

Chris Osterbrink Zimmer Power Company LLC Luminant 1781 US Route 52 Moscow, OH 45153

October 13, 2021

Mr. Glen Vonderembse Ohio Environmental Protection Agency Southwest District Office Division of Surface Water 401 East Fifth Street Dayton, OH 45402

Re: Zimmer Power Plant – Federal ELG Notice of Planned Participation to Achieve Permanent Cessation; NPDES Permit (1IB00011\*MD) Renewal Application Supplement

Dear Mr. Vonderembse:

Pursuant to 40 C.F.R. 423.19(f), Zimmer Power Company LLC (Zimmer) submits this Notice of Planned Participation to the Ohio Environmental Protection Agency (OEPA) demonstrating that the Zimmer Power Plant's Unit 1 qualify as electric generating units that will achieve permanent cessation of coal combustion by December 31, 2028. Accordingly, Bottom Ash Transport Waters (BATW) and Flue Gas Desulfurization (FGD) Wastewaters may continue to discharge on and after October 13, 2023, pursuant to 40 C.F.R. § 423.16(e)(1) and (g)(1). Zimmer is also hereby supplementing the Zimmer Power Plant NPDES renewal application submitted in 2019 as required by 40 C.F.R. § 423.18.

Zimmer has provided below and enclosed the information required by 40 C.F.R. § 423.19(f)(2):

- Expected date that each electric generating unit is projected to achieve permanent cessation of coal combustion
  - o Zimmer Unit 1: May 31, 2022
- Whether each date represents a retirement or a fuel conversion
  - o Retirement for Zimmer Unit 1
- Whether each retirement or fuel conversion has been approved by a regulatory body, and what the relevant regulatory body is
  - o Retirement has been approved. The relevant regulatory body is PJM.
- A copy of (1) the most recent integrated resource plan for which the applicable state agency approved the retirement or repowering of the unit subject to the ELGs, (2) certification of electric generating unit cessation under 40 CFR 257.103(b), or (3) other documentation supporting that the electric generating unit will permanently cease the combustion of coal by December 31, 2028
  - See enclosed demonstration submitted to USEPA pursuant to 40 C.F.R. § 257.103(f)(2) on August 13, 2021.
  - o See enclosed company press release indicating a 2022 retirement date for Zimmer.

- See letter from PJM approving the request to deactivate the Zimmer Plant by May 31, 2022.
- A timeline to achieve the permanent cessation of coal combustion
  - See timeline on pages 6-2 of the enclosed demonstration submitted to USEPA pursuant to 40 C.F.R. 257.103(f)(2) on August 13, 2021.

Zimmer Power Plant's Unit 1 will cease coal combustion pursuant to § 423.19(f), and therefore, discharge of pollutants in BATW and FGD wastewaters generated on and after October 13, 2023, can continue until no later than December 31, 2028. *See* 40 C.F.R. § 423.16(e)(1) and (g)(1). Zimmer is requesting that OEPA revise the Zimmer NPDES permit accordingly, and Zimmer will submit additional information in Ohio's electronic permit application system as necessary. Moreover, OEPA should include the language below in accordance with 40 C.F.R. § 423.18 which states that "All permits subject to this part shall include the following permit conditions." In addition to the language set forth at 40 C.F.R. § 423.18, Zimmer further offers the additional language underlined below that would include a Reliability Must Run designation as a qualifying event.

- a) An electric generating unit shall qualify as a low utilization electric generating unit or permanently ceasing the combustion of coal by December 31, 2028, if such qualification would have been demonstrated absent the following qualifying event:
  - 1) An emergency order issued by the Department of Energy under Section 202(c) of the Federal Power Act,
  - 2) A reliability must run agreement issued by a Public Utility Commission, or
  - 3) Any other reliability-related order or agreement issued by a competent electricity regulator (e.g., an independent system operator) which results in that electric generating unit operating in a way not contemplated when the certification was made, including a Reliability Must Run designation by PJM; or
  - 4) The operation of the electric generating unit was necessary for load balancing in an area subject to a declaration under 42 U.S.C. 5121 et seq., that there exists:
    - i. An "Emergency," or
    - ii. A "Major Disaster," and
    - iii. That load balancing was due to the event that caused the "Emergency" or "Major Disaster" in paragraph (a)(4) of this section to be declared,
- b) Any facility providing the required documentation pursuant to § 423.19(g) may avail itself of the protections of this permit condition.

If you have any questions regarding this submittal, please contact Desiree Loveless at 513.309.6923 or Desiree.Loveless@vistracorp.com.

Sincerely,

Ash Cashel. K

Chris Osterbrink Plant Manager Zimmer Power Company LLC

Enclosures

# CCR SURFACE IMPOUNDMENT DEMONSTRATION

W/O ATTACHMENTS



Cynthia Vodopivec Zimmer Power Company LLC Luminant 6555 Sierra Dr. Irving, TX 75039

August 13, 2021

Sent via email

Mr. Michael S. Regan, EPA Administrator Environmental Protection Agency 1200 Pennsylvania Avenue, N.W. Mail Code 5304-P Washington, DC 20460

Re: Zimmer Power Plant Alternative Closure Demonstration—Request to Transfer to 40 C.F.R. § 257.103(f)(2)

Dear Administrator Regan:

Zimmer Power Company LLC (Zimmer)<sup>1</sup> has announced that the William H. Zimmer Power Plant (Zimmer Plant) in Ohio will cease coal-fired operations by May 31, 2022. As a result, Zimmer hereby submits this request under 40 C.F.R. § 257.103(f)(4)(i) to transfer the current authorization for a site-specific alternative deadline for the three surface impoundments at the Zimmer Plant from § 257.103(f)(1) (development of alternative capacity is technically infeasible) to § 257.103(f)(2) (permanent cessation of a coal-fired boiler(s) by a date certain).

By way of background, on November 25, 2020, Zimmer timely submitted to the U.S. Environmental Protection Agency (EPA) an alternative closure demonstration pursuant to § 257.103(f)(1) to extend the rule's April 11, 2021 deadline in order to develop alternative capacity for its CCR and non-CCR wastestreams. Specifically, the demonstration sought additional time to allow the Zimmer Plant to retrofit the Coal Pile Runoff Pond, reroute CCR wastestreams away from the Gypsum Recycle Pond to the Mercury Effluent Treatment System, close the Gypsum Recycle Pond and repurpose it as a non-CCR basin, and initiate closure of D Basin. Although more than four months has passed since that submission was made, EPA has not taken action on it or published a proposed decision for comment. Thus, the April 21, 2021 cease receipt deadline is currently tolled pursuant to § 257.103(f)(3)(ii), and Zimmer is currently authorized to continue operating the three impoundments.

On July 19, 2021, however, Zimmer announced that the Zimmer Plant will be retiring by May 31, 2022 and, as a result, Zimmer plans to close all three impoundments by October 17, 2023, instead of retrofitting them for continued operations. Accordingly, as authorized by § 257.103(f)(4)(i), Zimmer requests to transfer the alternate closure demonstration that was previously submitted to EPA on November 25, 2020, pursuant to § 257.103(f)(1) and replace it with the enclosed demonstration prepared by Burns & McDonnell pursuant to § 257.103(f)(2). Because Zimmer is "authorized to continue operating [the] impoundment[s] under [§ 257.103]" by virtue of its prior timely submittal, it "may at any time request authorization to continue operating the impoundment pursuant to another paragraph of subsection (f), by submitting the information in paragraph (f)(4)(i) or (ii) of [§ 257.103]." 40 C.F.R. § 257.103(f)(4).

<sup>&</sup>lt;sup>1</sup> Formerly Dynegy Zimmer, LLC.

In accordance with § 257.103(f)(4)(i), the enclosed demonstration addresses all of the criteria in § 257.103(f)(2)(i)-(iv) and contains the documentation required by § 257.103(f)(2)(v). As allowed by the agency, in lieu of hard copies of these documents, electronic files were submitted to Kirsten Hillyer, Frank Behan, and Richard Huggins via email. The demonstration is also available on Zimmer's publicly available website: https://www.luminant.com/ccr/

Sincerely,

Cynthin E. Wdy

Cynthia Vodopivec SVP - Environmental Health & Safety

Enclosure

cc: Kirsten Hillyer Frank Behan Richard Huggins



# CCR Surface Impoundment Demonstration for a Site-Specific Alternative to Initiation of Closure Deadline



# **Zimmer Power Company LLC**

William H. Zimmer Power Plant Project No. 122702

> Revision 0 8/13/2021



# CCR Surface Impoundment Demonstration for a Site-Specific Alternative to Initiation of Closure Deadline

prepared for

## Zimmer Power Company LLC William H. Zimmer Power Plant Moscow, Ohio

Project No. 122702

Revision 0 8/13/2021

prepared by

Burns & McDonnell Engineering Company, Inc. Kansas City, Missouri

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#### Zimmer Power Company LLC CCR Surface Impoundment Demonstration for a Site-Specific Alternative to Initiation of Closure Deadline Project No. 122702

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#### Certification

I hereby certify, as a Professional Engineer in the state of Ohio, that the information in this document as noted in the above Report Index was assembled under my direct personal charge. This report is not intended or represented to be suitable for reuse by the Zimmer Power Company LLC or others without specific verification or adaptation by the Engineer.

