry, the obligations of operators first and foremost to provide reliable and uninterrupted power to the public, and the requirements of the CCR rule.⁷

In reality, the CCR rule initially required a series of specific steps to be implemented *before* an operator could in fact determine whether a unit in question is the source of groundwater contamination and required to close based on groundwater monitoring. For example, even if groundwater monitoring indicated contamination in a particular unit's groundwater monitoring well, the rule specifically contemplates the facility confirming that the cause of the contamination is the impoundment, as opposed to another source. See 40 C.F.R. §§ 257.94(e)(2), 257.95(g)(3)(ii). Indeed, it is "prudent" to comply with one's regulatory obligations under federal law, and, in fact, it can be imprudent for an operator to take regulatory action involving irreversible and significant operational

⁷ Petitioners baselessly assert that all units should be able to initiate closure by April 2019 because the rule still requires units that fail certain location restrictions to initiate closure by April 2019. But just because EPA fixed the timing problem for some units does not mean that *other* units do not still face the same problem.

changes before such action is required, especially while pending proposed regulatory changes could alter future compliance obligations, including whether closure of the unit is required in the first instance. *See* Roewer Decl. at ¶¶ 12-13.

D. Vacatur or a stay is contrary to the public interest.

Again, a stay or summary vacatur of the October 31, 2020 closure deadline would increase the risks to public safety due to threats to power reliability in regions across the country. The administrative records underlying the 2015 CCR rule and the Phase 1 rule recognize that the risk to power reliability outweighs the short term risk associated with allowing impoundments subject to forced closure to continue operation for a limited period of time. *See* 80 Fed. Reg. at 21,423; 83 Fed. Reg. at 11,595. This Court acknowledged this risk-balancing in upholding the conditions on EPA's alternative closure provision in *USWAG*. *See* 901 F.3d at 448.

Further, a stay or summary vacatur of the closure deadline would create regulatory uncertainty for facilities across the country and would only further complicate resolution of Petitioners' legal challenge to the Phase 1 rule, including the rule's closure deadline. The most expeditious path forward, and one that avoids the most significant risks to the public interest, is to grant EPA's motion for voluntary remand without vacatur.

CONCLUSION

For the above reasons, Intervenor-Respondents respectfully request that the Court grant Respondents' Motion for Voluntary Remand Without Vacatur and deny Petitioners' Motion for Partial Stay or Partial Summary Vacatur.

Respectfully submitted,

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DATE: January 22, 2019

*Power Resources Generating, LLC,
Electric Energy, Inc., Dynegy Miami
Fort, LLC, Dynegy Zimmer, LLC, and
Kincaid Generation, L.L.C.*

CERTIFICATE OF COMPLIANCE

The undersigned states that this Response complies with the typeface style requirements of Fed. R. App. P. 27(d)(1)(E) because the Response was prepared in proportionally spaced typeface using Microsoft Word 14 point Times New Roman type, and that this Response complies with the length requirements of Fed. R. App. P. 27(d)(2), as this Response contains 5,186 words.

Date: January 22, 2019

/s/ Douglas H. Green

Douglas H. Green

*Counsel for Intervenor Utility
Solid Waste Activities Group*

CERTIFICATE OF SERVICE

I hereby certify that the foregoing Response was electronically filed with the Clerk of the Court using the CM/ECF system, which will send notification of said filing to the attorneys of record for Petitioners, Respondents, and all other parties who have registered with the Court's CM/ECF system.

Date: January 22, 2019

/s/ Douglas H. Green

Douglas H. Green

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ORAL ARGUMENT NOT YET SCHEDULED

**UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT**

<hr/>)	
WATERKEEPER ALLIANCE, INC., <i>et al.</i> ,)	
	Petitioners,)	
)	
	v.)	No. 18-1289
)	
U.S. ENVIRONMENTAL PROTECTION)	
AGENCY, <i>et al.</i> ,)	
)	
	Respondents.)	
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**RESPONSE OF UTILITY SOLID WASTE ACTIVITIES GROUP
AND LUMINANT/DYNEGY COMPANIES IN SUPPORT OF
RESPONDENTS' MOTION FOR VOLUNTARY REMAND
WITHOUT VACATUR AND IN OPPOSITION TO PETITIONERS'
MOTION FOR PARTIAL STAY OR, IN THE ALTERNATIVE, FOR
PARTIAL SUMMARY VACATUR**

**EXHIBIT A:
DECLARATIONS IN SUPPORT**

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ORAL ARGUMENT NOT YET SCHEDULED

**UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT**

_____)	
WATERKEEPER ALLIANCE, INC., <i>et al.</i> ,)	
)	
Petitioners,)	
)	
)	No. 18-1289
v.)	
)	
U.S. ENVIRONMENTAL PROTECTION)	
AGENCY, <i>et al.</i> ,)	
)	
Respondents.)	
_____)	

DECLARATION OF JAMES R. ROEWER IN SUPPORT OF RESPONSE OF INTERVENORS UTILITY SOLID WASTE ACTIVITIES GROUP AND LUMINANT GENERATION COMPANY LLC, et al., IN SUPPORT OF EPA’S MOTION FOR VOLUNTARY REMAND WITHOUT VACATUR AND IN OPPOSITION TO PETITIONERS’ MOTION FOR STAY OR, IN THE ALTERNATIVE, FOR PARTIAL SUMMARY VACATUR

I, James R. Roewer, state as follows:

1. I am the Executive Director of the Utility Solid Waste Activities Group (“USWAG”), an Intervenor-Respondent in this action. I have been the Executive Director since August 2001¹ and am competent to make this declaration

¹ Prior to August 2001, I served as the USWAG Program Manager and USWAG Director.

and, unless otherwise indicated, all of the facts set forth in this declaration are based on my personal knowledge.

2. USWAG, founded in 1978, is an association of approximately one hundred and fifty individual electric utilities, utility operating companies, power producers, energy service companies, and related associations, including the Edison Electric Institute, the National Rural Electric Cooperative Association, and the American Public Power Association. USWAG represents the electric and gas industries on regulatory matters involving, among other things, the management and disposal of solid waste, including the regulatory program for coal combustion residuals (“CCR”) at issue in this litigation.

3. USWAG has represented its members on every major rulemaking involving the development of the federal CCR regulations at 40 C.F.R. Part 257, Subpart D (the “CCR rule”), including submitting comments in support of EPA’s promulgation of the Phase 1 rule being challenged by Petitioners in this case.² Together, USWAG members account for three-quarters of the coal-fired

² USWAG Comments on Hazardous and Solid Waste Management System: Disposal of Coal Combustions Residuals from Electric Utilities; Amendments to the National Minimum Criteria (Phase One); Proposed Rule, EPA-HQ-OLEM-2017-0286-1717 (available at <https://www.regulations.gov/document?D=EPA-HQ-OLEM-2017-0286-1717>) (“USWAG Comments”). Many individual USWAG members also submitted comments supporting the revisions in the Phase 1 rule.

generating capacity in the United States, and most of these members are directly regulated by the CCR rule.

A. USWAG advised EPA that the CCR rule's timeframe to initiate closure was too short and could cause power plants to close, threatening power reliability.

4. Following promulgation of the CCR rule in 2015, USWAG brought to EPA's attention multiple technical and compliance concerns with the rule, including providing data to the Agency illustrating the problems and suggesting regulatory modifications and/or corrections to address these concerns.

5. In this regard, in November 2016, USWAG representatives met with EPA regarding a significant compliance concern involving the inability of owners/operators of CCR surface impoundments subject to forced closure to consider the lack of alternative disposal capacity for non-CCR wastestreams under the rule's alternative closure provision. I sent EPA a follow-up letter in December 2016 reiterating these concerns ("USWAG letter"). The USWAG letter, which compiled and summarized responses from USWAG members across the country confronting this compliance problem, explained that CCR impoundments at power plants often serve the dual function of managing both CCR *and* non-CCR wastestreams generated during the production of power. This is because power production necessarily results in the generation of non-CCR wastestreams, such as boiler blowdown, boiler cleaning wastes, demineralizer regeneration washwater,

cooling tower blowdown, air heater washwater, and water treatment plant waste. Non-CCR wastestreams are often co-managed with CCR in CCR impoundments for various purposes, including treatment or settling, prior to recirculation of wastewater for power plant operations or discharge through permitted outfalls.

6. These non-CCR wastestreams are produced in high volumes—often millions of gallons each day. In some cases, non-CCR wastestreams are produced in larger volumes than CCR wastestreams. And like CCR, a power plant cannot operate and produce power without a management option for non-CCR wastestreams.

7. The USWAG letter explained to EPA that, upon triggering forced closure under the CCR rule, owners/operators must, per the timeframes in the 2015 rule, cease placement of both CCR *and* non-CCR wastestreams into CCR surface impoundments within 6 months. USWAG explained that, in these circumstances, most power plants simply will not be able to develop the alternative capacity needed to manage their non-CCR wastestreams within the 6 month time period for initiating closure (which, as discussed below, is triggered once it is confirmed that closure is in fact required based on the results of groundwater monitoring data generated pursuant to the rule's groundwater monitoring regulations). While the time periods vary with respect to the design, construction, and permitting of alternative wastewater treatment processes for non-CCR wastestreams, this time

period can take up to seven years (and perhaps longer), depending on site-specific issues, including significant operational modifications to plant design and operation that may require regulatory approvals, including from public utility commissions.

8. Compounding this problem, the USWAG letter explained, power plants do not have contingency plans in place in the interim to address the sudden inoperability of a CCR surface impoundment used to manage non-CCR wastestreams if the impoundments are prohibited from receiving wastes before alternative disposal capacity is available. While most plants generally have systems in place to account for emergencies or catastrophic events (such as natural disasters or major failures), these plans are not intended to support long-term or short-term continued operation of the plants.

9. The USWAG letter explained that one member cautioned that while these plans and procedures provide for some rerouting and/or discontinuation of non-CCR wastewater discharges, they would not ensure continued operation of the power plant, even in the short term. Another USWAG member stated that the sudden unavailability of its impoundment for non-CCR wastestreams “would force the shutdown of both steam generating units at [the plant].” The USWAG letter cautioned EPA that, given the lack of an alternative disposal capacity option for non-CCR wastestreams and the inability to initiate closure within the rule’s 6-

month timeframe, power plants will be in the untenable position of either continuing to operate in violation of the CCR rule or cease power generation and the provision of power to the public. USWAG explained that the resulting cessation of power generation if impoundments were precluded from managing non-CCR wastestreams threatened at least 64,000 MW of power in regions across the country, including for plants located near critical load centers (*e.g.*, big cities). This figure does not include the additional loss of generating capacity from power plants that would have to cease power production due to the potential accelerated closure of surface impoundments described in section B below (*i.e.*, surface impoundments newly subject to the rule's closure provisions as a result of the Court decision in *USWAG v. EPA*, 901 F.3d 414 (D.C. Cir. 2018)).

10. Another USWAG member, Southern Company Services, submitted detailed comments on EPA's proposed Phase 1 rulemaking echoing these concerns, stating that "[t]he existing CCR rule's original timelines do not allow sufficient time to design, bid, construct, test and calibrate waste water treatment facilities" necessary to develop alternative capacity for non-CCR wastestreams.³ For example, the company explained that one of its facilities managed over 50 individual non-CCR wastestreams in a CCR impoundment and detailed the

³ Comments of Southern Company at 12-14, Docket ID No. EPA-HQ-OLEM-2017-0286-1408 (Apr. 30, 2018) (available at www.regulations.gov).

sequence of events that would be necessary to re-route these wastestreams—a process that is exceedingly complicated due to, among other things, the number of wastestreams involved and the complex water chemistry associated with several of these wastestreams. The company estimated that, at this facility, it would take at least 36 months to develop alternative management options for the multitude of wastestreams without interrupting plant operation—nearly six times longer than the six-month timeframe for initiating closure previously contained in the CCR rule before the Agency extended that timeframe to no later than October 31, 2020. Comments of Southern Company at 14.

11. USWAG also cautioned EPA in its comments on the proposed Phase 1 rulemaking that the loss of generating capacity due to facilities having to shutter because of no available disposal capacity to manage non-CCR wastestreams could threaten NERC regions across the country from maintaining adequate power reserve margins to support bulk-power system reliability and ensuring reliable power operation. USWAG comments at 84-90

12. USWAG also explained to EPA in its comments on proposed Phase 1 rulemaking that it was unrealistic to expect regulated entities to begin constructing alternative disposal capacity before even knowing whether forced closure of a unit is actually triggered. The CCR rule provides a step-wise groundwater monitoring process for determining whether an unlined impoundment

is the source of groundwater contamination triggering forced closure under the rule. Therefore, while companies may understand potential future regulatory requirements of the CCR rule, USWAG's comments explained to EPA that there is no expectation in the rule for companies to jump the gun and initiate the investment of millions of dollars in significantly altering the operation of a power plant until they have been determined, in accordance with the CCR rule's specified timeframes and procedures, including prescribed analytical procedures for evaluating groundwater data, that a particular impoundment is in fact the source of groundwater contamination at levels mandating closure. USWAG's comments explained further that many companies are in fact constrained from prematurely undertaking such immense operational changes before regulatory requirements compel these actions. *See* USWAG comments at 83.

13. The Phase 1 proposal requested comment on issues that could have affected whether an unlined impoundment had to initiate closure in the first instance, or the timeframe for initiating closure, including (1) the use of risk-based groundwater protection standards in lieu of background standards in the rule's groundwater monitoring program (these standards, which EPA adopted in the final rule, are the benchmarks for determining whether closure is required in the first instance) and (2) extending certain of the rule's location restriction and

groundwater monitoring compliance deadlines. *See* 83 Fed. Reg. 11,584, 11,598-11,599 (Mar. 15, 2018).

14. USWAG submitted comments supporting the proposed changes to the CCR rule described in the above paragraph. USWAG urged EPA, at a minimum, to “extend the timeline related to the obligation to enter into forced closure under 40 C.F.R. § 257.101” (*see* USWAG comments at 16 n.30). This is what EPA did in the final Phase 1 rule by extending to October 31, 2020 the timeframe for unlined impoundments to initiate closure.

B. The Court’s decision in *USWAG* subjected at least eighty-eight additional surface impoundments to forced closure.

15. The Court’s decision in *USWAG* resulted, for the first time, in at least eighty-eight CCR surface impoundments owned or operated by eighteen USWAG member companies becoming subject to the rule’s mandatory requirement to close.⁴ This number includes CCR surface impoundments that have clay liners and were considered “lined” impoundments prior to the decision in *USWAG* vacating the provision at 40 C.F.R. § 257.71(a)(1)(i) allowing for clay liners meeting specified criteria to qualify as lined impoundments. All surface impoundments with clay liners are now considered “unlined” surface impoundments, irrespective

⁴ The number is almost certainly larger than this, as this reflects only the responses from USWAG members who were polled immediately following the *USWAG* decision.

of liner performance, and must close. In addition, this number includes unlined CCR impoundments that, prior to the *USWAG* decision, were not subject to the rule's forced closure provision because the impoundments are not the source of groundwater contamination exceeding a groundwater protection standard. Under the *USWAG* decision, all unlined impoundments must close, irrespective of whether they having an impact on groundwater quality.

