Alabama Power

Moses H. Feagin
Executive Vice President
Chief Financial Officer & Treasurer

600 18th Street North
Post Office Box 2641
Birmingham, AL 35291
205 257 1604 tel
205 257 2176 fax

December 12, 2023

Mr. Walter L. Thomas, Secretary
Alabama Public Service Commission
RSA Union Building
100 North Union Street, Suite 950
Montgomery, Alabama 36104

Re: Rate CNP, Final Environmental Compliance Plan
Docket Nos. 18117 and 18416

Dear Mr. Thomas:

Alabama Power Company submits for filing an original and ten (10) copies of the final Environmental Compliance Plan under Rate CNP, Subpart C. The final version of the plan includes the following:

- A report on legislative and regulatory matters relevant to Alabama Power's environmental compliance activities;
- An estimate of the compliance-related capital and O&M expenditures for the 2024-2028 environmental cost years, including projections for the cost of removal for coal combustion residual facilities; and
- A detailed summary of capital expected to be placed in service during the upcoming 2024 environmental cost year, as well as expected O&M expenditures for the year.

If the Commission or its Staff has any questions concerning this information, please do not hesitate to contact the undersigned.

Yours very truly,

Moses H. Feagin

Moses Feagin

Enclosures

cc: Commissioner Twinkle Andress Cavanaugh
Commissioner Jeremy H. Oden
Commissioner Chris "Chip" Beeker, Jr.

Secretary of the Alabama Public Service Commission
Mr. Walter L. Thomas, Jr. (11)

Executive Director and Chief Administrative Law Judge
The Honorable John A. Garner

Director, Electricity Policy Division
Mr. John D. Free (5)

Office of the Attorney General
Ms. Olivia W. Martin

December 12, 2023

TABLE OF CONTENTS

REGULATORY AND LEGISLATIVE UPDATE

The following discussion provides a regulatory and legislative update on environmental issues affecting Alabama Power Company (**Alabama Power** or the **Company**), including regulations and requirements associated with interstate transport, ambient air quality standards, regional haze (visibility), hazardous air pollutants, greenhouse gases, water initiatives, toxics release inventory, and coal combustion residuals. Environmental compliance requirements affecting Alabama Power are administered by the U.S. Environmental Protection Agency (**EPA**), the Alabama Department of Environmental Management (**ADEM**), and other state and local authorities. In addition to the updates provided, Alabama Power has included customary, background information on several regulatory and legislative programs that have given and continue to give rise to the environmental compliance strategies employed by the Company. While the federal statutes regarding environmental compliance have not been substantially altered in many years, new regulations, as well as changes to existing regulations, continue to be promulgated in order to implement various provisions of those laws. Major EPA regulations for the electric utility industry often undergo judicial review, and courts play a significant role in the final outcome of regulations through their interpretation of the relevant federal statutes as well as their review of the implementing regulations.

ACID RAIN PROGRAM REQUIREMENTS

The Acid Rain Program is implemented under Title IV of the Clean Air Act (**CAA**). This program covers fossil fuel-fired power plants across the contiguous United States and places restrictions on the emissions of sulfur dioxide (**SO_2**) and nitrogen oxides (**NO_x**), which can lead to the formation of acid rain. For SO_2, the Acid Rain Program established a permanent nationwide cap on the total cumulative amount of SO_2 that may be emitted by electric generating units. The program set a

specific number of SO_2 "allowances" (one allowance being equivalent to one ton of emitted SO_2) to facilitate achievement of the national goal for SO_2 reductions. The current statutory SO_2 national cap is 8.95 million tons annually, or about one-half of the emissions from the power sector in 1980. Allowances can be banked, traded and sold. This market-based program allows affected sources to design and implement compliance strategies at lower costs while achieving the desired environmental goals. Each generating plant affected by the Acid Rain Program must have sufficient allowances to cover its annual SO_2 emissions. The program requires rigorous emissions monitoring and reporting protocols to ensure accuracy and accountability, to support the allowance trading element, and to achieve the desired program results. Alabama Power's compliance strategies for the Acid Rain Program have included switching to lower sulfur coals; purchasing, trading and banking SO_2 allowances; and installing emissions control equipment. Since the program began in 1995, Alabama Power has held sufficient SO_2 allowances to cover its annual SO_2 emissions and comply with the Acid Rain Program.

The requirements of the Acid Rain Program were implemented in two phases. Phase I requirements became effective for SO_2 on January 1, 1995. EPA allocated SO_2 allowances to Phase I units using a historical fuel consumption baseline (i.e., heat input to the boiler in British thermal units (**Btus**)) and a specific emission rate of 2.5 pounds of SO_2 per million Btus of heat input. Due to litigation involving the final rules, the effective date for Phase I NO_x compliance was delayed one year until January 1, 1996. Unlike SO_2 emissions, NO_x emissions under the Acid Rain Program are not capped utilizing an allowance trading system. Rather, the Acid Rain Program imposes a NO_x emissions rate requirement that applies according to categories of coal-fired boiler types. For example, the Phase I limits for NO_x are 0.50 and 0.45 pounds of NO_x per million Btus of heat input for dry-bottom wall-fired and tangentially fired boilers, respectively.

Alabama Power's coal-burning units have complied with the Acid Rain Program annual NO_x emission rate limits since those limits became effective in 1996.

The Acid Rain Program's Phase II requirements for both SO_2 and NO_x became effective on January 1, 2000. The limits for Phase II affect more units and are more stringent than those under Phase I. EPA allocated SO_2 emission allowances (again based upon specific formulas) to all affected units above 25 megawatts in size with an allocation factor of 1.2 pounds of SO_2 per million Btus of heat input. The final Phase II NO_x rules set the limits for the three common boiler types owned and operated by Alabama Power at 0.46 pounds of NO_x per million Btus of heat input for wall-fired boilers, 0.40 pounds of NO_x per million Btus of heat input for tangentially fired boilers, and 0.68 pounds of NO_x per million Btus of heat input for cell burner-fired boilers. Alabama Power's compliance strategies for the Acid Rain Program NO_x limitations have included installing low-NO_x burner and combustion control technologies and selective catalytic reduction systems in conjunction with NO_x emission rate averaging plans.

AMBIENT AIR QUALITY STANDARDS

The cornerstone of Title I of the CAA is the establishment and attainment of the National Ambient Air Quality Standards (**NAAQS** or **standards**) for the following six pollutants: ozone, particulate matter, sulfur dioxide, lead, carbon monoxide and nitrogen dioxide. The CAA requires that EPA determine what concentration of each of these six specific pollutants in the ambient (i.e., outside) air is protective of human health and welfare within a margin of safety. Fossil-fired power plants emit some of these air pollutants directly, while some of these pollutants can also combine with other substances in the atmosphere to form "secondary" pollutants such as "fine" particulate matter and ozone.

In Alabama, ADEM is responsible for ensuring the state meets the NAAQS and establishes a State Implementation Plan (**SIP**) to carry out that obligation. EPA must approve these SIPs, and if a state fails to adopt a SIP, EPA must promulgate a Federal Implementation Plan (**FIP**).). Geographic areas where ambient levels of any of these pollutants exceed the NAAQS are designated as "nonattainment" areas. Every state that has nonattainment areas is required by the CAA to develop and implement an additional nonattainment plan that includes emission control strategies designed to bring these areas into attainment with the NAAQS that are not being met.

Once EPA sets a NAAQS for a pollutant, the CAA requires EPA to review the NAAQS every five years to determine if a revision is necessary. Since 1997, these reviews have resulted in multiple, significant changes to the ozone, lead, particulate matter, nitrogen dioxide, and sulfur dioxide NAAQS. The majority of costs for emission controls incurred by Alabama Power are attributable to the implementation of these revised air quality standards.