Matthew D. Bleything, P.E. Ohio License No. 82440

2 Date:



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## LIST OF ABBREVIATIONS

Abbreviation	Term/Phrase/Name
CCR	Coal Combustion Residual
CFR	Code of Federal Regulations
Zimmer	Zimmer Power Company LLC
ELG Rule	Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category
EPA	Environmental Protection Agency
Zimmer Plant	William H. Zimmer Power Plant
RCRA	Resource Conservation and Recovery Act
SWPPP	Stormwater Pollution Prevention Plan

#### 1.0 EXECUTIVE SUMMARY

Zimmer Power Company LLC (Zimmer) has announced that the William H. Zimmer Power Plant (Zimmer Plant) in Ohio will cease coal-fired operations by May 31, 2022. As a result, Zimmer hereby submits this request under 40 C.F.R. § 257.103(f)(4)(i) to the U.S. Environmental Protection Agency (EPA) to transfer the current authorization for a site-specific alternative deadline for the three CCR surface impoundments (the Gypsum Recycle Pond, Coal Pile Runoff Pond, and D Basin) located at the Zimmer Plant under 40 C.F.R. § 257.103(f)(1) to 40 C.F.R. § 257.103(f)(2) — "Permanent Cessation of a Coal-Fired Boiler(s) by a Date Certain." On November 25, 2020, Zimmer timely submitted to EPA an alternative closure demonstration pursuant to § 257.103(f)(1) to extend the rule's April 11, 2021, deadline in order to develop alternative capacity for its CCR and non-CCR wastestreams. Specifically, the demonstration sought additional time to allow the Zimmer Plant to retrofit the Coal Pile Runoff Pond, reroute CCR wastestreams away from the Gypsum Recycle Pond to the Mercury Effluent Treatment System, close the Gypsum Recycle Pond and repurpose it as a non-CCR basin, and initiate closure of D Basin. Thus, the Zimmer Plant's cease receipt deadline is currently tolled pursuant to § 257.103(f)(3)(ii), and Zimmer is currently authorized to continue operating the three impoundments. Because Zimmer is "authorized to continue operating [the] impoundment[s] under this section [§ 257.103]" by virtue of its prior timely submittal, it "may at any time request authorization to continue operating the impoundment pursuant to another paragraph of subsection (f), by submitting the information in paragraph (f)(4)(i) or (ii) of this section." 40 C.F.R. § 257.103(f)(4).

In accordance with § 257.103(f)(4)(i), this demonstration addresses all of the criteria in § 257.103(f)(2)(i)-(iv) and contains the documentation required by § 257.103(f)(2)(v). The impoundments are each less than 40 acres in size and are used to manage CCR and non-CCR wastestreams at the Zimmer Plant. As discussed below, the boilers at the plant will cease coal-fired operations no later than May 31, 2022, and the impoundments will complete closure no later than October 17, 2023. Therefore, Zimmer is requesting to transfer the current authorization for a site-specific deadline from 40 C.F.R. § 257.103(f)(1) to 40 C.F.R. § 257.103(f)(2) so that these impoundments may continue to receive CCR and non-CCR wastestreams and complete closure no later than October 17, 2023.

### 2.0 INTRODUCTION

The Zimmer Plant is a 1,450-megawatt coal-fueled electric generating plant in Moscow, Ohio. Fly ash, economizer ash, and gas recirculation ash are captured dry. Bottom ash and pyrites are handled using a dewatering bin with settling and surge tanks and a recirculation system. Any overflow or leaks from this system, with any associated de minimis amounts of solids, are routed to the Wastewater Pond via the collection trenches and the East Precipitator Sump. The Zimmer facility includes three CCR surface impoundments (listed in Table 2-1) that are the subject of this demonstration. A site plan (Figure 1) and water balance diagram (Figure 2) are provided in Appendix A.

CCR Surface Impoundment Name	Alternate Designation (see Figure 2)	Year Placed in Service	Impoundment Size (acres) / Storage Volume (acre-feet)	Lined?	Meets Location Restrictions?	Groundwater Status
Gypsum Recycle Pond	SPD-4 Pond-4 Truck Wash Pond	1995	0.6 / 4.5	Yes <sup>1</sup>	Yes	Assessment Monitoring was initiated in May 2018 and is
Coal Pile Runoff Pond	SPD-3 Pond-3 Coal Pile Runoff Pond	1987	2.8 / 36.3	Yes <sup>1</sup>	Yes	ongoing. No exceedances of Appendix IV parameters have been identified;
D Basin	SPD-5 Pond-5 D Basin Dredge Dewatering Basin	2003	6.1 / 46.6	No	No <sup>2</sup>	therefore, an assessment of corrective measures is not required.

#### Table 2-1: Zimmer CCR Surface Impoundment Summary

<sup>1</sup>Originally classified as lined per 40 C.F.R. § 257.71(a)(1)(i), which was subsequently vacated by the U.S. Court of Appeals for the D.C. Circuit. This impoundment now qualifies as an eligible unlined CCR surface impoundment per § 257.53. <sup>2</sup>Meets criteria for wetlands, fault areas, seismic impact zones, and unstable areas but not aquifer separation.

The three CCR surface impoundments onsite at the Zimmer Plant are utilized as follows:

- Gypsum Recycle Pond (referred to as SPD-4 Pond-4 Truck Wash Pond on Figure 2):
  - Receives centrate centrifuge effluent (FGD wastewater) that is not recycled back to the scrubber
  - o Receives mag thickener overflow (FGD wastewater)
  - Receives stormwater runoff from the FGD pad mix stackout pile and wash water from the associated truck wash system

- Receives wash water from the FGD Waste Handling Building, Coal Conveyor 56E/W, and Fly Ash Silo (via the Truck Scale Area Sump)
- FGD solids settle out in the concrete-lined pond and are removed and placed on the gypsum stackout pile
- The pond overflows to the FGD Waste Handling Building Sump (referred to as the FGD Stabilization Area Sump on Figure 2), which is typically forwarded to the Mercury Effluent Treatment System
- Coal Pile Runoff Pond (referred to as SPD-3 Pond-3 Coal Pile Runoff Pond on Figure 2):
  - Receives Coal Pile Runoff from A and B Basins
  - Receives stormwater from C Basin
  - Receives decant water and stormwater from D Basin
  - Receives treated flow (including solids) from the Mercury Effluent Treatment System (which treats water from the Gypsum Recycle Pond/FGD Waste Handling Building Sump as well as landfill leachate)
  - The treated pond effluent overflows to the Wastewater Pond, where it comingles with a majority of the plant process water flows prior to discharge
- D Basin (referred to as SPD-5 Pond-5 D Basin Dredge Dewatering Basin on Figure 2):
  - Used to dewater dredged CCR and non-CCR material from other ponds onsite, including the Wastewater Pond, the Coal Pile Runoff Pond, and the Gypsum Recycle Pond. This dredging is typically required annually to maintain adequate residence time to meet the discharge permit requirements at the outfall from the site pond system.

On April 17, 2015, the Environmental Protection Agency (EPA) issued the federal Coal Combustion Residual (CCR) Rule, 40 C.F.R. Part 257, Subpart D, to regulate the disposal of CCR materials generated at coal-fueled units. The rule is being administered under Subtitle D of the Resource Conservation and Recovery Act (RCRA, 42 U.S.C. § 6901 et seq.). On August 28, 2020, the EPA Administrator issued revisions to the CCR Rule that require all unlined surface impoundments to initiate closure by April 11, 2021, unless a complete alternative closure demonstration was submitted to the agency by November 30, 2020. 40 C.F.R. § 257.101(a)(1) (85 Fed. Reg. 53,516 (Aug. 28, 2020)). A submittal of a complete demonstration tolled the April 11, 2021, deadline until EPA acts on the submission and sets a site-specific deadline. 40 C.F.R. § 257.103(f)(3)(ii). Further, under 40 C.F.R. § 257.103(f)(4) owners and operators of a CCR surface impoundment that are "authorized to continue operating an impoundment under this section [§ 257.103]" may "request authorization to continue operating the impoundment pursuant to another paragraph of subsection (f), by submitting the information in paragraph (f)(4)(i) or (ii) of this section."

Specifically, an owner or operator of a surface impoundment that submitted a demonstration under § 257.103(f)(1) may request authorization to instead operate the surface impoundment in accordance with the requirements of § 257.103(f)(2). 40 C.F.R. § 257.103(f)(4)(i). To qualify for the alternative closure deadline under § 257.103(f)(2), a facility must meet the following four criteria:

- § 257.103(f)(2)(i) No alternative disposal capacity is available on-site or off-site. An increase in costs or the inconvenience of existing capacity is not sufficient to support qualification.
- 2. § 257.103(f)(2)(ii) Potential risks to human health and the environment from the continued operation of the CCR surface impoundment have been adequately mitigated;
- 3. § 257.103(f)(2)(iii) The facility is in compliance with the CCR rule, including the requirement to conduct any necessary corrective action; and
- § 257.103(f)(2)(iv) The coal-fired boilers must cease operation and closure of the impoundment must be completed within the following timeframes:
  - a. For a CCR surface impoundment that is 40 acres or smaller, the coal-fired boiler(s) must cease operation and the CCR surface impoundment must complete closure no later than October 17, 2023.
  - b. For a CCR surface impoundment that is larger than 40 acres, the coal-fired boiler(s) must cease operation, and the CCR surface impoundment must complete closure no later than October 17, 2028.