16. The owners/operators of these CCR surface impoundments were not planning, prior to the *USWAG* decision, to initiate forced closure of these impoundments.

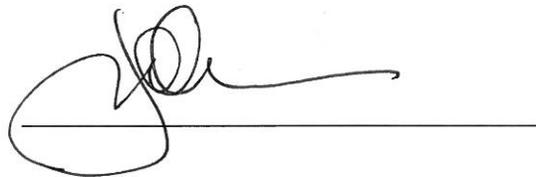
17. As illustrated in the declarations of USWAG member companies Salt River Project and Pacificorp, the initiation of closure of these impoundments will involve substantial effort and a change in operations that were not previously planned for by these companies prior to the issuance of the mandate in the *USWAG* decision. This will include, among other things, the planning, design, permitting, and construction of alternative disposal capacity for non-CCR wastestreams managed in these impoundments.

18. Because the above universe of surface impoundments have only recently become subject to the rule's obligation to close, and the steps described above must be undertaken before closure can begin, the owners/operators of these impoundments cannot immediately initiate closure of these units. As described in

the declarations of Salt River Project and Pacificorp, power plants confronting this new obligation would have to cease power generation if they are prohibited from managing wastes in these impoundments before alternative disposal capacity is available. This is because if there is no available capacity to manage the wastestreams necessarily generated by the production of power at these facilities, power generation itself will cease.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: JAN 7, 2019

A handwritten signature in black ink, consisting of a large, stylized 'J' followed by a series of loops and a horizontal line extending to the right. The signature is positioned above a solid horizontal line.

James R. Roewer

Executive Director, Utility Solid Waste
Activities Group

**IN THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT**

WATERKEEPER ALLIANCE, INC., <i>et al.</i>)	
)	
Petitioners,)	
)	
v.)	Case No. 18-1289
)	
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, <i>et al.</i>)	
)	
Respondents)	
and)	
)	
BIG BROWN POWER COMPANY, LLC, <i>et al.</i>)	
)	
Intervenors.)	

DECLARATION OF CYNTHIA VODOPIVEC

1. I am the Vice President of Environmental, Health & Safety at Vistra Energy Corp. (“Vistra”). As VP of Environmental, Health & Safety, I am responsible for strategic planning, compliance assurance, and environmental and safety program implementation for the fleet of electric generating units operated by Vistra subsidiaries. Specifically, I am responsible for improving the environmental performance of our sites and providing the tools to keep our employees and contractors safe. Based on these responsibilities, I have knowledge regarding the operation of the coal combustion residuals (“CCR”) units operated by Vistra subsidiaries and the projects necessary to prepare for and initiate closure of these units as necessary.

2. Vistra is an integrated retail and generation company, headquartered in Irving, Texas. Vistra's subsidiaries generate and sell electricity and related products from a fleet of generation facilities, operating in twelve states and six of the seven competitive markets in the United States. These subsidiaries have approximately 41,000 megawatts ("MW") of generation capacity and serve approximately 2.9 million retail customers. This generating portfolio is made up of 32.5% coal, 5.7% nuclear, 60.7% natural gas, 0.4% solar, and 0.6% oil.

3. Eleven of Vistra's operating subsidiaries are intervenors in this case. They are: Luminant Generation Company LLC, Oak Grove Management Company LLC, Big Brown Power Company LLC, Coletto Creek Power, LLC, Dynege Midwest Generation, LLC, Illinois Power Generating Company, Illinois Power Resources Generating, LLC, Electric Energy, Inc., Dynege Miami Fort, LLC, Dynege Zimmer, LLC, and Kincaid Generation, L.L.C. (collectively, "Operating Companies"). These Operating Companies own and/or operate coal-fueled power plants in Illinois, Ohio, and Texas, all of which include CCR units that are subject to the regulations at issue in this case.

4. I am providing this declaration in support of the U.S. Environmental Protection Agency's ("EPA") motion to remand without vacatur its final rule entitled *Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals From Electric Utilities; Amendments to the National Minimum Criteria (Phase One, Part One)*. 83 Fed. Reg. 36,435 (July 30, 2018) ("Phase 1, Part 1 Rule"). Additionally, I am

providing this declaration in opposition to the Petitioners' motion for partial stay and expedited consideration of the appeal, or, in the alternative, for partial summary vacatur of the Phase 1, Part 1 Rule.

5. The Operating Companies have been diligently working to address their CCR units in compliance with federal and state regulations. EPA says in its motion for voluntary remand that “[i]f the July 2018 Rule is vacated, coal-fired power plants across the country would have to cease immediately placing CCR and non-CCR waste into certain CCR impoundments[.]”¹ If that is the case and if coal-fueled power plants are required to immediately cease placing CCR and non-CCR waste streams into their impoundments, as EPA states, there *would be* widespread disruptive consequences resulting in significant harm. That is because alternative arrangements for disposing of or treating these waste streams cannot happen overnight, as explained in more detail below, nor has that been the regulatory expectation under the current rules. Thus, an immediate requirement to stop using these impoundments would mean that many of the Operating Companies' coal-fueled power plants would be required to cease operations altogether and stop generating electricity, impacting the availability of reliable, cost-effective electricity in the regions in which those power plants operate.

¹ See Motion for Voluntary Remand Without Vacatur at 2, *Waterkeeper Alliance et al. v. EPA et al.*, No. 18-1289 (Dec. 17, 2018).

MY BACKGROUND

6. I am a registered Professional Environmental Engineer. I received a Bachelor of Arts in Environmental Science from Dartmouth College, a Bachelor of Engineering in Environmental Engineering from the Thayer School of Engineering at Dartmouth College, and a Masters of Business Administration from Rensselaer Polytechnic Institute.

7. Prior to my current role at Vistra, I had similar leadership roles at Dynegy Inc., EquiPower Resources Corp., GDF Suez North America, and FirstLight Power Resources, working with a wide range of power plant technologies across the country. I have worked on developing fleet-wide programs in auditing, development, and investigations. Before joining the energy sector, I was a project manager at Environmental Resources Management, a global environmental consulting firm focused on environmental and safety compliance for global companies.

REGULATORY BACKGROUND

8. In 2015, EPA promulgated the CCR Rule, which regulates the disposal and management of CCR under the Resource Conservation and Recovery Act. *See Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals From Electric Utilities*, 80 Fed. Reg. 21,302 (Apr. 17, 2015) (“2015 CCR Rule”). Specifically, the 2015 CCR Rule established national minimum criteria for existing and new CCR landfills and surface impoundments.

9. Among other things, the 2015 CCR Rule required owners and operators of existing CCR surface impoundments to install groundwater monitoring systems and conduct specified monitoring and analyses over a multi-year period.

10. Under the 2015 CCR Rule, surface impoundments that were constructed with a composite liner or with a clay liner were considered “lined” for purposes of the rule. For lined impoundments, where a regulated constituent was detected at a statistically significant level above that constituent’s established groundwater protection standard, the owner or operator was required to initiate the corrective action process provided in the rule (40 C.F.R. § 257.96). However, these units were not subject to the closure requirements outlined in 40 C.F.R. § 257.101(a)(1) based on this finding.

11. Alternatively, for unlined surface impoundments, the 2015 CCR Rule required units to cease receiving waste and initiate closure within six months of detecting a regulated constituent at a statistically significant level above that constituent’s established groundwater protection standard (40 C.F.R. § 257.101(a)(1)).

12. Additionally, the 2015 CCR Rule required all impoundments—unlined and lined—to initiate closure within six months of failing to demonstrate compliance with certain location restrictions (40 C.F.R. § 257.101(b)(1)).

13. On July 30, 2018, EPA promulgated a new rule, the Phase 1, Part 1 Rule, revising certain elements of the 2015 CCR Rule. The Phase 1, Part 1 Rule revised the compliance date by which facilities must cease placement of CCR and non-CCR waste streams into surface impoundments in two situations: (1) failure to meet the aquifer

location restriction at 40 C.F.R. § 257.60; and (2) for an unlined surface impoundment, where there is a determination, based on data collected under the groundwater monitoring program, that a listed constituent is detected at statistically significant levels above a groundwater protection standard. Under the former situation, the owner and/or operator is required to cease placement of waste in the impoundment and commence closure by no later than October 31, 2020. For the latter situation, the owner and/or operator is required to cease placement of waste in the impoundment and commence closure (or retrofit) within six months of such determination, or by no later than October 31, 2020, whichever is later.

14. EPA supported the extension of these compliance deadlines with examples provided by utilities about the feasibility of complying with the timeframes in the 2015 CCR Rule.²

15. The Operating Companies also filed comments in support of limited extensions of the original compliance deadlines, given the length of time necessary to plan for and implement solutions for the future disposal and management of both CCR and non-CCR waste streams at their power plants.³

16. After the Phase 1, Part 1 Rule was published, this Court issued an opinion in *USWAG v. EPA*, 901 F.3d 414 (D.C. Cir. 2018), addressing certain provisions in the 2015 CCR Rule. Specifically, this Court vacated and remanded 40 C.F.R.

² See *id.* at 8.

³ See Comments of Vistra at 5–13, Dock. ID EPA-HQ-OLEM-2017-0286-1710 (Apr. 30, 2018).

§ 257.101(a), including the requirement that an owner or operator cease placement of waste in an unlined surface impoundment upon determination of an exceedance of a groundwater protection standard. *Id.* at 449. Additionally, this Court vacated 40 C.F.R. § 257.71(a)(1)(i), which was the provision that classified clay-lined impoundments as “lined” for purposes of the rule. *Id.*

17. EPA’s motion for voluntary remand states: “If the July 2018 Rule is vacated, coal-fired power plants across the country would have to cease immediately placing CCR and non-CCR waste into certain CCR impoundments (also called units).”⁴

THE OPERATING COMPANIES’ CCR OPERATIONS

18. The Operating Companies own and/or operate 28 active generating units at 14 coal-fueled power plants in Illinois, Ohio, and Texas, which, collectively, contain approximately 50 regulated CCR units.

19. The CCR units that the Operating Companies own and/or operate fall into various regulatory categories, including: (1) existing unlined surface impoundments; (2) clay-lined surface impoundments that may be considered unlined surface impoundments as a result of the recent vacatur of 40 C.F.R. § 257.71(a)(1)(i); (3) inactive unlined surface impoundments; and (4) lined surface impoundments. In many cases, these surface impoundments are also regulated under state regulations in addition to EPA’s 2015 CCR Rule.

⁴ See Motion for Voluntary Remand Without Vacatur at 2, *Waterkeeper Alliance et al. v. EPA et al.*, No. 18-1289 (Dec. 17, 2018).

20. These surface impoundments are integral to plant operation and power generation. The impoundments have various functions, including the disposal and management of both CCR and non-CCR waste streams. Non-CCR waste streams at the Operating Companies' coal-fueled power plants include low volume wastes, such as wastewaters from ion exchange water treatment systems, water treatment evaporator blowdown, boiler blowdown, floor drains, cooling tower basin cleaning wastes, and recirculating house service water systems. Other categories of non-CCR waste streams include cooling tower blowdown, coal pile runoff, and other miscellaneous process wastewater. These non-CCR waste streams are the result of essential plant operations; moreover, they are also generated as a necessary byproduct when a plant is retired as part of the decommissioning process.

21. The specific waste streams and methods of managing CCR and non-CCR waste streams differ from plant to plant based on each plant's layout, operations, and wastewater management process needs. For example, some of the Operating Companies' plants rely heavily on non-CCR process water for conveying residual CCRs, such as bottom ash fines, to their impoundment and continuously recycling/reusing this water in lieu of withdrawing new fresh water. Several other plants rely on their impoundments to manage or treat both CCR and non-CCR wastewaters, so as to achieve effluent limitations required by their national pollutant discharge elimination system ("NPDES") permits.

**THE OPERATING COMPANIES CANNOT IMMEDIATELY CEASE USE
OF THEIR SURFACE IMPOUNDMENTS**

22. Currently, the Operating Companies could not operate and generate electricity at the majority of their coal-fueled power plants without utilizing their surface impoundments for the disposal and management of CCR and non-CCR waste streams.

23. As noted above, the Operating Companies' impoundments are complex, dual-functioning systems that are used to manage both CCR and non-CCR waste streams based on individual site-specific variations. If there was an immediate requirement to cease placement of waste in the impoundments, the Operating Companies would have the opportunity to demonstrate a lack of on-site and off-site disposal arrangements for CCR and avail themselves of the alternative closure timeline found in 40 C.F.R. § 257.103. However, EPA has said in its motion for voluntary remand that no similar "safety-valve" exists for non-CCR waste streams that would allow for the continued use of the impoundments for non-CCR waste streams until an alternative capacity arrangement for these waste streams is developed.⁵

24. The Operating Companies have been diligently working to develop solutions for management of both CCR and non-CCR waste streams. However, there is no one-size-fits-all approach to addressing CCR and non-CCR waste streams, because the solutions must be tailored to each facility's needs and site variations. Specifically,

⁵ See *id.* at 19.

each facility's layout, operations, and current wastewater management processes are different and require site-specific approaches based on source water, existing wastewater permit limitations, available technologies, real estate availability, site congestion, and supporting infrastructure (*i.e.*, piping, sumps, etc.). For example, many of the Operating Companies' impoundment systems are designed to efficiently and effectively operate based on their ability to co-treat CCR and non-CCR waste streams. Thus, non-CCR wastewater cannot be instantly rerouted at these facilities without, at a minimum, significant reconfiguration of the piping systems leading to these impoundments.

25. To address the unique attributes and needs of each facility, the Operating Companies have been developing various alternative methods for management of non-CCR waste streams, including (1) construction of new concrete settling basins; (2) retrofitting of existing ponds; (3) construction of new wastewater treatment systems; and (4) recycling and/or reuse of these wastewaters.

26. However, these solutions do not happen overnight. Instead, it takes many years to plan, design, permit, reroute piping and sumps, and construct the solutions for non-CCR waste streams. Based on the Operating Companies' experience, just the design and engineering of solutions for non-CCR waste streams can take many months or years. Then, it is necessary to obtain permitting approval for the proposed design and waste stream reconfiguration. This permitting effort would likely include modifications to individual NPDES permits and applications for both wastewater

construction permits and general NPDES permits, which would take 18 to 24 months to complete and receive approval. After obtaining the necessary permits and approvals, it would take approximately 90 weeks or more to build concrete settling basins, approximately 55 weeks or more to build a wastewater treatment facility, and approximately 190 weeks or more to reline/retrofit an existing pond. This does not take into account weather delays, scheduling the work with the relevant Regional Transmission Organization (“RTO”) to avoid reliability issues, or the difficulty in obtaining qualified contractors if many plants across the country are forced to perform this work at the same time. As a result, it can easily take between two to four years or more to address non-CCR waste streams. Because of the time-intensive nature of this process, alternative management methods have not yet been completed for many of the Operating Companies’ facilities despite continued efforts.