1-Hour Ozone Standard

Historically, the most pervasive and difficult ambient air pollutant to reduce has been ozone, with many major urban areas across the country (including Birmingham) failing to meet the 1-hour ozone standard (0.12 parts per million or **ppm**) for many years. As discussed below, EPA established a more stringent 8-hour ozone standard in 1997 (the **1997 8-hour ozone standard**), and eventually revoked the 1-hour standard in June 2005 (the terms **1-hour** and **8-hour** refer to the time period over which the air quality monitor data is averaged). However, emission reduction regulations addressing attainment of the 1-hour ozone standard remain effective under the Alabama SIP for Birmingham ozone and currently affect one Alabama Power plant.

By way of background, Jefferson and Shelby Counties were originally classified as a 1-hour ozone nonattainment area (the **Birmingham ozone nonattainment area**) by EPA on March 3, 1978. The CAA required most states with then existing 1-hour ozone nonattainment areas to submit by November 1994 revised SIPs that demonstrated attainment of the standard. As part of this process many states agreed to participate in a collaborative effort to evaluate regional controls for NO_x emissions that could contribute to attainment of the ozone standard across an entire region (for Alabama, the eastern United States).

The collaborative effort led to the formation of the Ozone Transport Assessment Group (**OTAG**), an organization of 37 states east of and bordering the Mississippi River, plus Texas, Kansas, Nebraska, Oklahoma, North Dakota and South Dakota. OTAG evaluated certain regional NO_x and volatile organic compounds (**VOC**) controls and their potential for reducing ozone in the eastern United States. OTAG presented its final recommendations to EPA in June 1997. The final recommendations presaged EPA's Regional NO_x SIP Call rule (discussed in the next section), which required additional NO_x emission reductions from utilities (beyond those required by the Acid Rain Program) and from large industrial sources as a measure to address regional transport of this ozone precursor.

The CAA prescribed a 1-hour ozone standard attainment date of 1993 for the Birmingham ozone nonattainment area. Birmingham recorded air quality data that demonstrated attainment of the standard in 1993, and ADEM submitted a request to EPA in March 1995 to redesignate the Birmingham area to attainment for the 1-hour ozone NAAQS. However, before EPA acted on ADEM's request, Birmingham-area ozone monitors recorded ozone air quality data that violated the 1-hour standard. EPA subsequently denied ADEM's redesignation request in September 1997, and later in 2000 issued a **SIP Call** requiring Alabama to submit a plan that would provide for

attainment of the 1-hour ozone standard in Birmingham. ADEM submitted a 1-hour ozone SIP in November 2000, and EPA approved the plan in November 2001. EPA allowed Alabama until May 2003 to enforce the SIP requirements needed to attain the 1-hour ozone standard. ADEM's rules addressing the 1-hour ozone standard impose a limit of 0.21 pounds of NO_x per million Btus of heat input (over a 30-day rolling average) during the ozone season for Miller Units 1-4. To meet this mandate, Alabama Power principally relies on selective catalytic reduction (**SCR**) technology.

On March 12, 2004, EPA approved the redesignation of the Birmingham ozone nonattainment area to 1-hour ozone attainment based on the air quality data recorded for the area from 2001-2003. Prior to this approval, the Sierra Club had initiated litigation in the United States Court of Appeals for the District of Columbia Circuit (**D.C. Circuit**) seeking higher (i.e., more stringent) nonattainment status for some areas across the country, including Birmingham. The D.C. Circuit concluded that EPA failed to exercise its duty to make a final ozone determination for classifying Birmingham (and other areas) by May 15, 1994, as prescribed by the CAA. In November 2002, in response to the Court's order, EPA determined that the Birmingham area did, in fact, attain the 1-hour ozone standard by November 15, 1993, the date required by the CAAA of 1990. Consequently, in 2002 the Birmingham area retroactively was found to have met the 1-hour standard as of 1993. Birmingham again achieved the 1-hour standard in March 2004, and the area was redesignated to attainment. Unfortunately, attainment was short lived, as in April 2004 the area was designated ozone nonattainment for the more stringent 1997 8-hour ozone standard (discussed below).

NO_x Budget Trading Program

In September 1998, EPA issued the Regional NO_x SIP Call rule, which required 22 states (including Alabama) and the District of Columbia to submit SIPs addressing regional transport of air pollution that contributes to the cross-border formation of ozone in the eastern United States. The Regional NO_x SIP Call rule instituted a cap-and-trade program and was also referred to as the NO_x Budget Trading Program (**NBP**). The NBP required NO_x emission reductions during the ozone season from power plants and other large industrial sources. The allowable emissions levels were based upon projected electricity generation for 2007 (using EPA assumptions that understated actual growth in some cases) and NO_x emission rates of approximately 0.15 pounds of NO_x per million Btus of heat input for coal-fired units.

Final NBP SIPs were originally required by September 1999, with the final compliance deadline for utilities and large industrial sources set for May 1, 2003. However, the rule was challenged and in May 1999, the D.C. Circuit issued an order staying the September 1999 SIP submittal deadline indefinitely. In March 2000, the Court largely upheld the Regional NO_x SIP Call rule and cleared the way for EPA to implement the program. Even so, the Court vacated the rule for Georgia, Missouri and Wisconsin, and EPA was required to submit a revised rule for the northern two-thirds of Georgia and the eastern half of Missouri. As part of its February 2002 proposal, EPA excluded the southern one-third of Alabama from the NBP because modeling results did not show an impact on any out-of-state nonattainment area from sources in these regions.

The litigation before the D.C. Circuit resulted in an extension of the NBP compliance date from May 1, 2003 to May 31, 2004 for utilities and large industrial sources in all remaining affected states. The Alabama NBP SIP rules were finalized in February 2001 and approved by EPA in July 2001. To meet the NBP compliance requirements, Alabama Power units in the affected portion of

the state relied on SCRs and combustion controls and trading of allowances. The NBP was supplanted in 2008 with the promulgation of the Clean Air Interstate Rule (discussed later), which ensured continuing NO_x emission reductions from power plants for the purpose of further reducing the downwind formation of ozone.

8-Hour Ozone Standards

As discussed, EPA promulgated a new 8-hour ozone NAAQS in 1997. The new standard implemented changes to the concentration level, the averaging period and the calculation methodology, resulting in significantly more stringent requirements than the 1-hour standard.

On May 14, 1999, the D.C. Circuit remanded the 1997 8-hour ozone standard to EPA to address issues involving constitutionality, the nonattainment classification scheme, and ultraviolet-B (**UVB**) health "disbenefits." EPA appealed this decision to the United States Supreme Court. On February 27, 2001, the Supreme Court upheld the constitutionality of the standard, but rejected EPA's implementation plan for the 1997 8-hour ozone standard and remanded the standard to the D.C. Circuit for further review. On March 26, 2002, the D.C. Circuit dismissed all remaining challenges to the standard. On January 6, 2003, EPA published a final rule that responded to the D.C. Circuit remand related to the beneficial effects of ozone in preventing UVB-induced skin cancers and cataracts. EPA determined that these effects were too uncertain to warrant a change to the standard.

As noted above, in April 2004, just one month after the Birmingham area came into attainment with the 1-hour ozone standard, EPA designated the Birmingham area nonattainment for the 1997 8-hour ozone standard, with an attainment deadline of June 15, 2009. The Alabama nonattainment SIP containing 1997 8-hour ozone attainment demonstrations and control requirements for the area

was due June 15, 2007. However, ozone monitoring data for 2003-2005 showed that the Birmingham area was achieving the 1997 8-hour standard. ADEM requested that EPA redesignate the area to ozone attainment based upon the most current air quality data. EPA approved the request and the Birmingham area became attainment for the 1997 8-hour ozone standard effective June 12, 2006. This action eliminated the need for an 8-hour attainment SIP for Birmingham, but a **Maintenance Plan** was required under the CAA, and one was approved as part of the redesignation process. The Maintenance Plan demonstrates that the standard will continue to be met following the attainment redesignation.