Section 257.103(f)(2)(v) sets out the documentation that must be provided to EPA to demonstrate that the four criteria set out above have been met. Therefore, this demonstration is organized based on the documentation requirements of §§ 257.103(f)(2)(v)(A) - (D).

### 3.0 DOCUMENTATION OF NO ALTERNATIVE DISPOSAL CAPACITY

To demonstrate that the criteria in § 257.103(f)(2)(i) has been met, the following provides documentation that no alternative disposal capacity is currently available on-site or off-site for each CCR and non-CCR wastestream that Zimmer seeks to continue placing into the CCR surface impoundments. Consistent with the regulations, neither an increase in costs nor the inconvenience of existing capacity was used to support qualification under these criteria. Instead, as EPA explained in the preamble to the proposed Part A revisions, "it would be illogical to require [] facilities [ceasing power generation] to construct new capacity to manage CCR and non-CCR wastestreams." 84 Fed. Reg. 65,941, 65,956 (Dec. 2, 2019). EPA again reiterated in the preamble to the final revisions that "[i]n contrast to the provision under § 257.103(f)(1), the owner or operator does not need to develop alternative capacity because of the impending closure of the coal fired boiler. Since the coal-fired boiler will shortly cease power generation, it would be illogical to require these facilities to construct new capacity to manage CCR and non-CCR wastestreams." 85 Fed. Reg. at 53,547. Thus, new construction or the development of new alternative disposal capacity was not considered a viable option for any wastestream discussed below.

#### 3.1 Site-Layout and Wastewater Processes

The CCR surface impoundments receive both CCR flows and a portion of the non-CCR wastewater flows onsite for settling prior to overflowing to the Clear Water Pond for discharge to the Ohio River via Outfall 005. These wastestreams are discussed in more detail in the following sections. The remaining plant process flows are routed through the Wastewater Pond as shown on the water balance in Appendix A (see Figure 2). The Wastewater Pond is not authorized to receive the CCR flows and is not large enough to independently treat the total volume of the plant process water flows.

Zimmer also owns and operates a CCR landfill at a separate facility, located approximately 3 miles from the plant. This landfill is neither authorized nor capable of accepting wet-generated CCR and non-CCR wastestreams.

#### 3.2 CCR Wastestreams

Zimmer evaluated each CCR wastestream placed in the CCR surface impoundments. The existing site water balance is included in Appendix A of this demonstration. The Zimmer Plant's fly ash, economizer ash, and gas recirculation ash systems are dry handled and disposed in the CCR landfill. The bottom ash (and non-CCR pyrites) is sluiced to dewatering bins equipped with surge tanks and a recirculation system. After dewatering, the bottom ash is disposed in the CCR landfill. For the reasons discussed below in Table 3-1,

each of the following CCR wastestreams must continue to be placed in the CCR surface impoundments due to lack of alternative capacity both on and off-site.

CCR Wastestream	Average Flow (MGD)	Alternative Capacity Currently Available? YES/NO	Description	Details
FGD Wastewater	0.337	NO	<ul> <li>The FGD system utilizes a series of thickeners with rakes and centrifuges to remove suspended solids and a magnesium recovery process to remove dissolved solids from the effluent.</li> <li>The Gypsum Recycle Pond receives centrate centrifuge effluent, FGD blowdown that is not recycled back to the scrubber, and mag thickener overflow (FGD wastewater).</li> <li>This pond effluent is forwarded to the Mercury Effluent</li> <li>Treatment System via the FGD area sump.</li> <li>Coal Pile Runoff Pond receives treated flow (including CCR solids) from the Mercury Effluent Treatment System.</li> <li>D Basin is used to dewater dredged CCR and non-CCR material from other ponds onsite (including Gypsum Recycle Pond and Coal Pile Runoff Pond).</li> </ul>	The Gypsum Recycle Pond is integral to operation of the FGD and captures large portions of the wet-generated CCR solids from the centrate/mag thickener system overflows and various wash activities before having the water forwarded to the Mercury Effluent Treatment System. The Coal Pile Runoff Pond receives both coal fines from non-CCR wastestreams (specifically coal pile runoff) and the effluent from the Mercury Effluent Treatment System (including landfill leachate, FGD wastewater, and the CCR solids that settle out of the FGD wastewater). Based on the size of this impoundment, dredging (to D Basin) is required to remove CCR and non-CCR materials on a periodic basis to maintain the residence time and treatment capacity provided within the Coal Pile Runoff Pond.

Zimmer evaluated on-site, wet temporary storage options for the CCR wastestreams, in lieu of using the Gypsum Recycle Pond, Coal Pile Runoff Pond, and D Basin while permanent capacity is being developed. Based on our evaluation, we concluded the following:

- FGD wastewater:
  - On-site alternative capacity is currently not available and would need to be developed. The
    other onsite impoundments (A Basin, C Basin, Wastewater Pond, and Clear Water Pond) are
    non-CCR impoundments and are, therefore, not authorized to receive the CCR sluice flows.

- Development of on-site alternative capacity would require both the reconfiguration of the existing wastestream system and the design, permitting, and installation of a new treatment system including CCR ponds, clarifiers, and/or storage tank(s), to provide the necessary retention time to meet the NPDES permit limits. The environmental permitting would include a modification to the current individual NPDES permit (to allow for the rerouting of this wastestream to another outfall), general NPDES stormwater construction permit, threatened and endangered species and historic preservation assessments, a construction & operating permit and a SWPPP at a minimum.
- Off-site alternative capacity is currently not available and would need to be developed. The 0 FGD wastewater is currently comingled with non-CCR wastestreams in the Gypsum Recycle Pond and would require significant reconfiguration of piping and valves to segregate these flows and collect the FGD wastewater separately from the floor drains and trenches that collect wash water and other flows around the FGD areas. Once isolated, this flow would need to be pumped to the Mercury Effluent Treatment System and then captured in another set of tanks for treatment to remove the solids. Developed off-site alternative capacity would consist of both temporary on-site wet storage (frac tanks) and off-site transportation, via tanker trucks. Zimmer estimates that approximately 65 frac tanks would be required to provide the necessary settling time, accounting for reduced settling capacity and reduced residence time due to solid accumulation. Zimmer would also require 45 daily tanker trucks (~7,500 gallons per truck to maintain DOT weight restrictions) to haul the wastewater offsite, if a POTW could be identified to receive it. The daily tanker truck traffic would result in increased potential for safety and noise impacts and further increases in fugitive dust, greenhouse gas emissions and carbon footprint which may require a PSD permit and modification under the Clean Air Act Permit Program if the calculated increase in emissions is over the PSD limits. Setting up arrangements for a local POTW to accept the wastewater would prove to be difficult since this amount of wastewater would most likely upset their treatment systems causing them to exceed their NPDES discharge limits. The potential for leaks/spills from the tank system or transportation of the wastewater offsite does exist. Furthermore, the temporary wet storage needed to accommodate off-site disposal would require reconfiguration of the existing wastestream system and design, installation, and associated environmental permitting for the temporary wet storage system, which would require a minimum of two years to implement.

Because Zimmer has now elected to permanently cease coal-fired operations of the boiler by no later than May 31, 2022, continuing to develop alternative disposal capacity for continued plant operations is counterproductive to the work to cease coal-fired operations of the boilers and close the impoundments. As long as Zimmer continues to wet handle the FGD waste, there are no other onsite CCR impoundments to receive and treat these flows and it is not feasible to dispose of the wet-handled material offsite. As EPA explained in the preamble of the 2015 rule, it is not possible for sites that sluice CCR material to an impoundment to eliminate the impoundment and dispose of the material offsite. *See* 80 Fed. Reg. 21,301, 21,423 (Apr. 17, 2015) ("[W]hile it is possible to transport dry ash off-site to [an] alternate disposal facility that is simply not feasible for wet-generated CCR. Nor can facilities immediately convert to dry handling systems."). As a result, the conditions at Zimmer satisfy the demonstration requirement in § 257.103(f)(2)(i).

#### 3.3 Non-CCR Wastestreams

Zimmer discharges non-contact cooling water, reclaim water, and cooling tower blowdown via Outfall 099, cooling tower overboard, sewage treatment plant, and south plant stormwater via Outfall 003, and sewage treatment flows and north plant stormwater via Outfall 004. The CCR surface impoundments, two other coal pile runoff ponds (A and B basins), a stormwater and river dredge pond (C Basin), and one low volume wastewater pond are used to manage all the remaining water process flows and stormwater on the plant site. These ponds are interconnected in series to allow for settling prior to overflowing to the Clear Water Pond for discharge to the Ohio River via Outfall 005. The existing site water balance is included in Appendix A of this demonstration (see Figure 2).