27. Moreover, some Operating Companies’ plants have real estate constraints that further prevent them from immediately constructing alternative management methods for non-CCR wastewater on site until they have fully addressed CCR handling and disposal. Specifically, the solution for handling non-CCR wastewater at these facilities may include constructing a new non-CCR wastewater pond utilizing an area within an existing CCR surface impoundment after it is closed according to regulatory requirements. Consistent with the Phase 1, Part 1 Rule, it was understood that these plants could use other on-site surface impoundments to manage non-CCR wastewater until October 31, 2020, while designing, permitting, and constructing new non-CCR

wastewater ponds. However, if non-CCR wastewater could no longer be placed in any other on-site CCR surface impoundments, we would not have an adequate solution for managing these wastewaters while a new non-CCR wastewater pond is being designed, permitted, and constructed and piping systems are being rerouted.

28. Moreover, clay-lined impoundments are in a unique situation. It was not until the *USWAG* decision that regulated parties became aware that these clay-lined impoundments may be regulated like existing unlined impoundments. The potential closure of these impoundments will involve substantial changes in facility operations that were not previously considered by the Operating Companies prior to the *USWAG* decision. Thus, the Operating Companies have just begun assessing the status and management options for these units.

29. In sum, because alternative disposal capacity arrangements cannot be designed, permitted, and constructed overnight at the majority of their plants, the Operating Companies cannot immediately cease placement of non-CCR waste streams in their CCR surface impoundments and continue to operate these plants and generate electricity.

**IF THE OPERATING COMPANIES WERE REQUIRED TO
IMMEDIATELY CEASE OPERATION, THERE WOULD BE
SIGNIFICANT DISRUPTION TO THE POWER GRID**

30. If the Operating Companies were required to immediately stop generating electricity at their plants, it would cause significant disruption and threaten the reliability of the power grid in the plants' respective regions.

31. To protect against threats to the power grid, RTOs, which are responsible under federal law for ensuring the reliability of their respective power grids, generally require prior consultation or notification before retirements, outages, or extended periods of non-operation. This minimum notification period allows the RTOs adequate time to assess whether the plants are required for reliability and, if so, to negotiate an agreement to keep the unit in operation until it is no longer needed. The Operating Companies' coal-fueled plants operate in the MISO, ERCOT, and PJM regions. MISO requires advanced notice of at least 26 weeks, ERCOT requires notice of at least 150 days, and PJM requires notice of at least 90 days.⁶ This coordination and planning time is critical to ensure reliability in the region is not negatively impacted and to give the RTOs time to assess whether a unit must be kept in operation. The process of keeping a unit in operation is called a Reliability Must Run ("RMR") agreement in PJM and ERCOT and a System Support Resource ("SSR") in MISO. These RMR/SSR agreements are designed to be short-term stop gaps while transmission upgrades sufficient to maintain the reliability of the grid are built. Typically, these RMR/SSR agreements, as short-term stop gaps, last for under two years; however, large-scale retirements may extend this period to reflect the larger

⁶ See MISO FERC Electric Tariff Modules, Section 38.2.7 (July 16, 2018), <https://cdn.misoenergy.org/Module%20C108024.pdf>; 16 Tex. Admin. Code § 25.502(e); ERCOT Nodal Protocols §§ 3.14.1.1, 3.14.1.2; PJM, *PJM Manual 14D, Section 9.1 Generator Deactivation Process* (2018), <https://pjm.com/directory/manuals/m14d/index.html#Sections/91%20Generator%20Deactivation%20Process.html>.

number of required transmission upgrades. Thus, the time needed to preserve local transmission reliability is the study time plus the amount of time needed to build transmission.

32. If the Operating Companies are required to immediately cease operating their plants, the RTO in each respective region would not have the opportunity to review and plan for potential impacts to the region's reliability. For example, ERCOT has explained that if sources were required to immediately cease operating as part of this litigation, it "would effectively bypass Texas's 150-day notice requirement, depriving ERCOT of any opportunity to conduct the required review of the impact . . . or to commit the generator to continued service through an RMR contract."⁷ Ultimately, ERCOT explained, this could "jeopardize the reliability of the ERCOT transmission grid."⁸ Other regions could face similar concerns, and the impact on reliability would be exacerbated if other companies operating similarly-situated coal-fueled plants in the respective regions were also required to stop operating immediately. Given the number of coal-fueled plants that are likely in the same situation, the impact to reliability, in my view, would be unprecedented.

33. The ERCOT region is a particular concern, as the ERCOT market is a "power island" wholly contained within Texas and separated from neighboring power regions

⁷ Letter from Chad V. Seely, Vice President and General Counsel of ERCOT, to Anne L. Idsal, EPA Region 6 Administrator, January 21, 2019, at 2 ("ERCOT Letter") (Attachment 1).

⁸ *Id.*

by asynchronous ties that limit imports and exports to and from the ERCOT market. Currently, ERCOT can only import approximately 1,250 MW from outside its grid, which is less than 2% of ERCOT peak summer demand.⁹

34. ERCOT recently announced the results of its December Capacity, Demand and Reserves (CDR) Report, which includes planning reserve margins for the next five years.¹⁰ Based on this report, the 2019 summer peak load is projected to be 74,853 MW, an increase of 651 MW relative to the load projections prepared in November 2017. Notably, the summer 2019 projected peak load is above ERCOT's current all-time peak record of 73,473 MW, which was set on July 19, 2018.¹¹ ERCOT's planning reserve margin for summer 2019 is forecasted to be only 8.1%,¹² which, according to ERCOT, "is the lowest reserve margin ERCOT has ever predicted for the following summer peak since it began providing such forecasts in 2001."¹³ This is 2.9% lower than ERCOT initially reported in its May 2018 CDR¹⁴

⁹ ERCOT, *ERCOT DC-Tie Operations: NERC Tagging, Interchange Scheduling, Normal and Emergency Operations, and Inadvertent Energy Accounting* (July 2018), available at http://www.ercot.com/content/wcm/key_documents_lists/90055/ERCOT_DC_Tie_Operations_Document_V3R11.docx.

¹⁰ ERCOT, *Report on the Capacity, Demand and Reserves (CDR) in the ERCOT Region, 2019-2028* (Dec. 2018) ("CDR Report").

¹¹ ERCOT, *New Report Shows Tightening Electricity Reserve Margins* (Dec. 4, 2018), <http://www.ercot.com/news/releases/show/168033>.

¹² CDR Report at 8.

¹³ ERCOT Letter at 2.

¹⁴ CDR Report at 8.

and 2.8% below ERCOT's reserve margin for summer 2018.¹⁵ Moreover, as indicated by ERCOT, "the recently announced retirement of the Gibbons Creek facility will push this summer's expected reserve margin even lower to approximately 7.4%."¹⁶

35. ERCOT has recognized the heightened risks within its region in the event any source is required to immediately cease operating as part of this litigation.¹⁷ Specifically, in response to the pending motions in this case, ERCOT has notified EPA that if developments "require the sudden retirement of generation in sufficient numbers, the supply of generation could be inadequate to meet electricity demand in Texas for some period of time, which would increase the likelihood that ERCOT would need to take emergency measures to ensure system reliability," which "could include the temporary disconnection of customers from the grid during periods of short supply."¹⁸ Ultimately, ERCOT explained that "[g]iven [its] currently low reserve margins, *any* retirements could thus have a material reliability impact on electric service to consumers in Texas."¹⁹

36. Accordingly, Luminant Generation Company LLC's three coal-fueled plants in Texas are critical to the reliable operation of the ERCOT grid, and ERCOT relies

¹⁵ Summer 2018 reserve margins were 10.9%. ERCOT, *Estimation of the Market Equilibrium and Economically Optimal Reserve Margins for the ERCOT Region*, at iii-iv (Oct. 2018).

¹⁶ ERCOT Letter at 2.

¹⁷ *Id.* at 3.

¹⁸ *Id.*

¹⁹ *Id.* (emphasis added).

heavily on Luminant to meet the area's increasing demand. With the immediate loss of one of these plants, ERCOT likely would not be able to maintain an adequate reserve margin, especially in the critical summer months. In fact, even with a 10.25% reserve margin, ERCOT reports that it could expect 0.5 loss-of-load events per year.²⁰ That is, ERCOT would expect an event "about every two years in the range of 1,527 MW of load being shed for 3.2 hours on average, for a total expected unserved energy of 4,467 MWh."²¹ These "events would be more frequent, longer, and deeper at lower reserve margins"²²

37. Although PJM and MISO are currently projected to have higher reserve margins, both regions are reliant on coal-fueled power plants for reliable operations, including the Operating Companies' three coal plants in PJM and eight coal plants in MISO. For example, PJM's installed capacity is approximately 30% coal²³ and MISO's installed capacity is approximately 39% coal.²⁴

²⁰ Summer 2018 reserve margins were 10.9%. ERCOT, *Estimation of the Market Equilibrium and Economically Optimal Reserve Margins for the ERCOT Region*, at 34 (Oct. 2018).

²¹ *Id.*

²² *Id.*

²³ Monitoring Analytics, LLC, *Quarterly State of the Market Report for PJM: January through March*, at 554 (2018), available at http://www.monitoringanalytics.com/reports/PJM_State_of_the_Market/2018/2018q1-som-pjm-sec12.pdf.

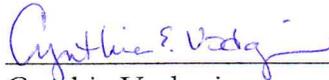
²⁴ Potomac Economics, *2017 State of the Market Report for the MISO Electricity Markets*, at 4 (June 2018), available at https://www.potomaceconomics.com/wp-content/uploads/2018/07/2017-MISO-SOM_Report_6-26_Final.pdf.

38. Beyond the impact to overall capacity, suspension of operations may pose higher risks to certain localized regions within MISO and PJM that are transmission constrained and more reliant on coal-fueled power plants. Analyzing and mitigating the effect on the transmission system is a key basis for each RTO to take time to study the potential loss of capacity and generation. It is important to recognize that generators provide more than energy to the grid—they are also critical for balancing the system through the provision of voltage and reactive support. This is the basis for the North American Electric Reliability Corporation standard requiring transmission operators and balancing authorities to develop operating plans to mitigate operating emergencies and to coordinate those plans with the RTO.²⁵

39. Thus, for these reasons, were the Operating Companies required to immediately cease operation of their coal-fueled power plants, it would risk significant disruption to the reliability of multiple power grids, causing substantial harm to the millions of individuals, businesses, and public institutions that use electricity generated by the Operating Companies.

²⁵ See NERC Standard EOP-011-1 Emergency Operations.

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury that the foregoing is true and correct. Executed this 22nd day of January, 2019.



Cynthia Vodopivec
Vistra Energy Corp.

Attachment 1

January 21, 2019

Ms. Anne L. Idsal
Regional Administrator
United States Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

Via Electronic Mail Only

Re: *Waterkeeper Alliance, Inc., et al. v. U.S. Environmental Protection Agency, et al.*, No. 18-1289, in the United States Court of Appeals for the District of Columbia Circuit

Dear Ms. Idsal:

I write to bring to your attention the implications that certain developments in the above-captioned proceeding could have on electric reliability for consumers in the State of Texas.

ERCOT's Role in Ensuring System Reliability

Electric Reliability Council of Texas, Inc. (ERCOT) is the entity charged under state and federal law with the ultimate responsibility for the planning and operation of the bulk electric system that serves over ninety percent of the electric demand in Texas. ERCOT's statutory duties include the responsibility to "ensure the reliability and adequacy of the regional electrical network." Tex. Util. Code § 39.151(a)(2). A critical part of this system reliability function is ensuring that sufficient generation is always available to serve demand. In real-time, this means monitoring the supply of generation and dispatching generators at a level that is just sufficient to meet demand. In the longer-term horizon, this means providing information about possible future supply and demand conditions to help developers of generation determine when it is appropriate to build new generation.

Maintaining reliability also requires ERCOT to coordinate the retirement of generation. As in other regions of the country, generator retirements in the ERCOT region are subject to reliability review and potential commitment under a "reliability must-run" (RMR) contract. Generators in the ERCOT region are required by law to provide 150 days' notice before suspending operations. 16 Tex. Admin. Code § 25.502(e). Upon receiving notice from a generation owner of an intent to suspend operations, ERCOT conducts a study of the reliability implications of the retirement. The study considers conditions on the grid for the two years following the date of suspension and determines whether the grid can be operated within established tolerances during this time. In some cases, ERCOT may determine that the generator should be committed to provide RMR service to ensure system reliability until a suitable transmission solution can be developed.¹

¹ In 2016, for example, ERCOT entered into a contract with the owner of a generating facility in the Houston area to manage potential transmission overloads that could not be resolved by the remaining generators in that area. The contract was terminated following the construction of additional generation in the area.

Ms. Anne Idsal
January 21, 2019
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Implications of Present Litigation on ERCOT System Reliability

ERCOT understands that in 2018, the United States Environmental Protection Agency (EPA) promulgated a rule that extends the deadline for closing coal ash impoundment facilities that do not comply with the EPA's Coal Combustion Residuals (CCR) rule to October 2020. ERCOT further understands that several parties have challenged EPA's 2018 rule in the U.S. Court of Appeals for the D.C. Circuit and have requested that the court either stay or vacate that rule.

ERCOT takes no position on whether granting the requested stay or vacatur would require immediate compliance with the closure provisions in the CCR rule. However, to the extent immediate closure of coal plants would be required as a consequence of a stay or vacatur, ERCOT notes that this would effect a severe disruption of the processes established under Texas law to ensure the reliable and orderly retirement of generation. Specifically, requiring any generator to close immediately would effectively bypass Texas's 150-day notice requirement, depriving ERCOT of any opportunity to conduct the required review of the impact of the retirement or to commit the generator to continued service through an RMR contract. Immediate closures of these plants could, in some cases, create localized reliability impacts for which no ready solution exists. Denying ERCOT the ability to evaluate these potential impacts and to develop an appropriate remedial solution when necessary could therefore jeopardize the reliability of the ERCOT transmission grid. ERCOT notes that it has very recently exercised its review authority with respect to the proposed retirement of the 470 MW coal-fired Gibbons Creek Generating Station in Grimes County, Texas.²

Furthermore, requiring any number of generating facilities to close immediately would exacerbate already tight supply conditions in the ERCOT region. ERCOT measures the sufficiency of its generation supply by calculating a "reserve margin," which is the percentage by which expected generating capacity exceeds forecasted demand in a given future year. State law requires ERCOT to publish annual forecasts of its reserve margin. 16 Tex. Admin. Code § 25.505(c). ERCOT's most recently published forecast indicates an 8.1% reserve margin for the 2019 summer peak,³ which is the lowest reserve margin ERCOT has ever predicted for the following summer peak since it began providing such forecasts in 2001. This figure is also substantially lower than forecasted summer 2019 reserve margins in the rest of the country, which are generally above 20%.⁴ And the recently announced retirement of the Gibbons Creek facility will push this summer's expected reserve margin even lower to approximately 7.4%.