Subsequent to the EPA ozone attainment redesignation, a Birmingham area air quality monitor began recording violations of the 1997 8-hour standard. This event required ADEM to activate the Maintenance Plan in order to address the ozone monitor violations (i.e., ADEM must take actions to ensure the standard would again be attained). ADEM revised air permits for two industrial facilities, requiring additional NO_x emission reductions in order to satisfy Maintenance Plan provisions.

Even as many areas in the United States were still struggling to meet the 1997 8-hour ozone standard, EPA once again tightened the ozone standard. On March 27, 2008, EPA established the **2008 8-hour ozone standard**, which increased the stringency of the 8-hour ozone standard from 0.08 ppm (effectively 0.084 ppm due to rounding) to 0.075 ppm. Legal challenges were filed by industry groups as well as the State of Mississippi, charging that the 2008 standard was overly stringent. On the other hand, numerous other states and environmental groups claimed that the 2008 standard was not stringent enough. The cases were consolidated at the D.C. Circuit as *Mississippi v. EPA*. The State of Alabama filed a motion to intervene in support of the State of Mississippi. In early 2009, EPA requested the D.C. Circuit suspend briefing pending an EPA

decision whether to reconsider the 2008 standard. The Court granted this request in March 2009. In September 2009, EPA announced that it would reconsider the 2008 ozone standard. On January 6, 2010, EPA proposed to make the standard even more stringent by lowering the level from 0.075 ppm to a level in the range of 0.060 to 0.070 ppm. If finalized, such a revision was expected to result in a large number of new nonattainment areas throughout the United States. Based on ozone monitoring data at the time, a level of 0.070 ppm was projected to result in 75 percent of monitored counties across the country being nonattainment; a level of 0.060 ppm was projected to result in 96 percent of monitored counties being designated as nonattainment.

Area designations for the 2008 ozone standard were initially slated for March 2010. However, EPA announced its intention to stay that process and finalize designations for a potentially revised ozone standard. On September 2, 2011, after numerous delays finalizing a revision, the President instructed EPA to withdraw its reconsideration of the 2008 ozone standard. EPA subsequently resumed implementation of the 2008 ozone standard of 0.075 ppm and finalized initial designations on April 30, 2012. No areas in Alabama were designated as nonattainment for the 2008 standard. Litigation of the 2008 standard, which had been held in abeyance, resumed. On July 23, 2013, the D.C. Circuit denied the petitions for review by industry, state and environmental groups challenging the 2008 standard. Subsequently, petitions were filed requesting Supreme Court review of the standard, but on September 29, 2014, the Supreme Court denied these petitions.

When EPA missed its five-year deadline for reviewing the 2008 ozone standard for possible revision, environmental groups filed a lawsuit in June 2013 to force EPA to complete the review. On April 30, 2014, the United States District Court in Northern California ordered EPA to propose a rule by December 1, 2014 and issue a final rule by October 1, 2015. On November 26, 2014,

EPA issued a proposed rule to revise the 8-hour ozone standard down to a level between 0.070 and 0.065 ppm, while also accepting comments on levels down to 0.060 ppm as well as retaining the 2008 standard. On October 1, 2015, EPA finalized a rule establishing a new ozone standard of 0.070 ppm (the **2015 ozone standard**). Based on ozone monitoring data for 2013–2015, 15 percent of monitored counties in the United States exceeded the new ozone standard of 0.070 ppm; however, all of Alabama met the standard based on 2013–2015 monitoring data. On September 30, 2016, ADEM informed EPA that all monitors in the State of Alabama were meeting the ozone standards and requested that all counties in Alabama be designated as attainment for the 2015 ozone standard. On November 6, 2017, EPA announced initial designations for the 2015 ozone standard for most areas of the United States including the designation of the entire State of Alabama as "attainment/unclassifiable."

Litigation over the 2015 ozone standard was initiated, and on August 23, 2019, the D.C. Circuit issued an opinion concerning challenges to the standard. The Court upheld the primary health-based standard of 0.070 ppm, and in doing so, rejected arguments from both industry and environmental petitioners that the standard was either too restrictive or not protective enough. However, the Court remanded for reconsideration the secondary welfare-based standard, holding that EPA did not adequately explain its departure from certain recommendations by the Clean Air Scientific Advisory Committee (**CASAC**), an external panel of experts that makes recommendations to EPA. On remand, EPA was directed to address this deficiency and justify its decisions regarding the secondary ozone standard.

As part of its five-year NAAQS review cycle of the ozone standards, EPA on July 13, 2020, proposed to retain without revision both the primary and secondary ozone NAAQS. On December 23, 2020, EPA finalized its review of the ozone NAAQS, retaining the current primary and

secondary ozone 8-hour standards and its level of 0.070 ppm. The rule became effective December 31, 2020. Regarding the remand of the secondary standard noted above, EPA's analysis in the final rule concluded that the current secondary standard is requisite to protect the public welfare from adverse effects of ozone in ambient air and should be retained without revision. Petitions for reconsideration of EPA's ozone NAAQS rule were filed as well as petitions filed in the D.C. Circuit challenging the 2020 final rule. The D.C. Circuit has held these challenges in abeyance while EPA reconsiders the rule. After a pause to examine the science and record from the 2020 rulemaking, the CASAC resumed its review of the standard in September 2022. In June 2023, the CASAC recommended EPA lower the primary ozone NAAQS based on its review of EPA's revised policy assessment for reconsideration of the ozone standards. The CASAC also recommended that EPA conduct additional risk analyses that could support more stringent standards. On August 21, 2023, EPA announced it will consider the advice and recommendations of the CASAC to ensure the standards reflect the most current and relevant science. Believing a full review of the ozone NAAQS is necessary, EPA has paused reconsideration of the 2020 ozone NAAQS decision to initiate this review, which will incorporate the information gathered during the reconsideration process. EPA's review is likely to extend through 2025.

Fine Particulate Standards

On July 18, 1997, EPA promulgated new ambient air quality standards for fine particulate matter. Fine particulate matter is a general term used for a mixture of solid particles and liquid droplets in the air that have aerodynamic diameters less than 2.5 micrometers (**PM2.5**). The 1997 standards established 24-hour and annual standards for PM2.5. The 1997 PM2.5 standards were delayed by challenges in various courts but were ultimately largely upheld. Specifically, as with the 1997 8-hour ozone standard, the D.C. Circuit remanded, on constitutional grounds, the 1997 PM2.5 standards to EPA for redevelopment. EPA appealed the decision to the Supreme Court, which

upheld the constitutionality of the PM2.5 standards and returned the case to the D.C. Circuit for consideration of whether the levels of the standards properly reflect what is requisite (i.e., "sufficient, but not more than necessary") to protect public health. On March 26, 2002, the D.C. Circuit dismissed all remaining challenges to the 1997 PM2.5 standards.

In February 2004, ADEM recommended PM2.5 nonattainment areas to EPA. EPA ultimately disregarded some of ADEM's recommendation and included all of Jefferson and Shelby Counties in the final nonattainment designations, which became effective April 5, 2005. Small areas of Walker and Jackson Counties that contain electric power generating plants also were designated nonattainment for the annual PM2.5 standard (Jackson County is part of the larger Chattanooga, Tennessee nonattainment area).

After extensive analysis, ADEM developed an annual PM2.5 attainment SIP for the Birmingham area and submitted it to EPA in May 2009. Primarily, ADEM's SIP requires PM2.5 emission reductions from local facilities in the vicinity of the Birmingham air quality monitors that are violating the standard and relies on utility emission reductions realized from another EPA emission program, the Clean Air Interstate Rule (discussed below).