Zimmer evaluated each non-CCR wastestream placed in the Zimmer CCR surface impoundments. For the reasons discussed below in Table 3-2 and Table 3-3, each of the following non-CCR wastestreams must continue to be placed in the Gypsum Recycle Pond and Coal Pile Runoff Pond, respectively, due to lack of alternative capacity both on and off-site. The D Basin receives wastestreams during dredging of other impoundments onsite and will receive non-CCR wastestreams during closure/re-purposing of the Coal Pile Runoff Pond.

Non-CCR Wastestream	Average Flow (MGD)	Alternative Capacity Currently Available? YES/NO	Description	Zimmer Notes	
Stormwater runoff	Intermittent (0.76 estimated for 10-year 24-hour storm)	NO	Stormwater runoff from the FGD pad mix stackout pile	These flows are intermittent and collecte in the impoundment via gravity drainage where they comingle with CCR wastestreams listed in Table 3-1. Zimme will need to employ temporary diversion measures to pump this water to the FGD stabilization area sump while the Gypsur Recycle Pond is being closed by remova Once the Gypsum Recycle Pond has been closed by removal of CCR solids, i will be repurposed as a non-CCR basin and will continue to receive these flows until the site closure is completed.	
Miscellaneous Process Wastewater	0.229	NO	Includes wash water from the truck wash system and drainage from the FGD Waste Handling Building, Coal Conveyor 56E/W, and Fly Ash Silo (via the trench system)		

#### Table 3-3: Zimmer Coal Pile Runoff Pond Non-CCR Wastestreams

Non-CCR Wastestream	Average Flow (MGD)	Alternative Capacity Currently Available? YES/NO	Description	Zimmer Notes
Coal Pile Runoff from A and B Basins	Intermittent (2.117 estimated for 10-year 24-hour storm)	NO	Flow is pumped from the Basins to the Coal Pile Runoff	These flows will be temporarily rerouted to D Basin until while the Coal Pile Runoff Pond closure and re-purposing is completed. The
Decant water and stormwater from C Basin	Intermittent (0.835 estimated for 10-year 24-hour storm)	NO	Pond which overflows to the Wastewater Pond	D Basin effluent will need to be pumped to the Wastewater Pond. Rerouting flows will require installation of temporary piping.
Decant water and stormwater from D Basin	0.09 (1.95 estimated for 10-year 24-hour storm)	NO	Decant water flow is pumped from D Basin to the Coal Pile Runoff Pond during dredging operations and as needed due to stormwater	(without the temporary use of D Basin), the Wastewater Pond residence time would likely not provide adequate treatment to remove the coal fines and Zimmer would risk violating the discharge limits at Outfall 005.

Non-CCR Wastestream	Average Flow (MGD)	Alternative Capacity Currently Available? YES/NO	Description	Zimmer Notes
Landfill Leachate and Contact Stormwater	0.271 (0.967 estimated for 10-year 24-hour storm)	NO	Routed through the Mercury Effluent Treatment System	The Mercury Effluent Treatment System discharge (including CCR and non-CCR wastestreams) will be redirected to the D- Basin through temporary piping during closure of the Coal Pile Runoff Pond. This flow will be returned to the Coal Pile Runoff Pond after the CCR material is removed and the plant ceases operation on coal (FGD removed from service).

Zimmer did evaluate on-site, wet temporary storage options for each of the non-CCR wastestreams, in lieu of using the Gypsum Recycle Pond, Coal Pile Runoff Pond, and D Basin for the remainder of the plant operations. Based on our evaluation, we concluded the following:

- On-site alternative capacity is currently not available and would need to be developed for each of these six non-CCR wastestreams.
- Development of on-site alternative capacity would require both the reconfiguration of the existing wastestream system and the design, permitting, and installation of a new treatment system including ponds, clarifiers, and/or storage tank(s), to provide the necessary retention time to meet the NPDES permit limits. The environmental permitting would include a modification to the current individual NPDES permit (to allow for the rerouting of this wastestream to another outfall), general NPDES stormwater construction permit (includes threatened and endangered species and historic preservation assessments), a construction & operating permit and a SWPPP at a minimum. Based on our experience, the development of on-site alternative capacity for each of these non-CCR wastestreams would require a minimum of three years to implement.
- Off-site alternative capacity is currently not available and would need to be developed for each of these six non-CCR wastestreams. Developed off-site alternative capacity would require both temporary on-site wet storage (frac tanks) and off-site transportation via tanker trucks, if a POTW could be identified to receive these wastestreams. The daily tanker truck traffic (see Table 3-4) would result in increased potential for safety and noise impacts and further increases in fugitive dust, greenhouse gas emissions and carbon footprint which may require a PSD permit and modification under the Clean Air Act Permit Program if the calculated increase in emissions is over the PSD limits. Setting up arrangements for a local POTW to accept the wastewater would

prove to be difficult since this amount of wastewater would most likely upset their treatment systems causing them to exceed their NPDES discharge limits. Furthermore, the temporary wet storage needed to accommodate off-site disposal would require reconfiguration of the current wastestream system and the design, installation, and associated environmental permitting for the temporary wet storage system, which would require a minimum of two years to implement. For all of these reasons, Zimmer concludes that offsite disposal is not feasible for these flows at Zimmer at this time.

Impoundment	Non-CCR Wastestreams	Estimated Flow (MGD)	No. of Frac Tanks required (21,000 gallons each)	No. of Trucks required per day (7,500 gallons each)
Gypsum Recycle Pond	Stormwater runoff	0 - 0.76 (for 10-year 24- hour storm)	0 - 37	0 - 102
	Miscellaneous Process Flows	0.229	0 - 11	0 - 31
Coal Pile Runoff Pond	Coal Pile Runoff from A and B Basins	0 - 2.117 (for 10-year 24- hour storm)	0 - 101	0 - 283
	Decant water and stormwater from C Basin	0 - 0.835 (for 10-year 24- hour storm)	0 - 40	0 - 112
	Decant water and stormwater from D Basin	0.09 - 1.95 (for 10-year 24- hour storm)	5 - 93	12 - 260
	Landfill Leachate and Contact Stormwater	0.271 - 0.967 (for 10-year 24- hour storm)	13 - 47	37 - 129
		Total	18 - 329	49 - 917

Table 3-4: Non-CCR Wastestream Offsite Disposal

As stated previously, because Zimmer has elected to permanently cease coal-fired operations of the boilers by no later than May 31, 2022, continuing to develop alternative disposal capacity for continued plant operation is counterproductive to the work to cease coal-fired operation of the boilers and close the impoundments. There is no currently available infrastructure at the plant to support reroute of these flows. For the reasons discussed above, each of the following non-CCR wastestreams must continue to be placed in the Zimmer CCR surface impoundments due to lack of alternative capacity both on and off-site. Consequently, to continue to operate and generate electricity during the limited period prior to cessation of coal-fired operations, Zimmer must continue to use the CCR surface impoundments to manage the non-CCR wastestreams discussed above.

## 4.0 **RISK MITIGATION PLAN**

To demonstrate that the criteria in § 257.103(f)(2)(ii) has been met, Zimmer has prepared and attached a Risk Mitigation Plan for the Zimmer CCR surface impoundments (see Appendix B). Per § 257.103(f)(2)(v)(B), this Risk Mitigation Plan is only required for the specific CCR Unit(s) that are the subject of this demonstration.

#### 5.0 DOCUMENTATION AND CERTIFICATION OF COMPLIANCE

In the Part A rule preamble, EPA reiterates that compliance with the CCR rule is a prerequisite to qualifying for an alternative closure extension, as it "provides some guarantee that the risks at the facility are properly managed and adequately mitigated." 85 Fed. Reg. at 53,543. EPA further stated that it "must be able to affirmatively conclude that facility meets this criterion prior to any continued operation." 85 Fed. Reg. at 53,543. Accordingly, EPA "will review a facility's current compliance with the requirements governing groundwater monitoring systems." 85 Fed. Reg. at 53,543. In addition, EPA will also "require and examine a facility's corrective action documentation, structural stability documents and other pertinent compliance information." 85 Fed. Reg. at 53,543. Therefore, EPA is requiring a certification of compliance and specific compliance documentation be submitted as part of the demonstration. 40 C.F.R. § 257.103(f)(2)(v)(C).

The Zimmer facility includes four CCR units: the Gypsum Recycle Pond, the Coal Pile Runoff Pond, D Basin, and the CCR Landfill. The three impoundments are the only units seeking an extension pursuant to this demonstration; however, Zimmer has included compliance documents for the Landfill as part of this submittal for the Zimmer facility.

To demonstrate that the criteria in § 257.103(f)(2)(iii) has been met, Zimmer is submitting the following information as required by § 257.103(f)(2)(v)(C):

## 5.1 Owner's Certification of Compliance - § 257.103(f)(2)(v)(C)(1)

I hereby certify that, based on my inquiry of those persons who are immediately responsible for compliance with environmental regulations for Zimmer, the facility is in compliance with all of the requirements contained in 40 C.F.R. Part 257, Subpart D – Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments. Zimmer's CCR compliance website is up-to-date and contains all the necessary documentation and notification postings.