² See ERCOT Market Notice W-A122118-02, Reliability analysis determination for City of Garland, Gibbons Creek Generating Station (Jan. 17, 2019), available at http://www.ercot.com/services/comm/mkt_notices/archives/4029.

³ See ERCOT December 2018 Capacity, Demand, and Reserves Report, available at <http://www.ercot.com/content/wcm/lists/143977/CapacityDemandandReservesReport-Dec2018.xlsx>.

⁴ See North American Electric Reliability Corporation (NERC) 2018 Long-Term Reliability Assessment (Dec. 2018) at 51-52, available at https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC_LTRA_2018_12202018.pdf.

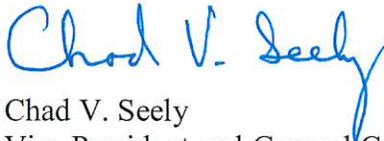
Ms. Anne Idsal
January 21, 2019
Page 3

Although studies commissioned by ERCOT suggest that these reserve margins should be sufficiently low to encourage developers to build additional generation,⁵ new generation can take several years to build. Consequently, if unforeseen regulatory changes require the sudden retirement of generation in sufficient numbers, the supply of generation could be inadequate to meet electric demand in Texas for some period of time, which would increase the likelihood that ERCOT would need to take emergency measures to ensure system reliability. Among other things, these measures could include the temporary disconnection of customers from the grid during periods of short supply. Given ERCOT's currently low reserve margins, any retirements could thus have a material reliability impact on electric service to consumers in Texas.

We appreciate EPA's consideration of these concerns and ask that EPA and other parties in this litigation, copied herein, consider the important implications for electrical reliability that a stay or vacatur of the 2018 rule could present if such a development would require immediate closure of coal-fired generating facilities.

Please do not hesitate to contact me if you have any questions.

Sincerely,



Chad V. Seely
Vice President and General Counsel
(512) 225-7035
chad.seely@ercot.com

Cc (via electronic mail only):

Meghan E. Greenfield, counsel for Respondent United States Environmental Protection Agency
Thomas Cmar, counsel for Petitioners Waterkeeper Alliance, Inc., et al.
Douglas H. Green, counsel for Intervenor Utility Solid Waste Activities Group
P. Stephen Gidiere III, counsel for Intervenors Luminant Generation Company LLC, et al.

⁵ See The Brattle Group, *Estimation of the Market Equilibrium and Economically Optimal Reserve Margins for the ERCOT Region* (Oct. 12, 2018) at 25, available at http://www.ercot.com/content/wcm/lists/143980/10.12.2018_ERCOT_MERM_Report_Final_Draft.pdf (identifying market equilibrium reserve margin of 10.25%).

ORAL ARGUMENT NOT YET SCHEDULED

**UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT**

<hr/>)
WATERKEEPER ALLIANCE, INC., <i>et al.</i> ,))
))
Petitioners,))
))
)	No. 18-1289
v.))
))
U.S. ENVIRONMENTAL PROTECTION))
AGENCY, <i>et al.</i> ,))
))
Respondents.))
<hr/>)

**DECLARATION OF JEFFREY JENKINS, ARIZONA PUBLIC SERVICE,
IN SUPPORT OF RESPONSE OF INTERVENORS UTILITY SOLID
WASTE ACTIVITIES GROUP AND LUMINANT GENERATON
COMPANY LLC, et al., IN SUPPORT OF EPA’S MOTOIN FOR
VOLUNTARY REMAND WITHOUT VACATUR AND IN OPPOSITION
TO PETITIONER’S MOTION FOR STAY OR, IN THE ALTERNATIVE,
FOR PARTIAL SUMMARY VACATUR**

I, Jeffrey Jenkins, state as follows:

1. I am the plant manager of Four Corners Power Plant (“FCPP”) operated, and owned in part, by Arizona Public Service. FCPP is located on the Navajo Nation in northwestern New Mexico, near Farmington. FCPP is now a two-unit power plant, after its first three units were retired at the end of 2013, and maintains a 1,540 megawatt (“MW”) capacity from current Units 4 and 5. The plant is fueled

by low-sulfur coal from the adjacent Navajo Mine, which is owned by the Navajo Nation. Over 80% over the employees at FCPP are Native American.

2. I have been the plant manager at FCPP for almost one year. Prior to that, I was the plant manager for 10 years at the Indianapolis Power & Light Company Petersburg Generating Station, a 1,850 MW coal-fired power plant in Indiana. Similar to my prior position, my current responsibilities include oversight and management the FCPP's safety, environmental, operations, and financial functions. Based on these responsibilities, I have knowledge regarding the FCPP's operation, including the operation of three surface impoundments at FCPP used for the management of coal combustion residuals ("CCR") and other non-CCR waste streams, including the projects necessary to prepare for and initiate closure of these units and develop alternative disposal and wet-CCR waste minimization measures. I am competent to make this declaration and, unless otherwise indicated, all of the facts set forth in this declaration are based on my personal knowledge.

3. As explained below, FCPP has already undertaken significant planning and implementation steps towards initiating closure of the subject CCR surface impoundments. However, development of alternative capacity for FCPP's CCR and non-CCR waste streams is still underway and cannot be completed until October of 2020.

4. If required to immediately cease placement of CCR and non-CCR waste into the three CCR surface impoundments and initiate closure, FCPP would be unable to manage the hundreds of millions of gallons of CCR and non-CCR waste generated on a daily basis because there is no available alternative capacity on-site and it is not feasible to send wet waste off site. In these circumstances, FCPP would have to cease power production.

5. As explained below in section F, FCPP is a key component of APS's resource mix and provides baseload capacity to millions of customers across Arizona and New Mexico. Thus, cessation of power at FCPP could cause serious power reliability concerns and potentially serious public health and safety concerns.

6. I describe more fully below the function of FCPP's CCR impoundments, which include the Combined Waste Treatment Pond, the Lined-Ash Impoundment, and the Lined Decant Water Pond. I then describe the steps that have been taken to date toward initiating closure of these units, including the development of alternative disposal and wet-CCR waste minimization measures, and the remaining steps that must be implemented to allow for the initiation closure in a manner that does not threaten uninterrupted power production at FCPP.

A. The Combined Waste Treatment Pond

7. The FCPP's Combined Waste Treatment Pond ("CWTP") is used by the plant for multiple waste treatment functions—*i.e.*, principally CCR, along with other low

volume liquid plant waste streams. The vast majority of the waste-streams managed in the CWTP are bottom ash transport water (“BATW.”) Approximately 3.9 million gallons per day (“GPD”) of BATW is managed in the CWTP. Non-CCR low-volume wastewater streams comprise approximately 404,000 GPD of flow into the CWTP. As such, this CCR unit is also subject to the 2015 Revised Effluent Limitation Guidelines for the steam-electric generating station source category governing BATW discharges. *See* 80 Fed. Reg. 67,837 (Nov. 3, 2015) (“2015 ELG Rule”). In addition to facility retrofits and changes to the CWTP in order to satisfy the 2015 ELG Rule’s “zero-liquid discharge” requirements for BATW, the CWTP must also cease operation and initiate closure based upon the CWTP’s location relative to the uppermost aquifer pursuant to EPA’s 2015 CCR regulations. *See* 40 C.F.R. Sec 257.101(b); *See* 83 Fed. Reg. 36,435 (July 30, 2018).

8. To repurpose the CWTP for use in connection with non-CCR wastewater management at the FCPP, APS currently intends to implement a closure by removal project for the CWTP, pursuant to 40 C.F.R. § 257.102(c) (this means that all the CCR in the impoundment will be removed in accordance with the federal CCR regulations). However, to ensure the continued operation of the FCPP and the continued provision of power once the CWTP is taken out of service, APS must first develop alternative BATW disposal, treatment, and management

capacity. At this time, the soonest that APS can complete the work necessary to develop CCR disposal alternatives for the CWTP, and thereafter be prepared to initiate closure by removal for this unit, is October 2020.

B. The Steps Necessary to Develop Alternative Disposal Capacity for CWTP

9. The project summarized below is a necessary prerequisite for the FCPP to achieve compliance with EPA's CCR disposal regulations while also ensuring the continued safe and reliable operation of the FCPP

10. BATW Holding & Treatment Tank Construction: To address the cessation of using the CWTP as required by the federal CCR regulations, a new system of concrete holding and treatment tanks will be needed at the FCPP to manage BATW flows. This will involve the construction of treatment and holding tanks, constructed of concrete, steel rebar reinforcements, and sealant materials, in lieu of an in-ground CCR surface impoundment. This system will obviate the need for the CWTP's BATW capacity and maintain compliance with EPA's CCR regulations. The critical tasks necessary to implement this project, along with an estimated and approximate timeframe for completing those tasks, is provided below:

- a) Complete design and engineering work for holding and treatment tank system, which at this time has been completed. This work began in June 2018, and required six months to complete. The design and engineering work involved an analysis of the FCPP's

“water balance” to develop the required size for a new concrete treatment tank system to replace the CWTP, which functioned as an incised surface impoundment. The sizing and orientation for the tank system depended upon the necessary capacity for managing both BATW and non-CCR low-volume wastewater flows originating from the FCPP, subject to additional in-tank treatment to increase solids settling, so as to reduce overall tank system footprint.

- b) Mobilization and decommissioning site preparation (three months, First Quarter 2019). BATW decantation cells currently exist within the area where the new BATW holding and treatment tank system will be constructed. These need to be demolished and decommissioned prior to the start of construction for the new concrete tank system. This demolition and decommissioning work can be completed during the winter months, given that this task does not involve new construction with concrete placement, excavation, or structural fill.
- c) Tank system construction (nine months, Fourth Quarter 2019). The construction of the BATW holding and treatment tank system will require the building of a leak-proof concrete tank structure that

is approximately 130 by 500 feet in size, oriented to receive BATW and low-volume plant wastewater flows and discharge them following treatment through an NPDES-permitted outfall. Excavations, fill, and compaction for a tank foundation will also be required. This construction project cannot commence until the spring of 2019, given the limitations on concrete placement, excavations, and structural fill during winter months. Available ready-mix concrete sources in the area of the FCPP also places a limitation on the schedule for construction of this tank system.

- d) Operations testing for TSS, oil and grease, and pH NPDES permit requirements (six months, First and Second Quarter 2020).

Because APS will be replacing a 13-acre incised surface impoundment with a significantly smaller tank system (i.e., with a 130 by 500 feet tank), additional polymer treatments to received-wastewater streams will be required to achieve compliance with NPDES permit limits. In addition, because of the size limitation associated with this tank system, this system will involve a substantially shorter holding time for treated wastewaters.

Moreover, future operations associated with a BATW recirculation system (i.e., to address NPDES effluent limitation guidelines for

BATW “zero liquid discharge” pursuant to the 2015 ELG Rule) must also be anticipated and addressed through wastewater treatments within this system. As to each of these factors, substantial time will be required to perform operational testing of this new BATW treatment and holding tank system, and entirely new treatment protocols will need to be developed prior to initiating project tie-in.

- e) Shift all BATW flows, place tank in service (three months, Third Quarter 2020). Once operational testing and the development of wastewater treatment protocols is completed, the new BATW treatment and holding tank will need to be tied-into the FCPP’s wastewater infrastructure. This will require shifting outfall locations and revamping piping systems from the FCPP. This work must be completed sequentially following operational testing.

The design-average capacity for this system will be to manage approximately 4.4 million GPD. That said, at this time, we are considering potential design changes that would involve the use of a submerged conveyor system. This would implicate a potential system volume change to an average capacity of 1.7 million GPD. Maximum design flow will be reviewed after the conveyor system options are explored, as well as the overall design of system reviews occur, which will take

place during 2019. If this submerged conveyor system is incorporated into the tank system, concrete structures beneath the Unit 4 and 5 boilers have to be substantially modified, which could increase the time and complexity for implementing this project. Further, as yet unanticipated design changes may also be incorporated to address the submerged conveyor system.

C. The Lined-Ash Impoundment and the Lined Decant Water Pond

11. The FCPP's Lined-Ash Impoundment ("LAI") and Lined Decant Water Pond ("LDWP") are arranged immediately adjacent to one-another in a "Multi-Unit" configuration, and function together for the management of the FCPP's FGD scrubber wastewater and to provide a source of reused water for the FGD system itself. These units manage approximately 120,000 "GPD of treated plant sewage, 200,000 GPD of FGD sludge (with 20 to 36 percent solids by volume), 86,000 GPD of collected CCR-disposal leachate, and intermittent volumes of boiler cleaning wastes. FGD solids are permanently disposed into the LAI via settling treatment, and the resulting water stored within the LDWP is returned to the plant's FGD system for reuse. Because these units were designed and constructed with liners prior to EPA's finalization of RCRA Subtitle D CCR management regulations, the LAI and LDWP liners do not meet regulatory standards for "lined" CCR surface impoundments. *See* 40 C.F.R. Sec 257.71(a)(3).

12. Based upon the results of assessment monitoring under the CCR rule for the LAI and LDWP, both units have triggered the requirement to cease operation and initiate closure, pursuant to 40 C.F.R. Sec 257.101(a). *See* 83 Fed. Reg. 36,435 (July 30, 2018). To ensure the continued operation of the FCPP once these CCR disposal units are taken out of service, APS must complete certain projects to, both, cease wet FGD disposal and develop replacement water holding capacity for the LAI and LDWP. As such, as an alternative to the LAI and LDWP, APS will be implementing various projects to accommodate the dry-disposal of FGD solids and provide an alternative CCR surface impoundment for the management of return-water volumes for the FCPP's FGD sulfur dioxide air pollution controls. As described more fully below, the soonest that APS can implement projects to develop CCR disposal alternatives for the LAI and LDWP, and thereafter be prepared to initiate closure of these units, is October 2020.

D. The Steps Necessary to Develop Alternative Disposal Capacity for the LAI and LDWP

13. The projects listed and summarized below are each necessary to initiate closure of the LAI and LDWP and achieve compliance with EPA's CCR disposal regulations. Each of these projects has essential components that allow continued operation of the FCPP in a safe and reliable manner, and ensures the proper disposal of CCR materials, in particular FGD scrubber wastewater currently managed within the LAI and LDWP. These project components are interrelated

and must be coordinated to allow for continued operations at the FCPP for electric generation.

14. FGD and Fly-Ash Blending Project – This project is one of two initiatives at the FCPP developed for the purpose of reducing wet-disposed CCR volumes, in particular FGD scrubber waste. This project will blend FGD scrubber waste (i.e., as a conditioning material) with dry fly ash CCR so that the combined waste stream can be disposed into on-site dry-fly ash disposal areas (the “DFADA” landfill cells). Planning, design work, and engineering for this project commenced in 2012, as part of implementation of improved plant designs to better manage FGD sludge through increased dry waste disposal.