On September 21, 2006, EPA issued a revision to the PM2.5 standards. With this action, EPA retained the annual standard, while lowering the 24-hour PM2.5 standard by nearly 50 percent (from 65 to 35 micrograms per cubic meter). On October 8, 2009, EPA issued final area designations for the 2006 24-hour PM2.5 standard. The Birmingham area was designated nonattainment for this standard with the geographic footprint identical to the annual PM2.5 standard nonattainment area (i.e., Jefferson, Shelby and part of Walker Counties). ADEM's SIP, which was designed to bring the area into attainment with the 2006 24-hour PM2.5 standard, was

expected to be submitted to EPA by December 2012. However, air quality data from 2007-2009 showed attainment of the 24-hour standard of 35 micrograms per cubic meter. Accordingly, ADEM prepared and in April 2010 submitted to EPA a 24-hour PM2.5 Redesignation Request and Maintenance Demonstration for Birmingham. In a final action in September 2010, EPA determined that the Birmingham area had indeed attained the 2006 24-hour PM2.5 standard; however, EPA did not officially redesignate Birmingham to attainment or approve the Maintenance Plan. Similarly, air quality data for the 2008–2010 period showed that the Birmingham area was also meeting the 1997 annual PM2.5 standard of 15 microgram per cubic meter. ADEM requested redesignation for that standard in March 2011. On June 29, 2011, EPA determined that the Birmingham area had attained the 1997 annual PM2.5 standard, but similar to its action in September 2010, the agency did not redesignate the area to attainment. These EPA determinations suspended the requirements for ADEM to submit an attainment demonstration and other SIP elements as long as the Birmingham area continued to meet the standard. Until redesignation to attainment is finalized by EPA, however, the most burdensome requirements of nonattainment are not relieved for regulated sources. On November 10, 2011, EPA proposed to redesignate the Birmingham area to attainment for both the 24-hour and the annual PM2.5 standards. On January 22, 2013, EPA published the final rule redesignating the Birmingham area to attainment for the 1997 annual PM2.5 NAAQS. On January 25, 2013, EPA published the final rule redesignating the Birmingham area to attainment for the 2006 24-hour PM2.5 NAAQS.

Litigation of the 2006 PM2.5 standards was initiated in the D.C. Circuit. Numerous states and environmental groups challenged the levels of the standard, specifically claiming that EPA should have increased the stringency of the annual standard. In February 2009, the Court found that EPA inadequately explained its actions concerning the 2006 24-hour PM2.5 standard and remanded to EPA its decision to retain the annual standard. EPA announced plans to accelerate the typical five-

year NAAQS review cycle for the PM standards. Subsequently, on June 29, 2012, EPA proposed to replace the annual PM2.5 standard with a more stringent standard. On December 14, 2012, EPA finalized revisions to the NAAQS for PM2.5, lowering the annual standard to 12 micrograms per cubic meter while leaving 24-hour standard unchanged. In March 2013, several industries filed petitions for judicial review of the new 2012 PM2.5 standards, but the D.C. Circuit upheld them on May 9, 2014.

In an April 16, 2013 memorandum, EPA informed states that recommendations for areas that do not meet the 2012 PM2.5 annual standard were due by December 13, 2013, and that EPA would finalize the designations by December 13, 2014. EPA also indicated that areas not meeting the standard would have six years after designation to come into attainment. With EPA's concurrence, ADEM did not submit its recommendations by December 13, 2013, in order to incorporate 2013 air quality data in its analysis. On March 3, 2014, and including this most recent data, the State of Alabama recommended to EPA that all counties in Alabama be designated as attainment for the 2012 annual PM NAAQS. On August 19, 2014, EPA informed Alabama that it intended to designate all areas of the state as "attainment/unclassifiable" except for the Phenix City area in Russell County. EPA's reasoning was that Phenix City is part of the metropolitan area that includes Columbus, Georgia, and the Georgia monitor had insufficient air quality data upon which to base a determination. EPA deferred the designation for the Columbus-Phenix City area to allow time for adequate air quality monitoring needed for a designation. On January 15, 2015, EPA finalized designations for most areas in the United States. All of Alabama was designated attainment for the 2012 PM2.5 annual standard, except for Russell County where designation was deferred. After the collection of necessary air quality monitoring data, EPA ultimately designated Russell County attainment for the 2012 PM2.5 annual standard on April 7, 2015, completing designations for Alabama.

In a final rule issued on September 18, 2017, EPA determined that Alabama's SIP satisfies certain required infrastructure elements relating to the implementation, enforcement and maintenance of the 2012 PM2.5 annual NAAQS. On September 25, 2018, EPA approved Alabama's SIP concerning interstate transport obligations for the 2012 PM2.5 annual standard. With this action, Alabama's SIP demonstrates that air emissions from Alabama do not significantly contribute to nonattainment or interfere with maintenance of the 2012 PM2.5 standard in any other state, and therefore further emissions reductions from Alabama sources are not required to satisfy Alabama's interstate transport obligations.

As part of the required review cycle of the PM NAAQS, on December 18, 2020, EPA finalized its review retaining all NAAQS for particulate matter. Specifically, EPA retained all of the following standards: the annual PM2.5 primary standard of 12 micrograms per cubic meter and 24-hour PM2.5 primary standard of 35 micrograms per cubic meter; the 24-hour PM10 primary standard (PM10 refers to the slightly larger category of particulates with an aerodynamic diameter of less than 10 micrometers) of 150 micrograms per cubic meter; the annual secondary PM2.5 standard of 15 micrograms per cubic meter; and the secondary standards for 24-hour PM2.5 and PM10 (which are the same as the corresponding primary standards). Petitions for reconsideration of EPA's PM NAAQS rule, as well as petitions in the D.C. Circuit challenging the final rule, were subsequently filed. On June 10, 2021, EPA announced that it would reconsider the final rule to retain the PM NAAQS and by order issued October 1, 2021, the D.C. Circuit held the cases challenging the 2020 rule in abeyance. On January 27, 2023, EPA published a proposed revision to the 2020 PM NAAQS which included lowering the annual PM2.5 standard to a level within the range of 9 to 10 micrograms per cubic meter, while retaining other PM2.5 and PM10 standards. EPA expects to finalize the proposal by the end of 2023. Setting a standard below 10 micrograms/per cubic meter would be likely to trigger nonattainment designations in Alabama by

2025. As in the past, the courts are expected to continue to play a significant role in the establishment and implementation of the PM NAAQS.

Clean Air Interstate Rule

EPA signed the Clean Air Interstate Rule (**CAIR**) on March 10, 2005. The rule required major reductions—far beyond those required by the Acid Rain Program—of SO_2 and NO_x emissions to address the transport of emissions in the eastern United States that significantly interfere with attainment of the PM2.5 and ozone standards in downwind states under the CAA's "good neighbor" provision.

For affected states, CAIR set permanent caps on emissions and provided for three separate market-based allowance trading programs: annual SO_2, annual NO_x, and seasonal NO_x. Implementation of the emission reductions from CAIR involved two phases. The first phase of NO_x compliance began on January 1, 2009 and called for an approximate 50 percent reduction from 2003 NO_x annual and seasonal emissions in CAIR-affected states. The first phase of SO_2 compliance began on January 1, 2010, requiring an approximate 50 percent further reduction in annual SO_2 emissions. The second phase of NO_x and SO_2 compliance was set to begin in 2015 and required an approximate 65 percent reduction in NO_x and 70 percent reduction in SO_2 from 2003 emissions or allocations. ADEM initially submitted the Alabama CAIR SIP rules to EPA for approval in September 2006. ADEM submitted CAIR SIP updates in November 2006 and March 2007 to comply with EPA revisions to the federal CAIR rule. EPA approved Alabama's CAIR SIP in October 2007.

Various states and regulated industries filed petitions challenging particular aspects of CAIR in the D.C. Circuit. In July 2008, the Court vacated CAIR in its entirety and remanded it to EPA for

further action. The Court found EPA's CAIR approach to be "fundamentally flawed" and directed EPA to redo its analysis "from the ground up," citing foundational problems with basic aspects of the rule such as trading, maintenance of NAAQS, compliance deadlines, and leveraging Acid Rain Program allowances.