ZIMMER POWER COMPANY LLC

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Cynthia Vodopivec SVP - Environmental Health & Safety August 13, 2021

## 5.2 Visual Representation of Hydrogeologic Information -§ 257.103(f)(2)(v)(C)(2)

Consistent with the requirements of § 257.103(f)(2)(v)(C)(2)(i) - (iii), Zimmer has attached the following items to this demonstration (see Appendix C):

- Map(s) of groundwater monitoring well locations in relation to the CCR units (see Attachment C1 for the surface impoundments and Attachment C5 Hydrogeological Characterization Report Figure 2 for the CCR Landfill)
- Well construction diagrams and drilling logs for all groundwater monitoring wells (see Attachment C2 for the surface impoundments and Attachment C5 Hydrogeological Characterization Report Attachment A for the CCR Landfill)
- Maps that characterize the direction of groundwater flow accounting for seasonal variations (see Attachment C3 for the surface impoundments and Attachment C5 Hydrogeological Characterization Report Figures 3 and 4 for the CCR Landfill)

## 5.3 Groundwater Monitoring Results - § 257.103(f)(2)(v)(C)(3)

Tables summarizing constituent concentrations at each groundwater monitoring well through the first 2021 semi-annual monitoring period are included as Attachment C4.

## 5.4 Description of site hydrogeology including stratigraphic cross-sections -§ 257.103(f)(2)(v)(C)(4)

A description of site hydrogeology and stratigraphic cross-sections of the site are included as Attachment C5. In addition, see the Hydrogeological Characterization Report (Section 4.2) for relevant information pertaining to the CCR Landfill.

## 5.5 Corrective Measures Assessment - § 257.103(f)(2)(v)(C)(5)

Background sampling began at Zimmer in late 2015 and continued for eight consecutive quarters. The first semi-annual detection monitoring samples were collected in November 2017. The first assessment monitoring samples were collected in May 2018. The results, through the first 2021 semi-annual monitoring period, indicate all three CCR surface impoundments at Zimmer are currently in assessment monitoring, with no exceedances of the Appendix IV parameters.

The CCR Landfill has previously detected Lithium at Statistically Significant Levels (SSL), but the CCR Landfill remains in assessment monitoring due to successful Alternate Source Demonstrations (ASDs) from April and October 2019 that set forth the following lines of evidence.

- 1. Strontium isotopic ratios in groundwater near the CCR Landfill are lower than the published typical range of strontium isotopic ratios for CCR impacted waters.
- 2. Boron isotopic ratios in groundwater near the CCR Landfill are within the published typical range of boron isotopic ratios for groundwater and are not consistent with the published typical boron isotopic ratios in CCR and CCR impacted waters.

The groundwater sampling event in April 2020 also identified an SSL for Lithium at well MW-F. In accordance with the Statistical Analyses Plan, this well was resampled and after an evaluation of the analytical data, no SSL remained as set forth in an ASD completed in October 2020. The ASDs for the Zimmer Landfill are included as part of Attachment C4. The subsequent sampling events (September 2020 and March 2021) did not indicate any SSLs or the need for further ASDs.

Accordingly, an assessment of corrective measures and the associated remedy selection efforts are not currently required at the site.

## 5.6 Remedy Selection Progress Report - § 257.103(f)(2)(v)(C)(6)

As noted above, an assessment of corrective measures and the resulting remedy selection efforts are not currently required for the CCR units at Zimmer.

## 5.7 Structural Stability Assessment - § 257.103(f)(2)(v)(C)(7)

Pursuant to § 257.73(d), the initial structural stability assessment reports for the Coal Pile Runoff Pond, Gypsum Recycle Pond, and D Basin were prepared in October 2016, and are included as Attachment C6. As required for compliance, additional stability assessments will be completed in October 2021. Periodic structural stability assessments are not required for landfills.

#### 5.8 Safety Factor Assessment - § 257.103(f)(2)(v)(C)(8)

Pursuant to § 257.73(e), the initial safety factor assessment reports for the Coal Pile Runoff Pond, Gypsum Recycle Pond, and D Basin were prepared in October 2016, and are included as Attachment C7. As required for compliance, additional safety factor assessments will be completed in October 2021. Periodic safety factor assessments are not required for landfills.

### 6.0 DOCUMENTATION OF CLOSURE COMPLETION TIMEFRAME

To demonstrate that the criteria in § 257.103(f)(2)(iv) has been met, "the owner or operator must submit the closure plan required by § 257.102(b) and a narrative that specifies and justifies the date by which they intend to cease receipt of waste into the unit in order to meet the closure deadlines." The closure plans are included as in Appendix C as Attachment C8.

In order for a CCR surface impoundment less than 40 acres to continue to receive CCR and non-CCR wastestreams after the initial April 11, 2021, deadline, the coal-fired boiler(s) at the facility must cease operation and the CCR surface impoundment must complete closure no later than October 17, 2023. As discussed below, the boilers will cease coal-fired operations no later than May 31, 2022, and the CCR surface impoundments will be closed by removal and repurposed as non-CCR impoundments (to receive stormwater flows, landfill leachate, and/or other non-CCR wastestreams) prior to this October 17, 2023, deadline.

Table 6-1 summarizes the major tasks and durations associated with closing the CCR surface impoundments by removal. The CCR impoundments will be dewatered using a closely coordinated passive or gravity method. This method consists of the use of trenches excavated to lower the phreatic surface in the impoundment to obtain a stable ash surface to permit the safe excavation of ponded materials. The phreatic water in the trenches flows by gravity to sumps constructed within the impoundment. The major benefit associated with this passive or gravity dewatering method is that the sumps are designed to provide holding time to allow the TSS to settle within the impoundment prior to discharge (an active dewatering method with wells would result in potential for higher contaminants and TSS). After TSS settling, the water is discharged through the NPDES outfall in compliance with permitted limits.

While the water surface is being lowered, the CCR material can be further worked using mechanical methods, such as stacking the material, to promote additional dewatering prior to loading the material onto trucks and hauling it to the site CCR landfill for disposal. Once the CCR material is removed, the underlying pond liner and/or subgrade materials can be excavated and disposed of.

Action	Estimated Timeline (Months)
Finalize CCR unit closure plan	2
<ul> <li>Obtain environmental permits:</li> <li>State Waste Pollution Control Construction/Operating Permit</li> <li>NPDES Industrial Wastewater Permit Modification (modification would be required to allow the associated ponded and subsurface free liquids generated before the pond closure to be discharged to Waters of the US and to allow reconfiguration of the various wastestreams to either other NPDES- permitted outfalls or newly constructed NPDES-permitted outfalls)</li> <li>General NPDES Permit for Storm Water Discharges from Construction Site Activities and Storm Water Pollution Prevention Plan (SWPPP)</li> </ul>	12 (concurrent with procurement activities)
Spec, Bid, and Award Construction Services for CCR Impoundment Closures	3
Cease Coal-Fired Operations of Boiler (No later than)	May 31, 2022
Cease Placement of Waste (No Later Than for initial impoundment in closure sequence. The impoundments will continue to receive stormwater, landfill leachate, and/or other non-CCR wastestreams following closure by removal and repurposing as non- CCR impoundments.)	October 17, 2022
Dewater Impoundments	1
Excavate CCR Material	6
Excavate Pond Liner/Underlying Subgrade Materials	2
Perform Site Restoration Activities and Complete Closure	3
Total Estimated Time to Complete Closure	26 months (including remaining design, permitting, procurement, and construction)
Date by Which Closure Must be Complete	October 17, 2023

#### Table 6-1: Zimmer Impoundments Closure Schedule

### 7.0 CONCLUSION

Based upon the information included in and attached to this demonstration, Zimmer has demonstrated that the requirements of 40 C.F.R. § 257.103(f)(2) are satisfied for the Zimmer Plant's CCR surface impoundments (the Gypsum Recycle Pond, Coal Pile Runoff Pond, and D Basin). The CCR surface impoundments are needed to continue to manage the CCR and non-CCR wastestreams identified in Section 3.2 and 3.3 above, are less than 40 acres, the boilers at the plant will cease coal-fired operations no later than May 31, 2022, and the CCR surface impoundments will be closed by the October 17, 2023 deadline. Therefore, the CCR units qualify for the site-specific alternative deadline for the initiation of closure provided in 40 C.F.R. § 257.103(f)(2).

Therefore, it is requested that EPA approve Zimmer's request pursuant to 40 C.F.R. § 257.103(f)(4)(i) to transfer the current authorization for a site-specific alternative deadline for the three CCR surface impoundments at the Zimmer Plant from § 257.103(f)(1) to § 257.103(f)(2) so the impoundments may continue to receive CCR and non-CCR wastestreams and Zimmer may close the CCR surface impoundments by October 17, 2023, instead of retrofitting them for continued plant operations.

COMPANY PRESS RELEASE



## **NEWS RELEASES**

**News Releases** 

Vistra Accelerates Pivot to Invest in Clean Energy and Combat Climate Change

Company to break ground on nearly 1,000 megawatts of renewables and storage; announces planned retirement of entire Midwest coal fleet

Provides financial update, raises 2020 financial guidance, and announces long-term capital allocation plan from continued strong financial outlook

IRVING, Texas, Sept. 29, 2020 /<u>PRNewswire</u>/ -- Vistra (NYSE: VST) today announced a comprehensive plan to accelerate its transition to clean power generation sources and advance efforts to significantly reduce its carbon footprint. The company launched <u>Vistra Zero</u>, a portfolio of zero-carbon power generation facilities, including seven new developments announced today in its primary market of ERCOT that total nearly 1,000 megawatts. In addition, the company committed to more ambitious long-term emissions reduction targets, released its first climate report, and announced its intention to retire all of its generation subsidiaries' coal plants in Illinois and Ohio.