15. The project’s pumping, pipe systems, and the installation of mechanical equipment shall be in service by early 2019. Nonetheless, based upon certain operational uncertainties created by the recent commissioning of a selective catalytic reduction (“SCR”) system in March of 2018, the operating parameters for this new CCR blending system are presently uncertain (i.e., for Unit 5, the SCR system began operation in March of 2018, while the Unit 4 SCR began operation in July of 2018). The reason for this uncertainty is the chemical-engineering analysis required to adjust FGD operations to account for reduced solids volume within the FGD sludge, which arose from recently commissioned SCR operations, as required by FCPP’s legal obligations under the federal Clean Air Act (i.e.,

Regional Haze requirements).¹ As a result of the SCR system coming online over the course of 2018 and changing the flue gas chemical composition that enters the FCPP FGD system (i.e., for FCPP flue gas, the SCR is operationally upstream from FGD system), the solids volume within the FCPP's FGD sludge has dropped by almost half. To properly blend the plant's liquid FGD sludge into fly ash, such that the resulting material can be safely transported and compacted for landfill disposal, the FGD solids content must be substantially increased. As such, prior to starting use of the FGD sludge and dry-fly ash blending system, real-time plant operational adjustments, via FGD scrubber chemistry changes and on-site analyses, throughout 2019 and into 2020, will be necessary. These operational and chemistry adjustments are necessary and described below in connection with the description of the FGD Thickener Tank Rebuild Project (*see* below).

16. FCPP's work on the FGD and Fly-Ash Blending Project completed to-date, along with necessary outstanding tasks, are described in the following paragraphs, including an estimate and approximate time for completing this work.

17. Replacing and upgrading three "pugmills" and their associated dust collectors. The pugmills and their dust collectors operate to blend liquid materials, in this case water and FGD sludge, with solid materials, in this case fly ash. The resulting

¹ See Source Specific Federal Implementation Plans: Implementing Best Available Retrofit Technology for Four Corners Power Plant; Navajo Nation, EPA-R09-OAR-2010-0683-0242, 40 C.F.R. § 49.5512 (Aug. 12, 2012) (requiring the installation and operation of SCRs at the FCPP by July 31, 2018).

material can then be dry disposed, in lieu of wet disposal in a surface impoundment, by loading the produced waste solids into trucks for disposal into a dry landfill. New pugmills were required in order to accommodate FGD blending, whereas prior FCPP pugmill systems were only able to handle water and process liquor. The pumps, agitators (i.e., used for keeping mixed liquid materials in suspension during processing), tanks, and piping are all needed to move materials into the "pugmills" for processing (described below). This work has been completed, and involved the following major components, which needed to be performed sequentially:

- a) Overall project design, including the dust-collector systems, which was based upon waste production needs (*i.e.*, how much waste will be produced by the combustion of coal at the FCPP and how large a system is necessary to accommodate those volumes) (three months);
- b) Bidding and contract awards for equipment procurement, which involved long-lead times to address vendor manufacturing and delivery (three months); and
- c) Construction and installation of new pugmill and dust-collector equipment, including new support infrastructure (three months).

18. The following three project components are scheduled to be completed in January of 2019, and were implemented in concert with one another. Tie-in of these new systems will be performed during the next dual-unit outage, likely in March of 2019 (though, as described below, blending system operation will not commence until much later, following necessary plant operational adjustments). A dual-unit outage is required for final project tie-in given that substantial modifications to existing plant piping and valves, which are critical to operations, will be required to connect this new equipment. In addition, the following three tasks were scheduled to be completed following the pugmill replacement and upgrade work because of coordination with the SCR-construction outages at the FCPP throughout 2017 and 2018. The pugmill replacements had to be performed during these outages to accommodate the operational needs for fly-ash management during coal-firing performed by these systems.

- a) Re-fabrication of thickener underflow tanks, which required lead-time for significant support structure modification (including design, materials procurement, and construction), and replacement component procurement, manufacturing, and installation, to be performed as needed to support coal-firing operation (eight months);

- b) Replacement of thickener underflow tank pumps and agitator replacements, which required significant lead-time for major equipment procurement, manufacturing, delivery, and installation (16 months); and
- c) Installation of several thousand feet of fiberglass reinforced pipe and actuated valves to facilitate pumping FGD sludge from the FGD thickener tanks to the waste processing area for blending with the dry fly ash CCR, which requirement significant lead-time for piping and valve replacement, via equipment procurement, manufacturing, delivery, and installation (13 months).
- d) Again, tie-in of the new tanks, pumping, and piping with the new pugmills will occur during the next dual-unit outage, likely sometime in March of 2019. A full dual-unit outage is required for this work, given its function associated with FGD-sludge processing, which is critical to plant operations during coal-burning operations.

19. Because significant operational adjustments and chemical analysis will be necessary to adjust FGD solids content to ensure proper blending into a material that can be safely dry disposed, the FGD and fly ash blending system will not go into operation once project tie-in occurs, likely in March of 2019. Instead, this

project will only go into operation once the FGD solids content has been optimized following extensive plant operational adjustments associated with the FGD Thickener Tanks Rebuild Project (*see* below).

20. FGD Thickener Tanks Rebuild Project – Prior to the installation of the FCPP SCR system (as required by EPA’s Clean Air Act Regional Haze Federal Implementation Plan for the FCPP), the plant could operate with the utilization of only one of two existing thickener tanks. These thickener tanks are up-stream (in terms of the FGD waste-treatment process) from the pugmills, and will process the FGD sludge material prior to blending to ensure proper conditions for producing a fly-ash, FGD blend that can be dry disposed. In other words, the thickener tanks and the FGD/fly-ash blending systems are intended to work in tandem with another. With the introduction of SCR system operations starting in March 2018, as required under the Clean Air Act, FGD sludge particle behavior has changed drastically, resulting in a substantial reduction in the solids content of the plant’s FGD sludge (i.e., dropping from 36 down to 20 percent).

21. Because of this unanticipated change in the physical characteristics of the FGD sludge resulting from the operation of the SCR system, in addition to the time necessary for operational adjustments associated with the FGD sludge and dry-fly ash blending system, the utilization of both thickening tanks is now necessary for the FCPP air pollution control and CCR management systems to operate safely and

reliably in an integrated fashion. Up to this point, only one thickener tank had been in operation, and it has been approaching the point of needing repair for some time, while the other has been in need of overhaul and has not been in use. As such, both thickener tanks will need to be overhauled as necessary to return both tanks back to service to accommodate plant operations involving fly ash and FGD material blending. Utilizing two thickener tanks, instead of just one, will accommodate the necessary settling required for the FGD wastewater and fly-ash blending process to complete. In order for the FGD and fly-ash blending to be successful (i.e., to function safely and reliably) the density of the FGD material delivered from the thickener tanks needs to be at a higher percentage to reduce the required fly ash needed for the FGD disposal. Again, based upon the uncertainty introduced by the SCR system, and how those pollution controls will affect the resulting FGD material and its function within the CCR blending system, time-consuming plant operational adjustments will be necessary. These operational adjustments must be completed prior to the FGD and fly-ash blending system coming on-line for plant operations, and will require real-time adjustments to both FGD scrubber chemistry (i.e., the system that removes sulfur dioxide from the plant flue gas) and the FGD sludge thickener tanks (i.e., these systems are upstream, operationally, from pugmill system that will blend FGD sludge with fly ash).

22. Engineering and design work for this project started as the FCPP SCR system for Unit 5 came online in March of 2018. The currently estimated time for the completion of engineering and construction work is approximately 21 months from December 2018, with completion estimated in the third-quarter of 2020, given the need for extensive work to ensure FGD scrubber chemistry and thickener tank operational optimization. At this time, FCPP anticipates that this project would include the following tasks, along with an estimated and approximate time to complete this work:

- a) Unit 5 Thickener Tank Overhaul. This task will involve two key components: rebuilding the thickener tank, which will involve replacing structural supports, and bridge and platform assemblies (14 months, Third Quarter 2019); and overhauling the thickener system rotors, drive mechanisms, lift systems, and pump motors (five months, Second Quarter 2019). This work commenced in August of 2018 following the commencement of operation for the SCRs on both Units 4 and 5. The equipment associated with this project involves considerable lead-time (i.e., approximately 30 weeks for vendor procurement, manufacturing, and delivery).
- b) Unit 4 Thickener Tank Overhaul. This work will likely involve identical components and tasks as the Unit 5 thickener tank

overhaul. However, this work must be performed in sequence following the Unit 5 thickener overhaul, given that at least one thickener must be on-line during plant operations for FGD sludge processing. Overhaul work on a given thickener cannot be performed while that thickener is in operation to accommodate plant coal-firing. Assuming the Unit 5 thickener overhaul can be completed during the third quarter of 2019, the Unit 4 thickener tank overhaul can likely be completed during the second quarter of 2020.

c) Operational Adjustments to FGD and Fly-Ash Blending/FGD

Thickening Systems. Once tie-in has been completed as to both the new pugmills for fly ash and FGD blending and the overhauled and repaired FGD thickener tanks, chemical-engineering analyses of the blending process will be required, in concert with various levels of plant operation, in order to ensure proper waste density for compaction and structural stability within onsite dry-fly ash landfills. Given the chemical changes occurring within the flue gas as a result of SCR operation, which reduced the solids content of the plant's FGD sludge, changes to the FCPP's FGD system are needed to effect a corresponding increase in solids content. At this

time, various FGD operational changes are being contemplated to achieve this result (e.g., reducing the quantity dolomitic limestone used for sulfur dioxide control). As real-time evaluations of the FGD chemistry are performed during this period, FGD and other plant system operational changes will be explored to achieve the required FGD sludge solids concentration to implement dry disposal of the blended waste. While chemical analysis of the FGD systems is on-going at this time, the work can only be finished once the overhaul of the FGD sludge thickener tanks is complete, given that the thickener tanks are a necessary, up-stream component of the fly ash and FGD blending process and these tanks feed “thickened” FGD sludge into the pugmills (22 months, Third Quarter 2020).

23. Return Water Pond Project – Notwithstanding the blending of wet-FGD wastes and dry fly-ash CCR, a small CCR surface impoundment will still be required to manage, both, limited wet CCR materials (i.e., residual FGD wastewater following fly-ash blending) and return-water flows needed for plant reuse. This new CCR surface impoundment will be far smaller in size than the current LAI and LDWP (i.e., seven-acres of surface area for the new impoundment, though this sizing could change depending upon upstream changes associated with FGD and fly ash

blending systems). Engineering and design work for the Return Water Pond Project started earlier this year, with the long-lead items, such as pumping systems, requiring solicitation of bids in the fourth quarter of 2018. If work commences in the spring of 2019 at the soonest, the Return Water Pond can be in service by the end of the third quarter in 2020. The following describes the work necessary to implement this project, along with an estimated and approximate time to complete this work:

- a) Design of a new seven-acre CCR surface impoundment, with liner system meeting the requirements of 40 C.F.R. Sec 257.72 (Complete). The design work for this project was completed in four months commencing in June of 2018, and took into account the liquid waste disposal needs for the plant once the FGD and fly-ash blending system is commissioned for plant operations. This determination of volume then drove consideration of surface impoundment sizing, location, and other designs for pump-back and piping systems (i.e., this surface impoundment system will still be used for FGD water reuse once in operation).
- b) Replacement of leachate collection pumps (12 months, July 2019). Based upon the return water needs for the plant, pumps systems for the movement of liquid to and from the plant are required. Again,

the designs for these systems are based upon the necessary surface impoundment capacity. Work started on the pump designs and procurement in July 2018. These are long-lead time procurements, requiring vendor manufacturing to specifications developed for this project. Installation of the pumping systems, including the construction of support infrastructure (e.g., concrete pads), can commence in the spring of 2019 (i.e., given winter weather limitations on FCPP construction).

- c) Installation of outgoing and return-water piping for the new Return Water Pond (five months, July 2019). Vendor bidding for the piping needed to construct this project is on-going at this time, based upon plant specifications developed for this project. As with the pumping systems, installation of liquid piping (i.e., to and from the plant) and the construction of support infrastructure can commenced in the spring of 2019 (i.e., given winter weather limitations on FCPP construction). This installation work, however, can be implemented simultaneously with the installation of new pumping infrastructure.
- d) Installation of a lift station for effluent treated at the sewage treatment plant and installation of a leach field (10 months,

October 2019). Given that the LAI had been used for the treatment of chlorides in the treated effluent (via settling), prior to reuse by the plant, a new system is required for disposal of the plant's treated sewage effluent. As such, design work for a lift station and leach field commenced in June of 2018, and the plant anticipates completing the engineering and construction of these project components throughout the spring, summer, and fall of 2019.

e) Installation of a CCR-compliant Surface Impoundment (seven months, July of 2019). The work to construct this surface impoundment will require additional procurement of project-specific materials (e.g., geomembrane liners) and construction. This construction work cannot commence until February or March of 2019, again given cold-weather limitations on construction work (e.g., soils will not properly compact below the temperature that water freezes).

f) Installation and initial detection monitoring of four CCR compliance monitoring wells, with three of these wells installed at the down-gradient boundary of the Return Water Pond for downstream compliance monitoring (14 months, September 2020). Note that the CCR monitoring wells for the Return Water Pond

will need to be installed after construction is complete and will need to be installed with time for eight rounds of sampling prior to receiving CCR materials in the unit. Installing these wells prior to construction is not feasible, given that the wells need to be at the edge of the waste disposal boundary in compliance with the EPA CCR regulations. *See* 40 C.F.R. Sec 257.90(b)(2).

E. Basis for Estimation of Timing to Design, Construct and Implement

Alternative Disposal Capacity for CCR Surface Impoundments

24. The estimated timeframes discussed above for designing, constructing and implementing alternative disposal capacity for the CWTP, LAI, and LDWP (including the associated wet-CCR disposal minimization measures) are based on my professional judgment and that of our third-party contractor engineering firm, AECOM, and in consideration of our collective experience with similar scale projects at both the FCPP and other comparable facilities. Considerations include a number of significant factors, such as:

- a) Project timing must account for coordination with plant outage schedules (which are themselves timed to coincide with APS's overall resource plan for providing necessary electricity service to service-territory customers within reserve margin requirements).

Plant outages are typically scheduled during periods of low

electricity demand for APS's customers, such as during the fall or spring. Planned outages for capital projects and plant maintenance work typically cannot be scheduled during the summer, given that this is the season of highest demand for electricity within APS's service territory. In this respect, certain construction tasks that would otherwise interfere with plant generation (e.g., modifying or replacing concrete structures beneath the coal-fired boiler, project tie-ins, existing thickener tank retrofits, underflow tank pumps and agitator replacements) must be timed to coincide with scheduled plant outages in order to avoid risks to critical plant reliability functions.