In response to an EPA petition for rehearing of the CAIR vacatur, the Court requested briefs from petitioners and EPA regarding harm to the public health that would be caused by vacatur of CAIR. In December 2008, just days before compliance was set to begin the Court decided to remand CAIR to EPA without vacatur, thereby leaving the rule and its compliance obligations in place until replaced by a new rule developed under remand. Therefore, compliance with the NO_x and SO_2 elements of CAIR began on January 1, 2009, and January 1, 2010, respectively, as specified in the original EPA rule. Subsequent to the remand decision, EPA stated that it intended to propose a CAIR replacement rule in early 2010 and finalize that rule in early 2011. The "on, off, and back on again" CAIR, coupled with an unknown (at the time) CAIR replacement rule, was a significant complicating factor for Alabama Power in compliance planning—especially considering the long lead times that many emission control projects require. In addition, emission reductions realized from CAIR were being relied on by ADEM in the Birmingham area annual and 24-hour PM2.5 SIPs and the Clean Air Visibility Rule (discussed in the next section).

As a result of these requirements, the Company deployed scrubbers, with the resulting SO_2 emission reductions intended not only to meet CAIR (and its replacement rule) and other programs (such as the Acid Rain Program), but also to address local attainment of the PM2.5 standards. Likewise, the Company's SCRs facilitate compliance with multiple regulatory programs.

CAIR was also the basis for EPA's 2006 denial of a CAA Section 126 petition filed by the State of North Carolina, which called for EPA to require thirteen other states, including Alabama, to reduce NO_x and SO_2 emissions from sources in those states in order to assist North Carolina in achieving and maintaining compliance with ozone and PM2.5 standards. Section 126 of the CAA allows for a state that believes it is significantly impacted by emissions from other states to have EPA require emission reductions from sources in those impacting states. North Carolina's Section 126 petition was being litigated in a separate proceeding in the D.C. Circuit. The absence of CAIR could have had a major bearing on the litigation. In fact, the D.C. Circuit specifically pointed out the Section 126 option for states in its original CAIR decision. Conceding that the Court's decisions regarding CAIR eliminated or fundamentally changed the legal basis for EPA's denial of North Carolina's petition, EPA asked the Court to allow it to reconsider its denial. In March 2009, the Court agreed that a remand to EPA for reconsideration was in order in light of the remand of CAIR. The Court did not set a deadline for EPA to act, but stated that EPA's reconsideration should be "expeditious." Although EPA has not reported any further action to the Court on this remand, North Carolina's concerns may have ultimately been adequately addressed by subsequent promulgation of the replacement for CAIR: the Cross-State Air Pollution Rule.

Cross-State Air Pollution Rule

On July 6, 2010, EPA signed a proposed replacement rule for CAIR. EPA proposed one approach, but also requested comments on two alternative approaches. All three approaches set an emissions limit (or budget) for each affected state and sought to obtain SO_2 and NO_x emission reductions from power plants in 31 eastern states. Compliance would begin in 2012, becoming more stringent in 2014. Under EPA's "preferred" approach, unlimited interstate trading for three separate

allowance programs (annual SO_2, annual NO_x and seasonal NO_x) would be allowed in 2012 and 2013, but would become limited in 2014.

On July 7, 2011, EPA finalized the proposed rule as the Cross-State Air Pollution Rule (**CSAPR**). CSAPR was designed to reduce PM2.5 and ozone levels in ambient air across a wide region of the country. SO_2 and NO_x react in the atmosphere to form PM2.5, whereas NO_x and VOCs react in the atmosphere to form ozone. These compounds can be transported long distances, thereby impacting downwind areas' ability to meet these NAAQS.

CSAPR was intended to replace CAIR in its entirety in response to the 2008 remand of CAIR by the D.C. Circuit. According to EPA, CSAPR affected 3,632 electric generating units at 1,074 fossil fuel-fired facilities in 28 eastern states. CSAPR set state budgets (i.e., mass emission limits) and allowed limited interstate trading. As with CAIR, there were three separate allowance programs affecting Alabama: annual SO_2, annual NO_x and seasonal NO_x. (Not all states are affected by all allowance programs.) Compliance with the first phase of CSAPR was scheduled to begin on January 1, 2012. However, on December 30, 2011, less than 48 hours before compliance was set to begin, the D.C. Circuit issued a stay of CSAPR and ordered EPA to continue to administer CAIR during the pendency of the stay.

On August 21, 2012, the D.C. Circuit vacated CSAPR, holding that CSAPR exceeded EPA's statutory authority by requiring upwind states to reduce emissions by more than their own significant contribution to nonattainment in other states and failing to allow states the initial opportunity to implement, through SIPs, the emission reductions required by EPA in CSAPR. The Court directed EPA to continue to administer CAIR pending completion of a rulemaking to replace CSAPR with a valid rule.

On March 29, 2013, EPA filed a petition with the Supreme Court requesting review of the CSAPR vacatur, and on June 24, 2013 the Court granted the request for review. On April 29, 2014, the Supreme Court reversed the D.C. Circuit's decision vacating CSAPR (while leaving the stay in effect) and remanded the case to the D.C. Circuit. On June 26, 2014, EPA filed a motion to lift the 2011 stay of CSAPR and requested that the D.C. Circuit toll compliance deadlines by three years. On October 23, 2014, the D.C. Circuit lifted the stay of CSAPR. Although some additional legal challenges remained unresolved, Phase I of CSAPR began on January 1, 2015, replacing CAIR and implementing new allowance programs for annual SO_2, annual NO_x, and seasonal NO_x.

With respect to Phase II of CSAPR, on July 28, 2015, the D.C. Circuit held invalid certain Phase II CSAPR emission budgets. The Court ruled that the CSAPR Phase II SO_2 emission budgets for Alabama, Georgia, South Carolina and Texas were invalid, along with ozone season NO_x budgets for eleven states (Alabama was not a named state for the invalidated NO_x emission budgets). The Court remanded CSAPR to EPA, without vacating any part of the rule, to reconsider these emission budgets. Although the Court ruled that Alabama's CSAPR Phase II SO_2 budget was invalid (i.e., too stringent), ADEM had already chosen to implement state regulations as part of a CSAPR SIP with that stringent SO_2 budget in place so as to avoid the potential for further assessments of interstate transport of PM2.5 precursors and regional haze impacts on a state-by-state basis. While this meant Alabama's SO_2 budget would not increase, as would have been allowed under CSAPR, the lower budget fulfills ADEM's interstate transport obligations and enables ADEM to rely on CSAPR to satisfy other obligations under the CAA regarding visibility (discussed below).

On November 17, 2015, EPA proposed further reducing ozone season NO_x emission budgets under CSAPR to address interstate transport of ozone pollution with respect to the 2008 ozone NAAQS. On September 7, 2016, the EPA Administrator signed the **CSAPR Update Rule**, which finalized

new lower ozone season NO_x emission budgets for 22 states, including Alabama. The CSAPR Update Rule is the first time EPA has updated an existing program to address transport of air pollution following promulgation of a new air quality standard (i.e., the 2008 ozone NAAQS). The 2016 CSAPR Update Rule significantly decreased Alabama's budget of ozone season NO_x allowances by 58 percent. The new budgets became effective with the 2017 ozone season (i.e., May through September). ADEM has adopted a series of Alabama SIP revisions to implement the CSAPR Update Rule, which have been approved by EPA.

The CSAPR Update Rule was challenged in the D.C. Circuit by various environmental, state and industry petitioners. On September 13, 2019, the D.C. Circuit denied all challenges except for one claim that the rule was inconsistent with the CAA's attainment dates because the Update Rule would not fully resolve all upwind contributions to downwind nonattainment of the 2008 ozone standard by the statutory deadlines. In all other respects, the D.C. Circuit determined that EPA acted lawfully and rationally (or that the issue was not properly before the Court). The Court remanded the rule without vacatur for EPA to address the Court's opinion.