"The aggregate impact of these milestone initiatives is clear: Vistra's commitment to our transformation to a low-to-no-carbon future is unequivocal and offers unique opportunities for growth and innovation," said Curt Morgan, president and CEO of Vistra. "As evidenced by the actions we take and investments we make, Vistra is paving its way for a sustainable future – economically and environmentally – and we've been focused on transitioning our generation portfolio for the benefit of the environment, our customers, our communities, our people, and our shareholders."

Morgan continued, "Importantly, Vistra's leadership on these issues will not impact our core mission to provide consumers with reliable, affordable, and sustainable energy while lowering emissions. Electricity is an essential resource, and the demand for it will continue to grow as climate initiatives are implemented and the economy is further electrified. So, while the way we produce electricity is changing, our essential role in the process and core mission will not. Vistra is well-positioned to not only prove our resiliency during this important transformation to cleaner generation sources, but to lead the way. Our value proposition has never been stronger, and our sustainability has never been clearer. We are confident over time that the severe under-valuation of our stock price will be recognized, and our fair value achieved."

New Zero-Carbon Development Projects: Vistra Zero

Vistra, which is already developing the world's largest battery energy storage project, the 400-MW/1,600-MWh Moss Landing Energy Storage Facility in California, today announced that it is breaking ground on six new solar projects and one battery energy storage project. These new zero-carbon developments, which are part of a newly launched Vistra Zero portfolio, represent a capital investment of approximately \$850 million and are all located in the attractive Texas ERCOT market where Vistra has a leadership position:

- Vistra Corp.
  - Brightside Solar Facility, Live Oak County 50 MW
  - Emerald Grove Solar Facility, Crane County 108 MW
  - Upton 2 Solar and Energy Storage Facility Phase III, Upton County 10 MW solar
    - Additional solar capacity to be added to the already operational facility, bringing its total solar capacity to 190 MW

Expected online in 2022

- DeCordova Energy Storage Facility, Hood County 260 MW/260 MWh
  - Co-located on site of Luminant's natural gas-fueled DeCordova Power Plant
- Forest Grove Solar Facility, Henderson County 200 MW
- Oak Hill Solar Facility, Rusk County 200 MW

The Vistra Zero portfolio also includes the company's existing nuclear, renewable, and energy storage facilities:

- Comanche Peak Nuclear Power Plant (2,300 MW)
- Upton 2 Solar (180 MW) and Energy Storage Facility (10 MW/42 MWh)
- Moss Landing Energy Storage Facility (400 MW/1,600 MWh) 300 MW Phase I expected online December 2020; 100 MW Phase II expected online by August 2021
- Oakland Energy Storage Facility (36.25 MW/145 MWh) expected online January 2022

Inclusive of its new carbon-free projects, the Vistra Zero portfolio now consists of approximately 4,000 MW of zero-carbon assets. In addition, the company continues to evaluate additional solar and battery projects, including more than 1,000 MW in Texas, more than 1,000 MW in California, and approximately 450 MW in Illinois under the <u>Coal to Solar and Energy Storage Act</u>. Vistra is also exploring potential future development opportunities at many of the company's existing power plant sites.

Updated 2030/2050 Emissions Reduction Targets

Consistent with its strategic priorities, the company also accelerated its <u>greenhouse gas emissions reduction targets</u>. Vistra is now setting out to achieve a 60% reduction, up from 50%, in CO2 equivalent emissions by 2030 as compared to a 2010 baseline, and a long-term objective to achieve net-zero carbon emissions, up from an 80% reduction target, by 20501.

1 Assuming necessary advancements in technology and supportive market constructs and public policy.

CO2 Reductions Through Coal Retirements

Vistra also announced its next phase of coal plant closures in Illinois and Ohio. The company expects to retire seven Luminant power plants, of which the company owns a combined capacity of more than 6,800 MW, between 2022 and 2027.

#### By year-end 2022

• Edwards Power Plant, Bartonville, IL (MISO) – 585 MW previously announced

By year-end 2025 or sooner should economic or other conditions dictate

- Baldwin Power Plant, Baldwin, IL (MISO) 1,185 MW
- Joppa Power Plant, Joppa, IL (MISO) 1,002 MW (plus 239 MW of gas-fueled combustion turbines)1

By year-end 2027 or sooner should economic or other conditions dictate

- Kincaid Power Plant, Kincaid, IL (PJM) 1,108 MW
- Miami Fort Power Plant, North Bend, OH (PJM) 1,020 MW
- Newton Power Plant, Newton, IL (MISO) 615 MW
- Zimmer Power Plant, Moscow, OH (PJM) 1,300 MW

These plants, especially those operating in the irreparably dysfunctional MISO market, remain economically challenged. Today's retirement announcements are also prompted by upcoming Environmental Protection Agency filing deadlines, which require either significant capital

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with affordable and reliable electricity for decades," said Jim Burke, chief operating officer of Vistra. "The advance notice of these retirements provides us with ample time to work with our impacted employees and communities to ease the impact of the closures, including seeking the passage of the Illinois Coal to Solar and Energy Storage Act. We've proven ourselves in previous similar situations to live up to our core principles, taking care of our employees and communities. That will not change."

Since the company's leadership change in 2016, Vistra and its subsidiaries have closed or announced the closure of 19 coal plants totaling more than 16,000 MW across Texas (2018: Big Brown, Monticello, Sandow), Pennsylvania (2018: Northeastern Power Co.), Ohio (2018: J.M. Stuart, Killen; no later than 2027: Miami Fort, Zimmer), Illinois (2016: Wood River; 2019: Coffeen, Duck Creek, Havana, Hennepin; 2022: Edwards; no later than 2025: Baldwin, Joppa; no later than 2027: Kincaid, Newton), and Massachusetts (2017: Brayton Point). In total, Vistra and its subsidiaries have now retired or announced the retirement of more than 19,000 MW at 23 coal and natural gas plants since 2010.

1 Vistra has an 80% ownership interest in Joppa Power Plant that, when combined with its 80-100% ownership interest in the Joppa combustion turbines, totals 1,023 MW of the site's total capacity.

#### Vistra's Climate Report

A comprehensive review of Vistra's climate strategy is contained in Vistra's first <u>Climate Report</u>, published today in accordance with the guidance set forth by the Task Force on Climate-related Financial Disclosures (TCFD). Among other topics, the Climate Report discusses various climate-related risks and opportunities that Vistra management has identified as influencing the company's long-term strategy. Importantly, as an innovative, market-leading integrated power company, Vistra believes global climate change mitigation will create significant opportunities for the company to grow, even as it reduces its total emissions over the next several decades.

#### **Financial Update**

Also this morning, Vistra provided certain financial updates, including raising and narrowing its 2020 financial guidance, initiating its 2021 financial guidance, and announcing its long-term capital allocation plan. Specifically, Vistra:

• Raised and narrowed its 2020 financial guidance:

(\$ in millions)	Prior 2020		Current 2		
Ongoing Ops. Adj. EBITDA1	\$	3,285 – 3,585	\$	3,485 – 3,685	
Ongoing Ops. Adj. FCFbG1	\$	2,160 – 2,460	\$	2,375 – \$2,575	
FCF Conversion	~67%		~6	9%	

#### • Initiated its 2021 financial guidance:

(\$ in millions)	2021	
Ongoing Ops. Adj. EBITDA1	\$	3,075 – 3,475
Ongoing Ops. Adj. FCFbG1	\$	1,765 – 2,165
FCF Conversion	~60%	

#### • And announced its long-term capital allocation plan:

#### (\$ in millions)

	2021	2022
Debt Reduction	~\$550	
Enhanced Dividend2	~\$275	~\$350

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Transformation Growth

~\$650

~\$500

As depicted in the table above, in September 2020 Vistra's board of directors authorized a \$1.5 billion share repurchase program. The program commences Jan. 1, 2021, does not expire, and replaces any authorization that remains at the end of 2020 under Vistra's existing repurchase plan.

With today's financial updates, Vistra is on track to beat its original guidance midpoint for the fifth year in a row and potentially even exceed the top end of its original guidance range — despite a pandemic tail event in 2020. In addition, with the continued debt reduction in 2021 and 2022 Vistra believes it is well-positioned to achieve improved credit ratings including the potential to achieve investment grade ratings over this timeframe. The company also believes it is well-positioned to consistently deliver strong long-term earnings into the future, while investing in the transformation of the company and returning a significant amount of its free cash flow to its financial stakeholders on an annual basis.

1 Excludes the Asset Closure segment. Ongoing Operations Adjusted EBITDA and Ongoing Operations Adjusted FCFbG are non-GAAP financial measures. See the "Non-GAAP Reconciliation" tables for further details.