- b) Climate and weather are other significant factors that drive timing considerations for these projects (e.g., frozen ground surfaces in northern New Mexico substantially slows down excavations, ground filling work cannot be properly stabilized in cold weather, concrete placement is similarly inhibited during cold weather). While certain aspects of seasonal changes can be planned for, severe or off-season weather events cannot be controlled and can substantially affect project timing. Construction work that involves ground excavation, compacting, or filling or pouring

concrete cannot typically be performed at the FCPP between October and March.

- c) Safety considerations also drive project timing, in so far as there are limits upon, both, how quickly construction tasks can be performed and how many workers or pieces of equipment (e.g., earthmovers) can be deployed during a given construction task before there are threats to employee and contractor safety.
- d) The time required for constructing new plant components as opposed to existing plant retrofits is another substantial consideration, given that significant components of this project will require changes or modifications to existing plant infrastructure (e.g., modifying concrete structures beneath the coal-fired boiler, new support structure construction for pugmills and FGD sludge thickener underflow tanks). Much of this infrastructure was built decades ago and was not built with these environmental-related projects in mind. Overall, retrofitting existing, aged plant infrastructure and components to accommodate updated pollution control and waste minimization processes is far more complicated and time consuming than constructing entirely new plant components within previously

unused spaces. This is often because aged plant infrastructure must undergo significant modification prior to the installation of new components.

- e) In addition, the need to plan around procurement timeframes for the large-scale, specially-designed equipment necessary to implement these projects is also a substantial consideration. The equipment needed for this project involves substantial lead-time for third-party vendor design, manufacturing, and delivery (e.g., large-scale pumping systems, agitators, piping and connectors, geo-membrane linings).
- f) For the CWTP project in particular, timing considerations have also accounted for whether implementation could require modification of the existing FCPP NPDES permit (possibly including public notice and comment). For example, in order to potentially move the internal outfalls for BATW associated with the treatment and holding tank system placement, such modification would be required. This would be a downstream project consideration, so work to secure necessary permit modifications could not begin until much later during project implementation (e.g., during 2020 operations testing).

g) And in the case of developing alternative disposal capacity for the LAI and LDWP and the development of the Return Water Pond Project, timing considerations have also accounted for whether development of this project could require a new state dam construction permit (including on-site evaluation by the New Mexico Office of the State Engineer). The eventual surface impoundment sizing, which depends upon upstream treatment capacity determined during operational adjustments associated with the FGD and fly-ash thickeners and blending systems, could likely require the construction of a larger embankment and trigger state permitting requirements. Current project timing accounts for this contingency.

E. No Opportunities Exist for Further Project Expediting

25. The timelines provided herein provide the soonest timeframe by which alternative disposal capacity can be developed for the CWTP, LAI and LDWP (including the development of wet-CCR waste minimization measures) in a manner than ensures worker safety and plant reliability. Worker safety and plant reliability are paramount considerations for APS (and the electric utility industry as a whole) and cannot be disregarded for the sake of completing this project sooner.

In this regard:

- a) Additional personnel being staffed to these projects or additional project funding would not allow this work to be completed sooner, given the critical considerations that drive project timing (*see* above). At this time, APS has already taken advantage of utilizing the extensive assistance of third-party contractors (e.g., AECOM) to complete these projects as soon as possible.
- b) The tasks necessary to complete these projects are appropriately phased and sequenced to maximize project efficiency. In estimating the time for these projects, FCPP has already maximized the degree to which project tasks can be carried-out simultaneously. Otherwise, project task sequencing is necessary, in so far as evaluating plant operations associated with upstream tasks will drive how downstream projects tasks can be performed to ensure system reliability and coordinate timing with scheduled plant outages. For example, project work necessary to implement operations testing (e.g., as to NPDES permit limits for TSS, oil and grease, and pH) must occur prior to shifting all CWTP waste treatment flows into the BATW treatment and holding tank system. In this respect, the manner by which flows into the BATW treatment and holding tank system are ultimately directed will

depend upon the results of operational testing of this system. As another example, the project work to complete overhauls of the Units 4 and 5 thickener tanks (i.e., as the upstream function that feeds FGD sludge into the fly ash and FGD-sludge blending system) must be completed prior to APS finalizing the work to perform operational adjustments and real-time chemical analysis of the FGD system scrubber chemistry (i.e., to increase the solids content of the FGD sludge). In this respect, because the thickener tanks are operationally upstream of the FCPP FGD/fly-ash pugmills, the ultimate plant scrubber chemistry, and the operational adjustments thereof, depend upon operation of the thickener tanks. In addition, the thickener tank overhauls for Units 4 and 5 cannot be completed simultaneously, given the need for at least one thickener tank to accommodate current coal-firing operations at the FCPP. More generally, though, project tasks must follow standard, conceptual ordering (i.e., project design and engineering, equipment procurement and manufacturing, construction contracting, site preparation, construction and installation, and culminating with final project commissioning and tie-in).

c) In addition to carrying-out the tasks necessary to complete this project, which FCPP and its contractors can control, implementing this project will require procuring specially-designed equipment and materials. APS is not in control of the time required to have this equipment built and delivered to the FCPP (e.g., large-scale pumps, extensive piping, tank-lining materials, specialized conveyor systems, transformers for power). These are significant components of this large-scale capital project, and they require long-lead times for procurement.

F. Implications of FCPP Losing CCR Disposal Capacity

26. The FCPP is a key component of APS's resource mix and provides baseload electricity to meet the needs of customers across Arizona and New Mexico, including the Phoenix metropolitan area. If the absence of CCR disposal capacity caused the FCPP to cease operations prematurely—for instance, in the spring of 2019 prior to the summer cooling season—APS would be unable to meet its reserve margin requirements which allow APS to provide reliable electricity service to its customers. During the summer months in Arizona, the absence of reliable electricity service poses potentially very serious public health and safety consequences.

27. Should such a scenario arise for FCPP, APS would be forced to acquire replacement generation capacity on the open-market or potentially install temporary generation. Combined-cycle natural gas plants located elsewhere within the Western Electricity Coordinating Council (“WECC”) region may be available. However, additional natural gas pipeline capacity (i.e., to fuel replacement resources) and available electricity transmission capacity (i.e., to deliver power from outside of APS’s balancing authority)—which is far from certain at this time—would be required to satisfy potential replacement resources. In addition to capacity constraints, transmission system operating conditions have the potential to produce reliability concerns as a result of the absence of the FCPP’s generation capacity.

28. Assuming replacement generation could be obtained, the costs of such replacement capacity would likely be exorbitant, and those costs would be entirely borne by APS’s customers during the Arizona summer season when electricity rates are already at their peak. Furthermore, the limitations and excess costs to implement the contingencies necessary to replace the power from the FCPP would be substantially compounded by the likely disposition of other baseload coal-fired power plants in the WECC region similarly losing CCR disposal capacity and threatening those operations at the same time.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 01/02/2019



Jeffrey Jenkins

APS, Plant Manager

Four Corners Power Plant

management and professional services to and acts as an agent for AEP's utility operating subsidiaries.

2. AEPSC is based in Columbus, Ohio. The AEP system employs more than 18,000 people who operate and maintain the nation's largest electricity transmission system, and one of the nation's largest electricity generating systems, with approximately 26,000 Megawatts ("MW") of diverse electric generating capacity. AEP's family of companies includes Appalachian Power Company, Indiana-Michigan Power Company, Kentucky Power Company, Public Service Company of Oklahoma, and Southwestern Electric Power Company (hereafter, the operating companies and AEPSC are collectively referred to herein as "AEP"). AEP serves approximately five million retail and wholesale electricity customers.

3. Among the services provided by AEPSC are technical environmental services pursuant to a services agreement approved by the Federal Energy Regulatory Commission. AEP operates 31 coal combustion residual ("CCR") units regulated under the federal CCR rules or state-approved CCR program at 13 operating plants in eight states: Arkansas, Indiana, Kentucky, Ohio, Oklahoma, Texas, Virginia and West Virginia.

4. I was promoted to Senior Vice President – Environmental Services approximately one year ago, and prior to that was the Vice President – Environmental Services. I have held a variety of environmental compliance,

strategy and support roles since joining the company in 1977. My responsibilities in this capacity include leading the Environmental Services organization that provides direction into development of environmental policy, assures compliance, and oversees environmental support for all AEP generation and energy delivery facilities. Based on these responsibilities, I have knowledge regarding AEP's operations, including the operation of the regulated CCR units used for the management of CCR and non-CCR waste streams, and the projects necessary to prepare for and initiate closure of these units. I am competent to make this declaration and, unless otherwise indicated, all of the facts set forth in this declaration are based on my personal knowledge.

5. I describe below the function of AEP's CCR surface impoundments, the steps that must be taken to allow for the initiation of closure of these units in a manner that does not threaten uninterrupted power production, and the potential problems and risks of losing CCR and/or non-CCR waste stream disposal capacity.

B. Description and Function of CCR Surface Impoundments

6. Of the 31 regulated CCR units in the AEP system, 10 are lined landfills, one is a handling area for SO₂ scrubber product, and the remaining 20 are surface impoundments. None of these 20 impoundments meet the requirements necessary to be considered a "lined" surface impoundment under the federal CCR rules. Three of the 20 surface impoundments store fly ash, the lightweight particles

produced from the combustion of coal and removed from the flue gas by particulate collection devices. Fly ash is commonly recycled as an ingredient in the production of cement and/or concrete.

7. Of the 20 surface impoundments across our system, AEP has already completed closure of three and has a fourth closure project underway. Of the four pond closures, three are located at a pair of power plants that were converted from coal to gas and no longer produce CCR. The remaining 16 unclosed active impoundments across our system are used to store bottom ash and handle more than 50 million gallons per day of CCR and non-CCR waste streams. It is these 16 impoundments that will be the focus of the remainder of this declaration.

8. Bottom ash is a glass-like ash aggregate that accumulates in the bottom of a coal-fired utility boiler and is typically removed and conveyed with water or “sluiced” to an impoundment. The high temperatures in the boiler fuse the ash particles together, and render them essentially inert.

9. At some locations, bottom ash is periodically removed from the impoundment by dredging and dewatering, and is sold and reused as an abrasive blasting material, as a surface coating for roofing shingles and sandpaper, as a road treatment to provide traction during icy conditions, and for many other purposes. Reclaimed bottom ash can also be used during construction to establish a drainage layer above the liner in a CCR landfill or other sanitary landfill, because its

structure promotes the drainage of leachate to the bottom of a lined unit, where it can be removed for treatment.

10. In addition to treating bottom ash transport water, these surface impoundments also are used to accumulate and treat various other wastewaters from other areas of the generating plant. These other wastewater sources can include, but are not limited to, wastewaters from ion exchange water treatment systems, water treatment evaporator blowdown, laboratory and sampling streams, boiler blowdown, floor drains, cooling tower blowdown, and blowdown from recirculating house service water systems. At certain locations, the surface impoundments also collect and treat coal pile run-off and other storm water run-off (collectively the various wastewaters and run-off streams are referred herein to as “non-CCR wastewaters”). The primary treatment performed in a majority of the surface impoundments is settling of the collected solids in these wastewaters prior to the controlled discharge of treated waters into a nearby surface water. The discharges from each of the CCR surface impoundments in the AEP system are regulated under the Clean Water Act and authorized by state-issued National Pollutant Discharge Elimination System (NPDES) permits. Closing a CCR surface impoundment therefore requires not only providing alternate means of managing the bottom ash, but also designing, permitting, constructing, and providing

alternative treatment and capacity for the non-CCR wastewaters managed in the surface impoundment.

C. Closure of CCR Surface Impoundments

11. If AEP was immediately required to cease placing CCR and/or non-CCR wastewaters in its CCR surface impoundments, we would not be able to continue operating nine out of thirteen of our generating units for a period of time sufficient to make modifications to equipment and unit operations.

12. In order to initiate closure and cease using the existing impoundments, new or alternative storage capacity for CCR and non-CCR wastewater must be identified, developed and in place before the existing impoundment may cease to be used for CCR and non-CCR wastewaters.

13. If a new impoundment or landfill is intended to be used, the potential site must be investigated and alternative capacity designed. This step takes about 8-12 months for a plant assuming the location is already owned by AEP. Once a location is identified then multiple permits must be secured prior to beginning construction. In my experience the permitting process can take from 12 -24 months. Depending on the location of the alternative disposal capacity, the necessary permits may include a Solid Waste Permit, NPDES permit modification, Corps of Engineers permit (Section 404 and 401 state certifications), local zoning permits, and local erosion and sediment control permits and Dam Safety Permit.

Once the necessary permits are in place, construction begins. The duration of the construction depends on the size and complexity of the alternate disposal location and the geographic locale but could take anywhere from 18 to 36 months. The complexity of the construction will be impacted by installation or relocation of new piping and equipment for wastewater handling and treatment, even in the situation where solids are removed from an existing CCR surface impoundment, and it is retrofitted to meet current standards.

14. At some plant locations, an existing surface impoundment that is not regulated by the CCR rule can be developed and used to manage non-CCR wastewaters; however, even in this instance, preparing the surface impoundment to receive additional waste streams cannot occur immediately. It will take approximately six to twelve months to design, install and/or relocate piping and electrical and up to an additional 12 months to evaluate and secure any required permitting prior to utilizing an existing non-CCR surface impoundment.

15. Idling or closure of a power plant stops the production of CCR waste streams and some non-CCR waste streams but does not eliminate the need for handling other non-CCR waste streams. Many of our surface impoundments receive water from surface runoff, coal piles, and various water collection sumps. Plant and/or pond modifications will be needed to handle and treat these sources of non-CCR water before they can be discharged. Therefore, the need for uninterrupted non-

CCR waste stream capacity will remain for a significant amount of time. Put simply, certain impoundments will be unable to immediately cease operation even if we immediately discontinue the combustion of coal and production of CCR waste streams.

16. The steps generally described above are quite complex, as they involve fundamental changes to a plant's design and operation, and involve certain elements whose timing is beyond the control of AEP. For example, elements whose timing is out of the control of AEP are: the procurement of equipment, obtaining required permits, a limited construction season due to weather, and planned or unplanned outages of generating units.

D. Impacts to Electric Grid

17. Transitioning to alternative capacity for CCR and non-CCR wastewaters must be completed in a manner so as not to disrupt the generation and delivery of electricity to the power grid. Bottom ash and a variety of non-CCR wastewaters are produced whenever the plant is in service and generating electricity. AEP's operating companies are members of regional transmission organizations that are responsible for dispatching individual generating units, while balancing the demand for electricity and the production and delivery of that electricity in a manner that assures adequate and reliable supplies are available when needed, and at a reasonable cost. The PJM Interconnection, LLC, in the east and the Southwest

Power Pool in the west depend upon AEP units to provide up to each unit's demonstrated capacity to serve the load in these regional systems. Outages of individual generating units must be scheduled in advance and coordinated with the system operator, and must be staggered in such a manner that generating capacity to satisfy electricity demand is continuously met.