On December 6, 2018, EPA finalized the **CSAPR Closeout Rule**, which determined for 20 covered states (including Alabama) the CSAPR Update Rule would fully address interstate transport obligations for the 2008 ozone standard by at least 2023. With this action, EPA determined that there was no obligation for Alabama and other states to establish additional requirements for sources in an effort to further reduce transported ozone related to the 2008 ozone standard. The CSAPR Closeout Rule was challenged in the D.C. Circuit and oral argument was scheduled for September 20, 2019. However, given the holding in the CSAPR Update Rule litigation, the Court cancelled oral arguments and, on October 2, 2019, vacated the CSAPR

Closeout Rule. As a result, EPA was obligated to reconsider as part of its review of the Update Rule whether additional reductions from sources in Alabama and other affected states must occur.

On October 15, 2020, EPA proposed the Revised CSAPR Update Rule to respond to the September 2019 D.C. Circuit remand, and to fully address Alabama's and 20 other states' outstanding interstate pollution transport obligations for the 2008 ozone standard. On March 15, 2021, EPA finalized its Revised CSAPR Update Rule, relying on updated data and modeling to assess air quality. EPA's analysis in the final rule found that projected 2021 emissions from Alabama and eight other states are not "linked" to any nonattainment or maintenance receptors and therefore do not significantly contribute to nonattainment and/or maintenance problems in downwind states. As a result, EPA determined no further NO_x emission reductions from electric generating sources in Alabama are necessary to satisfy interstate transport obligations regarding the 2008 ozone standard.

EPA then turned its attention to interstate transport obligations arising from the more stringent 2015 ozone standard. Alabama submitted to EPA a timely SIP, asserting that no further reductions in NO_x or VOCs emissions from Alabama sources were necessary, and EPA proposed to approve Alabama's SIP on December 30, 2019. However, on February 22, 2022, EPA withdrew its proposed approval and proposed to disapprove Alabama's SIP provisions for interstate transport obligations regarding the 2015 ozone standard. EPA alleged updated modeling now links emissions from Alabama to ozone concentrations in two metropolitan areas in Texas. Subsequently on March 11, 2022, EPA proposed FIPs for Alabama and 26 other states that would require additional ozone season NO_x emission reductions beyond the CSAPR Update Rule in order to satisfy these states' interstate transport obligations with respect to the 2015 ozone standard.

Alabama withdrew its transport SIP on April 21, 2022, and simultaneously submitted a replacement SIP revision in order to address the new data and analysis EPA had relied on it its proposed disapproval. The EPA, however, found this SIP to be incomplete and published in the Federal Register a *Finding of Failure to Submit an Interstate Transport SIP for the 2015 Ozone Air Quality Standard*, affecting Alabama. On August 17, 2022, ADEM and the State of Alabama jointly filed in the U.S. Court of Appeals for the Eleventh Circuit (Eleventh Circuit) a petition for review of EPA's *Finding of Failure to Submit*. The Petitioners dismissed this action after EPA rescinded its *Finding of Failure to Submit* and reviewed the substance of Alabama's replacement SIP submittal. On October 25, 2022, EPA proposed to disapprove Alabama's 2022 SIP submittal and on February 13, 2023, published its disapproval of twenty-one interstate transport SIP submissions, which included Alabama. On March 15, 2023, EPA also finalized the Federal Good Neighbor Plan, which significantly reduced Alabama's ozone season NOx allowance budget. ADEM, the State of Alabama and Alabama Power subsequently filed in the Eleventh Circuit petitions for review of EPA's February disapproval of Alabama's interstate transport SIP and on June 13, 2023, ADEM and the State of Alabama filed a joint motion for stay of EPA's SIP disapproval in the Eleventh Circuit. On August 17, 2023, the Eleventh Circuit granted the stay motion; therefore, the Good Neighbor Plan FIP for Alabama is currently not in effect for Alabama Power. On August 4, 2023, ADEM, the State of Alabama, and Alabama Power also filed petitions for review of EPA's FIP in the Eleventh Circuit. That case is being held in abeyance until the challenge to the SIP disapproval is resolved. Litigation regarding these actions remains pending.

The installation by Alabama Power of SCRs and scrubbers has helped to ensure compliance with CSAPR, the CSAPR Update Rule, and the Revised CSAPR Update Rule and would also support compliance with any future Good Neighbor Plan. This equipment likewise will contribute to the

Company's compliance efforts with any future updates or revisions to the CSAPR program, or with any subsequent transport rules EPA may promulgate.

NO_2 Standards

In February 2010, EPA issued a final rule that revised the NAAQS for nitrogen dioxide (**NO_2**). EPA retained the existing annual standard of 53 ppb and added a new 1-hour standard of 100 ppb (the **2010 NO_2 standard**). The rule required new roadside and community wide ambient air quality monitoring in larger urban areas, and the Jefferson County Department of Health installed two NO_2 ambient air quality monitors in Birmingham to meet this requirement. While the rule focused on mobile source emissions near major roadways, the new standard also reached other sources of NO_2 emissions. In June 2010, EPA provided guidance for air quality modeling assessments associated with the new standard. This guidance called for unusually conservative (stringent) procedures, particularly in the permitting of new or modified sources.

In February 2012, EPA designated all areas of the country as "attainment/unclassifiable" for the new 1-hour NO_2 standard. Petitions for reconsideration and legal challenges of the final rule were filed in the D.C. Circuit and on July 17, 2012, the Court upheld the revised NO_2 standards. Petitions for review filed with the Supreme Court were ultimately denied, effectively ending the litigation.

On July 14, 2017, EPA proposed to retain, without revision, both primary NO_2 NAAQS (i.e., the 1-hour standard as well as the annual NO_2 standard). In a final rule issued on April 6, 2018, EPA retained the standards without revision, based on EPA's review of the most recent science on health effects of NO_2. While the NO_2 standards are not expected to result in any nonattainment issues in

Alabama, the stringency of the 1-hour NO_2 standard remains a concern in air quality modeling associated with air permitting.

SO_2 Standards

In June 2010, EPA issued a final rule that revised the NAAQS for sulfur dioxide (**SO_2**). EPA established a new 1-hour standard of 75 ppb (the **2010 SO_2 standard**) and revoked the existing 24-hour and annual SO_2 standards (effective one year after final area designations for the new standard). Numerous states, industries and groups challenged the revised SO_2 NAAQS rule, but on July 20, 2012, the D.C. Circuit upheld the 2010 SO_2 standard. A petition for review filed with the Supreme Court was denied in January 2013.

In June 2011, as part of the process for implementing the 2010 SO_2 standard, ADEM recommended to EPA that all areas in Alabama be designated "unclassifiable" for the standard. EPA solicited stakeholder input concerning a provision of the rule that required major SO_2 sources (including all Alabama Power coal-fired power plants) to conduct plant-specific modeling, which contributed to delays in area designations. The 2010 SO_2 standard was implemented through a combination of ambient air quality monitoring and computer dispersion modeling, deviating from the traditional method of establishing attainment based only on ambient air monitoring data. Area designations were done in separate rounds, based on the use of monitoring data and modeling. On July 25, 2013, EPA designated 29 areas in 16 states (but did not designate other areas) as nonattainment for the 2010 SO_2 standard (round one). No areas in Alabama were designated in this first round.

Environmental groups filed suit in the U.S. District Court for the Northern District of California over EPA's failure to complete designations for the entire country by the CAA statutory deadline. On June 2, 2014, EPA proposed a consent decree in the *Federal Register* that had been negotiated

with environmental groups and on March 2, 2015, the Court accepted the consent decree as an enforceable order. The Court's order directed EPA to complete designations for the SO_2 NAAQS in three additional rounds by prescribed dates.