2 Management recommendation; subject to Board of Director's approval at the applicable time.

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#### About Vistra

Vistra (NYSE: VST) is a leading, Fortune 275 integrated retail electricity and power generation company based in Irving, Texas, providing essential resources for customers, commerce, and communities. Vistra combines an innovative, customer-centric approach to retail with safe, reliable, diverse, and efficient power generation. The company brings its products and services to market in 20 states and the District of Columbia, including six of the seven competitive wholesale markets in the U.S. and markets in Canada and Japan, as well. Serving nearly 5 million residential, commercial, and industrial retail customers with electricity and natural gas, Vistra is the largest competitive power generator in the U.S. with a capacity of approximately 39,000 megawatts powered by a diverse portfolio, including natural gas, nuclear, solar, and battery energy storage facilities. In addition, the company is a large purchaser of wind power. The company is currently constructing a 400-MW/1,600-MWh battery energy storage system in Moss Landing, California, which will be the largest of its kind in the world when it comes online. Vistra is guided by four core principles: we do business the right way, we work as a team, we compete to win, and we care about our stakeholders, including our customers, our communities where we work and live, our employees, and our investors. Learn more about our environmental, social, and governance efforts and read the company's sustainability report at https://www.vistracorp.com/sustainability/.

#### Cautionary Note Regarding Forward-Looking Statements

The information presented herein includes forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These forward-looking statements, which are based on current expectations, estimates and projections about the industry and markets in which Vistra Corp. ("Vistra") operates and beliefs of and assumptions made by Vistra's management, involve risks and uncertainties, which are difficult to predict and are not guarantees of future performance, that could significantly affect the financial results of Vistra. All statements, other than statements of historical facts, that are presented herein, or in response to questions or otherwise, that address activities, events or developments that may occur in the future, including such matters as activities related to our financial or operational projections, the potential impacts of the COVID-19 pandemic on our results of operations, financial condition and cash flows, projected synergy, value lever and net debt targets, capital allocation, capital expenditures, liquidity, projected Adjusted EBITDA to free cash flow conversion rate, dividend policy, business strategy, competitive strengths, goals, future acquisitions or dispositions, development or

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looking nature, including, but not limited to: intends, plans, will likely, unlikely, believe, confident, expect, seek, "estimate," "continue," "will," "shall," "should," "could," "may," "might," "predict," "project," "forecast," "target," "potential," "goal," "objective," "guidance" and "outlook"), are forward-looking statements. Readers are cautioned not to place undue reliance on forward-looking statements. Although Vistra believes that in making any such forward-looking statement, Vistra's expectations are based on reasonable assumptions, any such forward-looking statement involves uncertainties and risks that could cause results to differ materially from those projected in or implied by any such forward-looking statement, including, but not limited to: (i) adverse changes in general economic or market conditions (including changes in interest rates) or changes in political conditions or federal or state laws and regulations; (ii) the ability of Vistra to execute upon the contemplated strategic, capital allocation, and performance initiatives and to successfully integrate acquired businesses; (iii) actions by credit ratings agencies; (iv) the severity, magnitude and duration of pandemics, including the COVID-19 pandemic, and the resulting effects on our results of operations, financial condition and cash flows; and (v) those additional risks and factors discussed in reports filed with the Securities and Exchange Commission by Vistra from time to time, including the uncertainties and risks discussed in the sections entitled "Risk Factors" and "Forward-Looking Statements" in Vistra's annual report on Form 10-K for the year ended Dec. 31, 2019 and any subsequently filed guarterly reports on Form 10-Q.

Any forward-looking statement speaks only at the date on which it is made, and except as may be required by law, Vistra will not undertake any obligation to update any forward-looking statement to reflect events or circumstances after the date on which it is made or to reflect the occurrence of unanticipated events. New factors emerge from time to time, and it is not possible to predict all of them; nor can Vistra assess the impact of each such factor or the extent to which any factor, or combination of factors, may cause results to differ materially from those contained in any forward-looking statement.

#### VISTRA CORP.

#### NON-GAAP RECONCILIATIONS - PRIOR 2020 GUIDANCE1

(Unaudited) (Millions of Dollars)

	Ongoing		Asset		Vistra	
	Operations		Closure		Consolidated	
	Low	High	Low	High	Low	High
Net Income (loss)	\$849	\$1,081	\$ (95)	\$ (75)	\$754	\$1,006
Income tax expense	252	320	_	_	252	320
Interest expense and related charges (a)	463	463	—	—	463	463
Depreciation and amortization (b)	1,600	1,600	—	—	1,600	1,600
EBITDA before Adjustments	\$3,164	\$3,464	\$ (95)	\$ (75)	\$3,069	\$3,389
Unrealized net (gain)/loss resulting from hedging transactions	(29)	(29)	—	_	(29)	(29)
Impacts of Tax Receivable Agreement	69	69	—	_	69	69
Non-cash compensation expenses	44	44	—	_	44	44
Transition and merger expenses	35	35	—	_	35	35
Other, net	2	2	—	_	2	2
Adjusted EBITDA guidance	\$3,285	\$3,585	\$ (95)	\$ (75)	\$ 3,190	\$ 3,510
Interest paid, net	(543)	(543)	_	_	(543)	(543)
Tax (paid)/received (c)	153	153	—	_	153	153
Tax receivable agreement payments	(3)	(3)	_	_	(3)	(3)
Working capital and margin deposits	2	2		_	2	2

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■ Vistra Corp.

Cash provided by operating activities	\$2,754	\$3,054	\$ (190)	\$ (170)	\$2,564	\$2,884
Capital expenditures including nuclear fuel purchases and LTSA Prepayments	(613)	(613)			(613)	(613)
Solar and Moss Landing development and other growth expenditures	(315)	(315)	—		(315)	(315)
(Purchase)/sale of environmental credits and allowances	(39)	(39)	_	_	(39)	(39)
Other net investing activities	(20)	(20)	_	_	(20)	(20)
Free cash flow	\$1,767	\$2,067	\$ (190)	\$ (170)	\$1,577	\$1,897
Working capital and margin deposits	(2)	(2)	_	_	(2)	(2)
Solar and Moss Landing development and other growth expenditures	315	315		_	315	315
Purchase/(sale) of environmental credits and allowances	39	39	_	_	39	39
Transition and merger expenses	38	38	_	_	38	38
Transition capital expenditures	3	3			3	3
Adjusted free cash flow before growth guidance	\$2,160	\$2,460	\$ (190)	\$ (170)	\$1,970	\$2,290

1 Regulation G Table for 2020 Guidance prepared as of November 5, 2019.

(a) Includes unrealized gain on interest rate swaps of \$21 million.

- (b) Includes nuclear fuel amortization of \$74 million.
- (c) Includes state tax payments.

VISTRA CORP.

NON-GAAP RECONCILIATIONS – CURRENT 2020 GUIDANCE1 (Unaudited) (Millions of Dollars)

	Ongoin	g				
	Operations				Vistra	
		Asset			Consolidated	
			Closur	9		
	Low	High	Low	High	Low	High
Net Income (loss)	\$897	\$1,053	\$(87)	\$ (77)	\$810	\$976
Income tax expense	249	293	_		249	293
Interest expense and related charges (a)	657	657	—		657	657
Depreciation and amortization (b)	1,750	1,750	—		1,750	1,750

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Fresh start / purchase accounting impacts	31	31	_	_	31	31
Impacts of Tax Receivable Agreement	47	47	_	_	47	47
Non-cash compensation expenses	59	59		_	59	59
Transition and merger expenses	40	40	1	1	41	41
Other, net	119	119	1	1	120	120
Adjusted EBITDA guidance	\$3,485	\$3,685	\$ (85)	\$ (75)	\$3,400	\$ 3,610
Interest paid, net	(514)	(514)		_	(514)	(514)
Tax (paid)/received (c)	136	136	_	_	136	136
Tax receivable agreement payments	(1)	(1)	_	_	(1)	(1)
Working capital and margin deposits	17	17	(5)	(5)	12	12
Reclamation and remediation	(34)	(34)	(94)	(94)	(128)	(128)
Other changes in other operating assets and liabilities	(129)	(129)	(3)	(3)	(132)	(132)
Cash provided by operating activities	\$2,960	\$3,160	\$(187)	\$ (177)	\$2,773	\$2,983
Capital expenditures including nuclear fuel purchases and LTSA Prepayments	(704)	(704)	—	—	(704)	(704)
Solar and Moss Landing development and other growth expenditures	(377)	(377)	_	_	(377)	(377)
(Purchase)/sale of environmental credits and allowances	(253)	(253)	_	_	(253)	(253)
Other net investing activities	(1)	(1)	7	7	6	6
Free cash flow	\$1,625	\$1,825	\$(180)	\$ (170)	\$1,445	\$ 1,655
Working capital and margin deposits	(17)	(17)	5	5	(12)	(12)
Solar and Moss Landing development and other growth expenditures	377	377		_	377	377
Purchase/(sale) of environmental credits and allowances	253	253		_	253	253
Transition and merger expenses	114	114	10	10	124	124
Transition capital expenditures	23	23	—	—	23	23
Adjusted free cash flow before growth guidance	\$2,375	\$2,575	\$ (165)	\$ (155)	\$ 2,210	\$2,420

1 Regulation G Table for 2020 Guidance prepared as of September 29, 2020.

(c) Includes state tax payments.