18. If AEP were required to immediately cease the placement of CCR and non-CCR wastewaters into all unlined surface impoundments, which as stated earlier are necessary for handling more than 50 million gallons per day of CCR and non-CCR streams, and initiate closure, AEP would have to temporarily or permanently cease power production at nine facilities in five states. This represents all of AEP's coal-fired capacity in Ohio, Indiana, West Virginia, Texas, and half of AEP's coal-fired generating capacity in Arkansas.

19. Based on a reasonable engineering review of the thirteen facilities with CCR impoundments, a sudden cessation of impoundment availability would likely accelerate the retirement plans of two facilities, would force three facilities to idle for 3-5 years, and would force four more facilities to idle for 9-12 months while the required modifications were made. Only four of our thirteen facilities could continue to provide uninterrupted generation to our customers.

20. The immediate forced cessation of power production at only AEP's facilities could cause serious local power delivery constraints and more regional reliability concerns in the affected states.

21. If other coal-fired facilities in these or neighboring states were also forced to cease power production, the consequences could be serious. For example, according to the Energy Information Administration's Electric Power Annual for 2017, coal-fired units provide the following percentages of electricity generation in each of the six states where AEP's units operate:

State	Total Generation (in Thousand Megawatt hours)	Total Coal-fired Generation (in Thousand Megawatt hours)	% Coal-fired Generation
Indiana	98,930	72,385	73%
Ohio	119,552	68,344	57%
West Virginia	73,357	68,349	93%
Arkansas	60,775	26,285	43%
Oklahoma	73,732	17,368	23%
Texas	452,794	134,648	29%

Clearly simultaneous immediate closure of a significant portion of the coal-fired capacity in these states could destabilize the electricity grid, and would not be in the public interest.

22. U.S. EPA must have the opportunity to consider all of these factors in determining the appropriate criteria and schedule to implement the court's decision, and conduct a full rulemaking with an adequate opportunity for public notice and comment before adjusting the requirements of the CCR rule.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 1/4/19

John M. McManes

ORAL ARGUMENT NOT YET SCHEDULED

**UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT**

_____)	
WATERKEEPER ALLIANCE, INC., <i>et al.</i> ,)	
)	
Petitioners,)	
)	
)	No. 18-1289
v.)	
)	
U.S. ENVIRONMENTAL PROTECTION)	
AGENCY, <i>et al.</i> ,)	
)	
Respondents.)	
_____)	

**DECLARATION OF PAUL JACKSON, ASSET MANAGER, BUCKEYE
POWER INC., IN SUPPORT OF RESPONSE OF INTERVENORS
UTILITY SOLID WASTE ACTIVITIES GROUP AND LUMINANT
GENERATON COMPANY LLC, *et al.*, IN SUPPORT OF EPA’S MOTION
FOR VOLUNTARY REMAND WITHOUT VACATUR AND IN
OPPOSITION TO PETITIONERS’ MOTION FOR STAY OR, IN THE
ALTERNATIVE, FOR PARTIAL SUMMARY VACATUR**

I, Paul Jackson, state as follows:

1. I am the Asset Manager of Buckeye Power Inc. Buckeye Power owns and operates 3 coal and gas-powered plants in Ohio and generates up to 1,970 megawatts. Electricity from the plants is delivered to the PJM Regional

Transmission Organization (“RTO”) and provides power to approximately 400,000 customers.

2. I have been the Asset Manager for 4 years. My responsibilities in this capacity include the development and implementation of compliance strategies at Cardinal Plant. Based on these responsibilities, I have knowledge regarding the Cardinal Plants operation, including the operation of the surface impoundments used for the management of coal combustion residuals (“CCR”) and other non-CCR waste streams and the projects necessary to prepare for and initiate closure of these units. I am competent to make this declaration and, unless other indicated, all of the facts set forth in this declaration are based on my personal knowledge.

3. Buckeye Power owns or operates 2 CCR surface impoundments that are considered unlined under the CCR rule. These impoundments are used to manage both CCR and Non-CCR waste streams including, but not limited to, fly ash, bottom ash, stormwater runoff, cooling tower blowdown, and other balance of plant waters.

4. Buckeye Power is currently undertaking planning and implementation steps towards initiating closure of the subject CCR surface impoundments, which requires the design, permitting and construction of alternative disposal capacity for the CCR and non-CCR currently managed in the impoundments. If Buckeye Power is required to immediately cease the placement of CCR and non-CCR wastes into

the surface impoundments currently used to manage these waste streams and initiate closure, Buckeye Power would not have the ability to manage the hundreds of millions of gallons of CCR and non-CCR waste streams generated on a daily basis and would have to cease power production.

5. The cessation of power production at these facilities could cause serious power reliability concerns in the affected regions and may precipitate the early closure of the plant causing loss of tax base and employment in the area.

6. I describe below the function of Company's CCR impoundments, the steps that must be taken to allow for the initiation closure of these units in a manner that does not threaten uninterrupted power production, and the potential implications of losing CCR and/or non-CCR waste stream disposal capacity.

A. FUNCTION OF THE SURFACE IMPOUNDMENTS

7. Cardinal currently operates 2 CCR surface impoundments. One impoundment (Bottom Ash Pond) handles bottom ash transport water, cooling tower blowdown, stormwater drainage, coal pile run-off, FGD process and reclaim water. The other CCR impoundment, Fly Ash Reservoir II, receives transport water from the Bottom Ash Pond (which is used to sluice fly ash to the impoundment), and fly ash transport water, which is then discharged through an NPDES permit to the Ohio River. The plant water balance is dependent on the function of these two surface impoundments.

B. STEPS NECESSARY TO INITIATE CLOSURE

8. Cardinal Plant has constructed a landfill to accept the bottom ash and fly ash. The landfill is accepting gypsum, currently. However, in order for this alternative disposal capacity to be useable, for fly ash, a dry fly ash system will need to be constructed and a CCR compliant bottom ash pond will need to be constructed. Buckeye Power is currently working through technology evaluations for both fly ash and bottom ash to implement the best path forward for handling CCR. The technology evaluations will both need to be complete in order to develop a comprehensive Cardinal solution. The change of handling of fly ash and bottom ash will fundamentally change the water balance of the plant, which will impact plant operations, water treatment and possible NPDES permit modifications.

9. A technology evaluation for identifying the appropriate compliant technologies as well as installation schedule will take approximately 6 months. The completion of a technology evaluation and the subsequent selection of the technology to be implemented by the Plant will take approximately one to two months. At that point, detailed engineering can begin concurrently with long-lead equipment procurement. Construction can begin during detailed engineering, but only after the relevant construction packages and permitting are complete. Permitting timeframes can be up to 12 months, though this timeframe is not in the

plant's control. Permits that likely will be required for implementation of the alternative disposal capacity will include, among others, a modified NPDES permit (for management of the non-CCR waste streams in a new impoundment) and potentially a Clean Air Act PSD permit for dry fly ash management. If this is the case, permitting will take at least 12 months. In addition, air modeling may need to be completed and potential offsets may need to be obtained in order for a permit to be issued. Construction will take 12- 18 months and cannot start until after the requisite permits are obtained.

10. There are some complicating factors to construction. There is a significant amount of civil work that will need to take place for whatever technology is selected for fly and bottom ash. The weather in Ohio causes the civil construction season to be shortened. An additional complicating factor to construction is that the critical tie-ins to the existing plant infrastructure can only be done during scheduled outages in coordination with the PJM outside of the PJM restricted seasons. The combination of these factors create a total project length of 3 – 5 years for Cardinal.

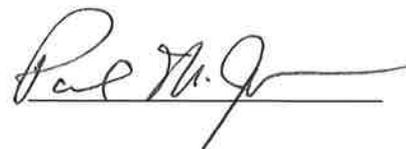
C. IMPLICATIONS OF LOSING DISPOSAL CAPACITY

11. Should Cardinal be unable to manage CCR and non-CCR waste streams in the existing surface impoundments, the plant would be unable to produce electricity. The ongoing operation of Cardinal is important to the RTO in order to

provide fuel diversity and reliability. As a member of PJM, Buckeye is required to participate in the PJM capacity market, known as the Reliability Pricing Model (RPM), which is designed to ensure the adequate availability of necessary resources that can be called upon to ensure the reliability of the grid. In order to accomplish this, PJM's capacity market is a 3-year forward looking auction which secures enough generation to meet its projected energy needs. As a result, Cardinal has participated in all the PJM capacity auctions and has a commitment to PJM through June 2022. As a result of Cardinal's capacity commitment, Buckeye is mandated to offer the Cardinal units into the PJM energy market on a daily basis through June 2022. If Buckeye is unable to fulfill the PJM capacity obligation, Buckeye's members could be subjected to PJM capacity performance and / or capacity deficiency penalties. Additionally, Buckeye's members would have increased energy market risks and volatility. This volatility is currently hedged by the operation of Cardinal Plant and its premature closure could have our members facing significantly higher power prices.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 1/3/2019



for SRP for the foreseeable future as its capacity makes up more than 7 percent of SRP's current generating capacity.

2. I have been the CGS plant manager for over one year. My responsibilities in this capacity include overseeing the day-to-day operations, maintenance, engineering, construction and compliance activities at CGS. Prior to my current assignment, as Director of SRP's Generation Engineering department, I was involved with CGS engineering and project management for approximately four years. Based on these responsibilities, I have knowledge regarding the CGS operation, including the operation of the surface impoundment used for the management of coal combustion residuals ("CCR") and other non-CCR waste streams and the projects necessary to prepare for and initiate closure of the impoundment. I am competent to make this declaration and, unless otherwise indicated, all of the facts set forth in this declaration are based on my personal knowledge.

3. SRP owns and operates an unlined CCR surface impoundment that has been in use since 1979 and is used to manage CCR and non-CCR waste streams at CGS ("Evaporation Pond"). The Evaporation Pond is a permitted facility through the State of Arizona's Aquifer Protection Permit program. The Evaporation Pond is located directly on top of the Chinle Formation, which includes a thick sequence of naturally low permeability clays that act as a barrier to

downward migration of water from ground surface and from the impoundment. The Chinle Formation is documented to be between approximately 220 and 250 feet thick beneath the Evaporation Pond. Although the Evaporation Pond is “unlined” as defined under the CCR rule, it has a natural geologic clay liner and there have been no exceedances of any groundwater protection standard.

4. Prior to the federal court decision in *UWSAG v. EPA*, 901 F.3d 414 (D.C. Cir. 2018) (“*USWAG*”), SRP would not have had to initiate closure of the Evaporation Pond under the CCR rule because the unlined unit did not otherwise trigger closure under the rule because it is not a source of groundwater contamination exceeding the rule’s groundwater protection standards and it met the rule’s location restrictions.

5. As a result of the issuance of the Court’s mandate in the *USWAG* decision on October 15, 2018, SRP’s Evaporation Pond, as an unlined CCR surface impoundment, will be required to close. Prior to the issuance of the mandate, SRP had not made plans to initiate closure of the Evaporation Pond because it was not required under the CCR rule.

6. The initiation of closure of the Evaporation Pond will involve substantial effort and changes in operations that were not previously required under the CCR rule nor planned for by SRP prior to the issuance of the mandate in the *USWAG* decision. Outlined below are the general steps that must be undertaken to

develop alternative capacity for CGS's CCR and non-CCR waste streams currently managed in the Evaporation Pond.

7. If SRP is required to immediately cease the placement of CCR and non-CCR wastes into its Evaporation Pond and initiate closure, SRP will not have the ability to manage the approximately 500,000 gallons of CCR and non-CCR waste streams generated on average on a daily basis and would have to cease power production.

8. A shutdown of CGS to accommodate the construction of a new impoundment would place SRP in a difficult situation for meeting its obligation to reliably serve the load of our customers. In addition, CGS is under contract for coal through 2020, and any shutdown could materially impact SRP's ability to comply with the provisions of this contract, which could then result in substantial damages and penalties to SRP. Finally, a shutdown, even a temporary one, would have a significant impact on CGS's more than 200 employees, SRP's customers, and the economies in St. Johns and Apache County.

9. I describe below the function of the Evaporation Pond and the general steps that must be taken to allow for the initiation of closure of the unlined impoundment in a manner that does not threaten uninterrupted power production and is in compliance with Arizona's aquifer protection laws.

A. FUNCTION OF THE SURFACE IMPOUNDMENT

10. The Evaporation Pond is used as a means for disposal of plant process waters through evaporation and for permanent storage of flue gas desulfurization (“FGD”) material. All non-recyclable plant wastewater and FGD material are sent to the Evaporation Pond, including discharge from the wastewater reservoir, ash process water, rinse water, and storm water run-off from the ash landfill and other areas.

11. The Evaporation Pond is a surface impoundment that encompasses approximately 330 acres, with a design capacity of approximately 3,682 acre-feet. An engineered dam constructed of compacted earth fill located on the northern end of the impoundment and is regulated by the Arizona Department of Water Resources (“ADWR”).

B. STEPS NECESSARY TO INITIATE CLOSURE

12. SRP cannot, without halting power production, cease placement of CCR and non-CCR material in the Evaporation Pond until alternative disposal capacity has been designed, permitted, constructed, and ready to manage the waste streams currently managed in the Evaporation Pond.

13. SRP is presently undertaking an engineering analysis to evaluate the quantities of the CCR and non-CCR material waste streams to assess the feasibility of different options for handling these waste streams in compliance with the CCR

rule and Arizona's aquifer protection laws. The CGS facility was not designed to segregate the non-CCR flows from overall comingled flow to the Evaporation Pond, therefore engineering analysis and facility redesign is a tremendous effort. This analysis and effort was neither required by the CCR Rule nor anticipated to be required prior to the *USWAG* decision. The *USWAG* decision resulted in a complete reversal of the Evaporation Pond's regulatory status and suddenly imposed significant requirements on CGS that potentially threaten the continued operation of the plant.

14. At a minimum, having until October 31, 2020, before being required to cease placement of CCR material and non-CCR material in the Evaporation Pond pursuant to 40 C.F.R. § 257.101(a) is critical to providing time for SRP to determine how to address the change in regulatory status resulting from the *USWAG* decision.

15. Any new surface impoundment, whether for CCR material or non-CCR material, will require an individual Aquifer Protection Permit ("APP") issued by the Arizona Department of Environmental Quality ("ADEQ"). The APP permitting process includes an in-depth evaluation addressing technical capability [A.A.C. R18-9-A202(B)], cost estimates for construction, operation, maintenance, closure and post-closure [A.A.C. R18-9-A201(B)(5)], financial demonstration [A.A.C. R18-9-A203], compliance history [A.A.C. R18-9-A202(A)(11)], and

technical requirements, including characterization of discharge [A.A.C. R18-9-A202(A)(4)], description of Best Available Demonstrated Control Technology [A.A.C. R18-9-A202(A)(5)], compliance with Aquifer Water Quality Standards at the Point of Compliance [A.A.C. R18-9-A202(A)(6)], contingency plan [A.A.C. R18-9-A202(A)(7) and R18-9-A204], and Hydrogeological Study [A.A.C. R18-9-A202(A)(8)].