In a simultaneous regulatory action, EPA proposed a data requirements rule (**DRR**) on April 17, 2014, regarding procedures for states to apply in making SO_2 NAAQS designations. On August 10, 2015, the DRR was finalized and a schedule was established for state air agencies to characterize SO_2 air quality and provide that air quality data to EPA. The schedule required state air agencies to submit to EPA, by January 15, 2016, a list of SO_2 emitting facilities (including fossil fuel-fired electric generating plants) around which air quality was to be characterized, as well as sources with SO_2 emissions above 2,000 tons per year. The DRR provided options whereby states could characterize air quality around listed facilities to show compliance with the 1-hour SO_2 NAAQS. The options were: 1) perform air quality modeling; 2) install and operate SO_2 ambient monitors; or 3) adopt federally enforceable permit limits to cap SO_2 emissions below 2,000 tons per year. For facilities that chose modeling, the analyses were due at EPA by January 13, 2017, with designations finalized by December 2017. For facilities that chose the second option, monitors were to be sited and operational by January 1, 2017, with designations finalized by December 2020. Certified air quality monitoring data was to be collected for 2017 through 2019. For facilities that accept limits that cap SO_2 emissions below 2,000 tons per year, the limits were effective as of January 13, 2017.

In accordance with the DRR, Alabama Power submitted in January 2017 modeling characterizing SO_2 air quality around its coal-fired generating facilities. The submittal demonstrated that the air quality around the modeled Alabama Power plants meets the 1-hour SO_2 standard. Based in part on this information, EPA issued final third round designations on December 21, 2017 for the 1-

hour SO_2 air quality standard, including most areas in Alabama. All areas in Alabama were designated "attainment/unclassifiable" or "unclassifiable", except for a portion of Shelby County, Alabama, where an industrial facility is located. On December 21, 2020, EPA finalized Round 4 designations for the SO_2 NAAQS. These designations were informed by monitoring networks that were installed as part of the DRR. In the final rule, EPA designated the portion of Shelby County noted above as attainment/unclassifiable. This EPA action concluded designations for Alabama regarding the 2010 1-hour SO_2 NAAQS, with no area in Alabama being designated nonattainment.

On June 8, 2018, EPA proposed to retain the current 1-hour SO_2 air quality standard that was set in 2010, based upon its review of health effects evidence and information. On February 25, 2019, EPA finalized its proposal to leave unchanged the current 1-hour SO_2 NAAQS of 0.075 ppm.

CLEAN AIR VISIBILITY RULE

The Clean Air Visibility Rule (**CAVR**) (also called the **Regional Haze Rule**) was finalized in July 2005. The goal of this rule is to restore natural visibility conditions in 156 specified **Class I** areas (primarily national parks and wilderness areas) by 2064. The rule includes (1) the application of Best Available Retrofit Technology (**BART**) to certain sources built between 1962 and 1977 and (2) the application of any additional emissions reductions that may be deemed necessary for each designated area to achieve "reasonable progress" toward the goal of natural visibility conditions. Progress toward the natural visibility goal is assessed every ten years. For each of these ten-year planning periods, additional emissions reductions will be required unless states demonstrate that additional measures are not needed or are not reasonable.

The BART application of CAVR is an element of the first planning period only. Among other criteria, a BART analysis and determination must consider the costs to the source and the source-specific visibility benefits from the application of BART. Under CAVR, states had the regulatory prerogative to determine whether CAIR was equivalent to BART for SO_2 and NO_x for electric generating units. In other words, CAIR-affected units would potentially not have to go through a BART analysis for SO_2 and NO_x for visibility impairment as it pertains to this rule. ADEM made the decision that CAIR was equivalent to BART for CAIR-affected units in Alabama, which was consistent with EPA regulations at the time. Therefore, for its named units, Alabama Power submitted BART analyses only for particulate matter–the remaining visibility-impairing pollutant not regulated by CAIR.

Under CAVR, ten Alabama Power coal-fired units were declared BART-eligible for particulate emissions and required to undergo a BART analysis. Alabama Power performed the extensive BART analyses for particulate matter and submitted the analyses to regulatory agencies in August 2006. The results showed that none of the Alabama Power units met the thresholds for causing or contributing to visibility impairment from particulate matter emissions in any Class I area.

In 2008, ADEM submitted to EPA Alabama's first CAVR SIP, with subsequent SIPs to EPA scheduled for 2018, 2028, 2038, 2048 and 2058. In July 2013, ADEM submitted to EPA a five-year progress review that concluded no revisions to the Alabama CAVR SIP were necessary at the time. On January 10, 2017, EPA finalized regional haze revisions that amended requirements for state CAVR plans. This rule included an extension of the deadline for the next regional haze SIP submittal from July 31, 2018 to July 31, 2021. EPA stated this date change will allow states to obtain and take into account information on the effects of a number of other regulatory programs impacting sources over the next few years, and thus better integrate state planning with these other programs.

In 2012, EPA partially approved Alabama's CAVR SIP but disapproved the parts that relied on the CAIR rule, which had been vacated after Alabama's submission of the SIP. With CAIR vacated, EPA indicated support for states relying on the replacement CSAPR as being equivalent to BART for SO_2 and NO_x emissions. ADEM adopted CSAPR as equivalent for BART for SO_2 and NO_x in the Alabama CAVR SIP. On September 29, 2017, EPA affirmed the continued validity of its determination that CSAPR is equivalent to BART. On October 12, 2017, EPA finalized four actions regarding regional haze and visibility obligations in Alabama's SIP. These actions included: (i) approval of Alabama's SIP revision seeking to change reliance from CAIR to CSAPR for certain regional haze requirements; (ii) conversion of EPA's prior limited approval/limited disapproval of Alabama's 2008 CAVR SIP to full approval; (iii) approval of visibility requirements of Alabama's SIP submittals for the 2012 PM2.5, 2010 NO_2, and 2010 SO_2 NAAQS; and (iv) conversion of EPA's disapproval of the visibility portion of Alabama's SIP for the 2008 ozone NAAQS to an approval. In addition, on March 5, 2019, EPA approved a revision to the Alabama SIP regarding the state's five-year regional haze progress report. The regional haze SIP revision addressed the state's determination that its regional haze plan is adequate to meet the reasonable progress goals for 2018.

EPA's determination that compliance with CSAPR was "better-than-BART", for purposes of including a BART alternative in a state's regional haze SIP, was challenged in the D.C. Circuit. On March 20, 2018, the Court issued an order allowing states to treat CSAPR as a compliance option for regional haze SIPs. However, there is another pending case on this issue, leaving reliance on CSAPR as a "better-than-BART" alternative unresolved. In September 2018, EPA announced plans to revise the regional haze program, with the goal of (i) returning states to the lead role for compliance, as intended by Congress, (ii) reducing state planning burdens, and (iii) leveraging emission reductions achieved through other CAA programs that further improve

visibility in protected areas. On August 20, 2019, EPA released "Guidance on Regional Haze Implementation Plans for the Second Implementation Period", and provided further clarification in a memorandum dated July 8, 2021. EPA released these documents to assist states as they develop revised regional haze SIPs for the second planning period (2018-2028).

The timing of EPA's guidance did not give many states sufficient opportunity to submit regional haze plans. On August 30, 2022, EPA published in the *Federal Register* a *Finding of Failure to Submit Regional Haze Implementation Plans for the Second Planning Period*, which finds that 15 states, including Alabama, did not submit required regional haze SIPs for the second regional haze planning period by the July 31, 2021 deadline. This action establishes a two-year deadline for EPA to promulgate FIPs to address these requirements for a given state unless, prior to EPA promulgating a FIP, the state submits, and EPA approves, a SIP that meets these requirements.

HAZARDOUS AIR POLLUTANTS / MERCURY

The CAA directed EPA to conduct the following two studies addressing hazardous air pollutants (**HAPs**):

- Emissions and health and environmental effects of mercury releases from all sources (**mercury study**)
- Hazards to public health resulting from utility emissions of HAPs (**utility study**)

EPA released the results of the mercury study and the utility study on December 19, 1997 and February 25, 1998, respectively. In both studies, EPA found that mercury from electric power plants is the HAP with the greatest potential concern. EPA found that even though these power plants contributed only one percent to global mercury emissions, coal-fired power plants were nonetheless the largest remaining unregulated man-made source of mercury in the United States.