VISTRA CORP.

<sup>(</sup>a) Includes unrealized loss on interest rate swaps of \$181 million (an incremental loss of \$202 million from prior 2020 guidance).

<sup>(</sup>b) Includes nuclear fuel amortization of \$74 million.

■ Vistra Corp.

	Ongoir Operat	Ongoing Operations		Ongoing Operations			Vistra Consoli	dated
	Low	High	Low	High	Low	High		
Net Income (loss)	\$607	\$920	\$(80)	\$(60)	\$527	\$860		
Income tax expense	195	283	_		195	283		
Interest expense and related charges (a)	429	429	_	_	429	429		
Depreciation and amortization (b)	1,650	1,650	_	_	1,650	1,650		
EBITDA before Adjustments	\$2,881	\$3,282	\$(80)	\$(60)	\$2,801	\$3,222		
Unrealized net (gain)/loss resulting from hedging transactions	59	59	_	_	59	59		
Fresh start / purchase accounting impacts	2	2	_	_	2	2		
Impacts of Tax Receivable Agreement	75	75	_	_	75	75		
Non-cash compensation expenses	45	45	_	_	45	45		
Transition and merger expenses	10	10	_	_	10	10		
Other, net	3	2	_	_	3	2		
Adjusted EBITDA guidance	\$3,075	\$3,475	\$ (80)	\$(60)	\$ 2,995	\$ 3,415		
Interest paid, net	(456)	(456)	_	—	(456)	(456)		
Tax (paid)/received (c)	(60)	(60)	_	—	(60)	(60)		
Tax receivable agreement payments	(3)	(3)	—		(3)	(3)		
Working capital and margin deposits	60	60	_	_	60	60		
Reclamation and remediation	(38)	(38)	(100)	(100)	(138)	(138)		
Other changes in other operating assets and liabilities	1	1	(6)	(6)	(5)	(5)		
Cash provided by operating activities	\$2,579	\$2,979	\$(186)	\$(166)	\$ 2,393	\$ 2,813		
Capital expenditures including nuclear fuel purchases and LTSA Prepayments	(771)	(771)	_	_	(771)	(771)		
Solar and Moss Landing development and other growth expenditures	(687)	(687)	—		(687)	(687)		
(Purchase)/sale of environmental credits and allowances	(29)	(29)	_		(29)	(29)		
Other net investing activities	(20)	(20)	6	6	(14)	(14)		
Free cash flow	\$1,072	\$1,472	\$(180)	\$ (160)	\$892	\$1,312		
Working capital and margin deposits	(60)	(60)	—		(60)	(60)		
Solar and Moss Landing development and other growth expenditures	687	687	_		687	687		
Purchase/(sale) of environmental credits and allowances	29	29	_		29	29		
Transition and merger expenses	28	28	_	_	28	28		
Transition capital expenditures	9	9	_		9	9		
Adjusted free cash flow before growth guidance	\$1,765	\$2,165	\$(180)	\$ (160)	\$1,585	\$2,005		

- Vistra Corp.
  - (a) Includes unrealized gain on interest rate swaps of \$52 million.
  - (b) Includes nuclear fuel amortization of \$82 million.
  - (c) Includes state tax payments.

<sup>C</sup> View original content to download multimedia: <u>http://www.prnewswire.com/news-releases/vistra-accelerates-pivot-to-invest-in-clean-energy-and-combat-climate-change-301139377.html</u>

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# **NEWS RELEASES**

**News Releases** 

## Vistra Accelerates Closure of Ohio Coal Plant to Mid-2022, Years Earlier Than Planned

## Company Continues its Transition Away from Coal with Retirement of Zimmer Power Plant

IRVING, Texas, July 19, 2021 /<u>PRNewswire</u>/ -- Vistra (NYSE: VST) today announced it will close the Zimmer Power Plant in Moscow, Ohio, by mid-2022. The company had previously announced the plant would retire no later than 2027 based on environmental regulations. The early retirement decision comes after the plant failed to secure any capacity revenues in the latest auction held in May by the grid operator, PJM.

"The Zimmer coal-fueled power plant has recently struggled economically due to its configuration, costs, and performance. The PJM capacity revenues are critical to Zimmer, and unfortunately, without them, the plant simply doesn't make money," said Curt Morgan, chief executive officer of Vistra. "This decision did not come easy. Our people work hard every single day to provide power to Ohioans and have done a number of things over the past few years to sustain the life of the plant and improve its economics. But despite their best efforts,

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#### the plant.

May's PJM capacity auction for 2022-23 cleared much lower than expected – nearly 50% lower than the 2021-22 auction in the zone where Zimmer is located. Due to this lower clearing price, Zimmer was unable to sell any generating capacity in the auction. In addition, indications suggest future PJM capacity auctions have the potential to experience low clearing price results, as well, resulting in a multimillion-dollar loss in expected future capacity revenues compared to previous years.

Vistra plans to retire the site on May 31, 2022. As it is doing at its plant sites across the country, the company will evaluate the Zimmer site for potential investments in renewables or grid-scale battery storage, utilizing existing infrastructure.

Vistra always strives to provide workers and communities with as much advanced notice as possible ahead of a plant's retirement. The delayed running of the PJM capacity auction for the 2022-23 planning year compressed the opportunity to provide more time, in this instance. As always, Vistra will support its workers during this period. The company's commitment to the Moscow and Clermont County communities is consistent with its desire to help provide a responsible transition for local communities following plant closures.

Zimmer Power Plant opened in 1991 and currently has approximately 150 employees. The plant is a single-unit site with a capacity of 1,300 megawatts.

#### **About Vistra**

Vistra (NYSE: VST) is a leading Fortune 275 integrated retail electricity and power generation company based in Irving, Texas, providing essential resources for customers, commerce, and communities. Vistra combines an innovative, customer-centric approach to retail with safe, reliable, diverse, and efficient power generation. The company brings its products and services to market in 20 states and the District of Columbia, including six of the seven competitive wholesale markets in the U.S. and markets in Canada and Japan, as well. Serving nearly 4.3 million residential, commercial, and industrial retail customers with electricity and natural gas, Vistra is one of the largest competitive electricity providers in the country and offers over 50 renewable energy plans. The company is also the largest competitive power generator in the U.S. with a capacity of approximately 39,000 megawatts powered by a diverse portfolio, including natural gas, nuclear, solar, and battery energy storage facilities. In addition, the company is a large purchaser of wind power. The company is currently

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stakeholders, including our customers, our communities where we work and live, our employees, and our investors. Learn more about our environmental, social, and governance efforts and read the company's sustainability report at https://www.vistracorp.com/sustainability/.

#### **Cautionary Note Regarding Forward-Looking Statements**

The information presented herein includes forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These forward-looking statements, which are based on current expectations, estimates and projections about the industry and markets in which Vistra Corp. ("Vistra") operates and beliefs of and assumptions made by Vistra's management, involve risks and uncertainties, which are difficult to predict and are not guarantees of future performance, that could significantly affect the financial results of Vistra. All statements, other than statements of historical facts, that are presented herein, or in response to questions or otherwise, that address activities, events or developments that may occur in the future, including such matters as activities related to our financial or operational projections, the potential impacts of the COVID-19 pandemic on our results of operations, financial condition and cash flows, projected synergy, value lever and net debt targets, capital allocation, capital expenditures, liquidity, projected Adjusted EBITDA to free cash flow conversion rate, dividend policy, business strategy, competitive strengths, goals, future acquisitions or dispositions, development or operation of power generation assets, market and industry developments and the growth of our businesses and operations (often, but not always, through the use of words or phrases, or the negative variations of those words or other comparable words of a future or forward-looking nature, including, but not limited to: "intends," "plans," "will likely," "unlikely," "believe," "confident", "expect," "seek," "anticipate," "estimate," "continue," "will," "shall," "should," "could," "may," "might," "predict," "project," "forecast," "target," "potential," "goal," "objective," "guidance" and "outlook"),are forward-looking statements. Readers are cautioned not to place undue reliance on forwardlooking statements. Although Vistra believes that in making any such forward-looking statement, Vistra's expectations are based on reasonable assumptions, any such forwardlooking statement involves uncertainties and risks that could cause results to differ materially from those projected in or implied by any such forward-looking statement, including, but not limited to: (i) adverse changes in general economic or market conditions (including changes

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performance, and cost-saving initiatives and to successfully integrate acquired businesses, (iii) actions by credit ratings agencies; (iv) the severity, magnitude and duration of pandemics, including the COVID-19 pandemic, and the resulting effects on our results of operations, financial condition and cash flows; (v) the severity, magnitude and duration of extreme weather events (including winter storm Uri), contingencies and uncertainties relating thereto, most of which are difficult to predict and many of which are beyond our control, and the resulting effects on our results of operations, financial condition and cash flows; and (vi) those additional risks and factors discussed in reports filed with the Securities and Exchange Commission by Vistra from time to time, including the uncertainties and risks discussed in the sections entitled "Risk Factors" and "Forward-Looking Statements" in Vistra's annual report on Form 10-K for the year ended December 31, 2020, and any subsequently filed quarterly reports on Form 10-Q.

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