16. Under Arizona law, the time frame to obtain an individual APP permit (with public hearing) is 266 business days (nearly 13 months). A complex individual APP permit (with public hearing) may take up to 329 business days (nearly 16 months). [A.A.C. R18-1-525.]

17. SRP anticipates that it will take at least two and one-half years, or, more likely, three and one-half years (or more) to replace the CGS Evaporation Pond with alternative disposal capacity. The general phases required include: (1) preparing the ADEQ APP individual permit application and the ADWR Dam Safety permit application (as applicable), conducting biological and cultural studies at the proposed project's location and developing associated mitigation plans (if required), and completing final engineering design for one or more new impoundment(s) to evaporate the same quantity of wastewater as the existing Pond; (2) participating in the ADEQ permit application process, ordering engineered liner material, and conducting competitive bidding to secure a

construction contractor, non-liner material vendors and construction equipment; and (3) construction of the permitted impoundment(s), testing of the bottom liner system, and commissioning the new impoundment(s). SRP estimates that this process could be completed no earlier than June 2021, but believes a more reasonable completion date would be closer to June 2022.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 01-04-19

A handwritten signature in blue ink, consisting of several loops and a long horizontal stroke at the end, positioned above a thin horizontal line.

capacity of 2,082 MW. PowerSouth is a not-for-profit electric cooperative that serves 20 member systems who serve approximately 442,000 consumers in Alabama and North Florida.

2. I have been the Executive Vice President and Chief Operating Officer for 5 years. My responsibilities in this capacity include oversight for all operations, maintenance, and construction including: generation, transmission, energy control and power marketing, fuel procurement and telecommunications. Based on these responsibilities, I have knowledge regarding PowerSouth's operation, including the operation of the COMPANY's surface impoundments used for the management of coal combustion residuals ("CCR") and other non-CCR waste streams and the projects necessary to prepare for and initiate closure of these units. I am competent to make this declaration and, unless otherwise indicated, all of the facts set forth in this declaration are based on my personal knowledge.

3. PowerSouth owns and operates three CCR surface impoundments that function as one multi-unit system at its Lowman coal-fired power plant in Leroy, AL. These impoundments are considered unlined under the CCR rule and are used to manage both CCR and Non-CCR waste streams. These streams include fly ash, bottom ash, and FGD scrubber blowdown as well as certain Non – CCR waste streams including, but not limited to, cooling tower blowdown, boiler blowdown,

water treatment blowdown, and other incidental streams around the plant (including plant drain sumps).

4. PowerSouth has already undertaken planning and implementation steps towards closing its Lowman coal-fired power plant, the only owned and operated coal-fired power plant in its generation fleet, and, for initiating closure of the unlined CCR surface impoundments at the facility by October 31, 2020.

PowerSouth's decision and timeline to close its remaining coal fired power plant, and the associated unlined CCR surface impoundments, was primarily predicated on the date set forth (October 31, 2020) in EPA's Phase One rule, since it was the first date with certainty PowerSouth could use for planning purposes. Upon closure of the Lowman Coal Plant on October 31, 2020, PowerSouth will have to terminate the jobs for the approximately 150 men and women currently employed at the facility.

5. PowerSouth's planning for closure of the Lowman facility and the unlined CCR surface impoundments is still underway. PowerSouth is not in a position to immediately cease power production at the Lowman facility, nor initiate closure of the unlined surface impoundments. Initiating closure of a power plant involves several steps that require careful planning. These include closely evaluating replacement power options; either securing replacement power in the form of purchased power from the market or building a new PowerSouth owned

and operated generating facility; and importantly, working to plan for layoffs and to develop severance packages for employees that will be released as a result of the plant shutdown. PowerSouth and other utilities must maintain enough generating capacity to meet reserve margins and serve firm load at all times. If other utilities in the market are forced to shut down generating facilities prematurely as well, the option for a firm purchase power agreement may not be available. In preparation for closure and demolition, PowerSouth will have to take steps inside the plant, including wash-down of the boiler and other emission control equipment that will require continued use of the onsite impoundments for a short time following shutdown.

6. If PowerSouth is required to immediately cease the placement of CCR and non-CCR wastes into the surface impoundments at the Lowman coal-fired power plant currently used to manage these waste streams, PowerSouth would not have the ability to manage the millions of gallons of CCR and non-CCR waste streams generated on a daily basis and would have to cease power production at its Lowman coal-fired power plant prematurely.

7. The cessation of power production at this facility would cause grid reliability concerns. PowerSouth would be unable to reliably serve its peak electric load due to the immediate loss of 551 MW of power and the associated difficulties of purchasing replacement power capable of regulating frequency and following

load changes in real time. This unreliability would be compounded if other power generating facilities in the region also have to simultaneously cease power production because of the premature closure of their unlined CCR surface impoundments needed to manage waste streams generated during power production.

8. Premature closure of the Lowman coal-fired plant also would require PowerSouth to purchase replacement capacity, if available, to reestablish acceptable reserve margins on short notice. Depending on the availability of capacity from other utilities that are impacted similarly to PowerSouth, PowerSouth's reliability to serve firm load would be in jeopardy.

9. Closure of the Lowman coal-fired plant before October 31, 2020 would also result in the premature termination of the employment of the approximately 150 men and women working at the facility. This would have a substantial adverse impact on these employees and the local economy where the plant operates. Currently, PowerSouth is the top taxpayer and one of the top employers in Washington County, Alabama due to the operation of the Lowman coal plant.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 1/4/19



ORAL ARGUMENT NOT YET SCHEDULED

**UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT**

_____)	
WATERKEEPER ALLIANCE, INC., <i>et al.</i> ,)	
)	
Petitioners,)	
)	
)	No. 18-1289
v.)	
)	
U.S. ENVIRONMENTAL PROTECTION)	
AGENCY, <i>et al.</i> ,)	
)	
Respondents.)	
_____)	

DECLARATION OF JEFFERY L. TUCKER, IN SUPPORT OF RESPONSE OF INTERVENORS UTILITY SOLID WASTE ACTIVITIES GROUP AND LUMINANT GENERATON COMPANY LLC, et al., IN SUPPORT OF EPA’S MOTION FOR VOLUNTARY REMAND WITHOUT VACATUR AND IN OPPOSITION TO PETITIONERS’ MOTION FOR STAY OR, IN THE ALTERNATIVE, FOR PARTIAL SUMMARY VACATUR

I, Jeffery L. Tucker, state as follows:

1. I am a Principal Engineer of PacifiCorp. PacifiCorp owns and operates 10 power plants in Washington, Utah, and Wyoming, and serves approximately 1.9 million customers in 6 western states.

2. I have been an engineer at PacifiCorp for 37 years. My responsibilities in this capacity include permitting, construction, monitoring, and

compliance management of PacifiCorp's surface impoundments. Based on these responsibilities, I have knowledge regarding PacifiCorp's operation, including the operation of PacifiCorp's surface impoundments used for the management of coal combustion residuals ("CCR") and other non-CCR waste streams and the projects necessary to prepare for and initiate closure of these units. I am competent to make this declaration and, unless otherwise indicated, all of the facts set forth in this declaration are based on my personal knowledge.

3. PacifiCorp operates 1 CCR surface impoundment that is considered unlined under the CCR rule, is not impacting groundwater, and is used to manage CCR and non-CCR waste streams.

4. Prior to the federal court decision in *UWSAG v. EPA*, 901 F.3d 414 (D.C. Cir. 2018) ("*USWAG*"), PacifiCorp's surface impoundment discussed above would not have had to initiate closure under the CCR rule because it did not trigger closure under the rule, as it was not the source of groundwater contamination exceeding the rule's groundwater protection standards and met the rule's location restrictions.

5. As a result of the issuance of the Court's mandate in the *USWAG* decision on October 15, 2018, PacifiCorp's unlined surface impoundment discussed above will be required to close. Prior to the issuance of the mandate on

October 15, 2018, PacifiCorp had not made plans to initiate closure of this impoundment per the timeframes in the CCR rule.

6. The initiation of closure of this impoundment will involve substantial effort and a change in operations that were not previously planned for by PacifiCorp prior to the issuance of the mandate in the *USWAG* decision.

7. If PacifiCorp is required to immediately cease the placement of CCR and non-CCR wastes into this unlined surface impoundment and initiate closure, PacifiCorp would not have the ability to manage the CCR and non-CCR waste streams generated on a daily basis by the power generation facility that uses the surface impoundment, and that facility would have to cease power production.

8. Based on information from PacifiCorp's Transmission Planning group, the immediate cessation of power production at this facility could cause power reliability concerns in PacifiCorp's service area.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: January 4, 2019

A handwritten signature in blue ink, appearing to read "Jeffrey Tucker", written over a horizontal line.

ORAL ARGUMENT NOT YET SCHEDULED

**UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT**

_____)	
WATERKEEPER ALLIANCE, INC., <i>et al.</i> ,)	
)	
Petitioners,)	
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)	No. 18-1289
v.)	
)	
U.S. ENVIRONMENTAL PROTECTION)	
AGENCY, <i>et al.</i> ,)	
)	
Respondents.)	
_____)	

**DECLARATION OF GEORGE T. HAMRICK, IN SUPPORT OF
RESPONSE OF INTERVENORS UTILITY SOLID WASTE ACTIVITIES
GROUP AND LUMINANT GENERATON COMPANY LLC, *et al.*, IN
SUPPORT OF EPA’S MOTION FOR VOLUNTARY REMAND WITHOUT
VACATUR AND IN OPPOSITION TO PETITIONERS’ MOTION FOR
STAY OR, IN THE ALTERNATIVE, FOR PARTIAL SUMMARY
VACATUR**

I, George T. Hamrick, state as follows:

1. I am the Senior Vice President of Coal Combustion Products of Duke Energy Business Services LLC (“Duke Energy”). Duke Energy’s Electric Utilities and Infrastructure business unit serves approximately 7.5 million customers located in six states in the Southeast and Midwest. As an integral part of its diversified energy portfolio, Duke Energy owns almost 18,000 megawatts of coal-

fired generation capacity, with coal combustion residuals (“CCR”) units at 20 active and inactive coal-fired electric generating facilities that are subject to the Disposal of Coal Combustion Residuals from Electric Utilities rule, 80 Fed. Reg. 21302 (Apr. 17, 2015) (“CCR Rule”).

2. I have been the Senior Vice President of Coal Combustion Products since October 2014. My responsibilities in this capacity include developing and implementing Duke Energy’s comprehensive strategy for managing its coal combustion products, including ash and gypsum, which includes overseeing Duke Energy’s conversion to dry ash handling and the closure of its CCR surface impoundments. Based on these responsibilities, I have knowledge regarding Duke Energy’s operation, including the operation of its surface impoundments used for the management of CCR and non-CCR waste streams and the projects necessary to prepare for and initiate closure of these units. I am competent to make this declaration and, unless otherwise indicated, all of the facts set forth in this declaration are based on my personal knowledge.

3. Duke Energy owns or operates 46 CCR surface impoundments that are considered unlined under the CCR Rule. These impoundments are used to manage both CCR and non-CCR waste streams.

4. Due to the North Carolina legislature’s passage of the Coal Ash Management Act of 2014 (“CAMA”), Duke Energy began working in the first half

of 2015 on the scope of projects necessary to cease flows of CCR and non-CCR waste streams into CCR surface impoundments across its fleet and begin closure. As such, Duke Energy had a legal obligation under CAMA to being working on the design and engineering necessary to initiate closure of the subject CCR surface impoundments much sooner than otherwise would have been required under the CCR Rule. Despite these early actions, implementation of alternative capacity for Duke Energy's CCR and non-CCR waste streams is still underway and, with respect to most of the CCR surface impoundments, cannot be completed until approximately April 2019. In fact, at two sites, implementation of alternative capacity cannot be completed until 2020.

5. If Duke Energy is required to immediately cease the placement of CCR and non-CCR wastes into the surface impoundments currently used to manage these waste streams and initiate closure, Duke Energy would not have the ability to manage the hundreds of millions of gallons of CCR and non-CCR waste streams generated on a daily basis and would have to cease power production.

6. The cessation of power production at these facilities could cause serious power reliability concerns in the affected regions and other related consequences.

7. I describe below the function of Duke Energy's CCR surface impoundments, the steps that must be taken to allow for the initiation of closure of

these units in a manner that does not threaten uninterrupted power production, and the potential implications of losing CCR and/or non-CCR waste stream disposal capacity.

A. FUNCTION OF THE SURFACE IMPOUNDMENTS

8. In addition to managing CCR, numerous non-CCR waste streams, as well as stormwater, are managed in CCR surface impoundments. The types of flows that have historically been treated in Duke Energy's CCR surface impoundments include bottom ash sluice water; fly ash silo high-pressure service/wash water; flue gas desulfurization system outflows, such as flows from constructed wetlands treatment systems, bioreactors, and blowdown tanks; pyrite sluice water; landfill leachate; cooling tower blowdown; and yard sump water. Although several of these waste streams are low volume, the cumulative flow comprises hundreds of gallons per minute. As such, these CCR surface impoundments serve a critical dual purpose by managing the millions of gallons per day of CCR and non-CCR waste streams that are necessarily generated as a result of power production.

B. STEPS NECESSARY TO INITIATE CLOSURE

9. Duke Energy cannot initiate closure of its CCR surface impoundments until alternative disposal capacity has been designed and constructed to manage the CCR and non-CCR waste streams currently managed therein. Because each

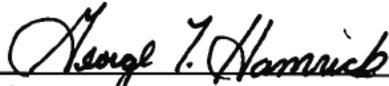
facility is unique, permits must be secured and environmental plans and assessments must be developed on a site-specific basis. Moreover, extensive engineering and design is required for the systems that will enable flows to be rerouted from impoundments to new treatment systems. The projects required at each site vary, depending on existing CCR management, disposal capacity, and operating characteristics, but include stormwater/process water reroutes and a combination of installing dry bottom ash systems, dry fly ash reliability projects, new stormwater/process water retention and treatment facilities, and wastewater treatment systems. These projects are complex, as they involve fundamental changes to plant design and operations and involve certain elements, which are not entirely within the control of Duke Energy, including required permits from local, state, and federal authorities; equipment deliveries; and weather impacts on construction.

C. IMPLICATIONS OF LOSING DISPOSAL CAPACITY

10. Immediately being foreclosed from placing CCR and non-CCR waste streams in the CCR surface impoundments would result in the inability to manage the waste streams generated as a result of power production. As such, the affected plants would have to cease power generation, which could, in turn, potentially threaten power reliability in the region.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: January 4, 2019


George T. Hamrick