As a result of these findings, EPA issued the Clean Air Mercury Rule (**CAMR**) on March 15, 2005. The rule was issued as a cap-and-trade program under section 111 of the CAACAA for the reduction of mercury emissions from coal-fired power plants. CAMR was to be implemented in two phases—2010 and 2018—and provided for an emissions allowance trading market. In the first phase, the national cap on utility industry mercury emissions would be set at 38 tons (approximately a 30 percent reduction); in the second phase, the cap would be lowered to 15 tons (approximately a 70 percent reduction). The majority of reductions required for the first phase were expected to be met through co-benefits from scrubber and SCR systems installed for the control of SO_2 and NO_x under CAIR. ADEM submitted Alabama's CAMR SIP in November 2006, which EPA approved in October 2007.

A number of states and environmental groups filed petitions to review CAMR, primarily challenging the proper source of EPA's authority to regulate mercury under the CAA. The petitioners alleged that mercury should be regulated under the section 112 "maximum achievable control technology" (**MACT**) provision of the CAA instead of section 111. EPA reconsidered this issue in October 2005 and decided MACT-based regulation for mercury was not "appropriate and necessary." In February 2008, the D.C. Circuit vacated CAMR and EPA's concurrent rule to "delist" electric generating units (**EGUs**) from those CAA provisions requiring application of MACT. The vacatur became effective with the issuance of the Court's mandate in March 2008, thus nullifying CAMR mercury emission control obligations and monitoring requirements. EPA and industry petitions for rehearing were denied in May 2008. Petitions for Supreme Court review were filed by industry groups and EPA in September and October 2008, respectively. EPA withdrew its petition on February 6, 2009, and the Supreme Court denied the industry petition on February 23, 2009. EPA settled that litigation and entered a consent decree to issue a rule under section 112 by December 16, 2011.

In January 2010, Alabama Power received an Information Collection Request (**ICR**) from EPA that was intended to help EPA develop MACT emission limits for HAPs under the new rule. Alabama Power submitted its ICR response and emission test results in 2010. EPA analyzed the ICR responses from all utilities during the remainder of 2010 and proposed the Utility MACT rule on March 16, 2011. On December 16, 2011, EPA issued the final Utility MACT rule, known as the Mercury and Air Toxics Standards (**2012 MATS**) rule. The 2012 MATS rule established stringent emission limits for mercury, filterable particulate matter as a surrogate for non-mercury metallic HAPs, and hydrochloric acid (**HCl**) as a surrogate for acid gas HAPs. The compliance requirements of the 2012 MATS rule were much more onerous for Alabama Power as compared to CAMR's cap-and-trade program. Compliance with the rule required the utilization of a variety of control technologies (e.g., SCRs, scrubbers, electrostatic precipitators, baghouses, dry sorbent injection, activated carbon and/or other chemical additives). For existing sources, compliance was required to begin three years from the effective date of the final rule (April 16, 2015), absent a compliance extension.

Following promulgation of the final 2012 MATS rule, EPA received several administrative petitions to reconsider aspects of the rule. The D.C. Circuit also received several petitions for review of the final rule. On April 15, 2014, the Court issued its opinion, denying all challenges. On July 14, 2014, several petitions were filed with the Supreme Court seeking review of the D.C. Circuit's decision. The State of Alabama participated in one such petition along with 20 other states. On June 29, 2015, the Supreme Court reversed the decision of the D.C. Circuit and found that EPA interpreted the Clean Air Act unreasonably when it deemed cost an irrelevant consideration in the decision whether regulation of power plants under section 112 is "appropriate and necessary." While the Supreme Court directed that EPA must consider cost before deciding whether regulation of power plants is "appropriate and necessary", the Court left it to EPA on

remand to decide how to account for cost. On December 15, 2015, the D.C. Circuit issued an order remanding the MATS proceedings to EPA without vacatur (i.e., compliance was required to continue) for EPA to consider cost. On April 25, 2016, the EPA published the final "Supplemental Finding that it is Appropriate and Necessary to Regulate Hazardous Air Pollutants from Coal- and Oil-Fired Electric Utility Steam Generating Units" (**MATS Supplemental Finding**). EPA concluded that a consideration of cost does not cause a change to the determination that regulation of HAP emissions from EGUs is appropriate and necessary. Several petitions for review of the MATS Supplemental Finding were filed in the D.C. Circuit in mid-2016. On April 27, 2017, the D.C. Circuit granted EPA's motion to postpone oral argument and hold the case in abeyance while EPA conducted a review of the MATS Supplemental Finding.

Following its review, EPA proposed on December 26, 2018, to revise the Supplemental Finding for MATS. Among other things, the proposal identified flaws in the Supplemental Finding's cost/benefit analysis and determined that it is not "appropriate and necessary" to regulate EGU HAP emissions. EPA nonetheless proposed to leave the MATS standards in place and unchanged, based on the results of a Residual Risk and Technology Review (**RTR**) that is required within eight years of setting standards under this section of the CAA (2020 in this case).

On April 16, 2020, EPA finalized its reconsideration of the Supplemental Finding (**2020 MATS Rule**) and concluded there were flaws in the Supplemental Finding's approach to considering costs and benefits used to regulate HAPs from coal- and oil-fired electric generating units. In the 2020 MATS Rule, EPA determined that a proper consideration of costs demonstrates that the total projected cost of compliance with MATS ($7.4 to $9.6 billion annually) dwarfs the monetized HAP benefits of the rule ($4 to $6 million annually). EPA reasoned this imbalance is not enough to support a finding that it is "appropriate and necessary" to regulate EGU HAP emissions based

primarily on the monetized particulate matter co-benefits. However, EPA concluded that the absence of such a finding does not automatically remove the coal- and oil-fired EGUs from the list of affected source categories for regulation under section 112 of the CAA (in light of a 2008 D.C. Circuit decision regarding the process for delisting EGUs from the list of sources regulated under section 112), nor does such absence affect the status of the 2012 MATS Rule, which remains in effect. EPA also took final action on the RTR and determined that the residual risks from HAP emissions from coal- and oil-fired EGUs are acceptable and there have been no new cost-effective HAP controls identified (Technology Review) to achieve further emission reductions. Therefore, EPA found that revisions to the 2012 MATS Rule are not warranted.

On August 5, 2020, the parties involved in litigation of the MATS Supplemental Finding submitted a joint motion to the D.C. Circuit for the case to continue to be held in abeyance pending resolution in the litigation challenging the 2020 MATS Rule. On August 26, 2020, the D.C. Circuit granted that unopposed motion.

On his first day in office, President Biden issued Executive Order 13990 directing all executive departments and agencies to review the promulgation of federal regulations between January 20, 2017 and January 20, 2021. The Executive Order specifically included the 2020 MATS Rule for review. In accordance with the Executive Order, EPA filed a motion to hold litigation in abeyance regarding the 2020 MATS Rule while the agency conducts a review of the rule. The motion was granted by the D.C. Circuit on February 12, 2021.

As directed by Executive Order 13990, EPA completed its review of the 2020 MATS Rule and on January 31, 2022, published in the *Federal Register* a proposed revocation of the 2020 MATS Rule and the associated affirmation of the appropriate and necessary Supplemental Finding

regarding regulation of HAPs from EGUs. On March 6, 2023, EPA published in the Federal Register its reconsideration of the Supplemental Finding affirming that it remains "appropriate and necessary" to regulate HAPs from EGUs after considering costs. In light of this new rulemaking, the State of Alabama and other petitioners dismissed their challenge of the prior 2015 appropriate and necessary finding. On April 24, 2023, EPA published a proposed rule for the MATS RTR. EPA proposes to lower the current PM surrogate emission limit by 67 percent and require the installation of continuous monitoring systems for PM. EPA expects to finalize the proposal in March 2024 and compliance with the proposed changes could begin within three years after the effective date of the final rule. If finalized as proposed, the rule would significantly affect Alabama Power's obligations for monitoring PM emissions; however, Alabama Power expects to rely on its existing suite of controls to comply with the more stringent limits.

The Company has developed and continuously updates a comprehensive environmental compliance strategy to assess compliance obligations associated with the current and proposed environmental requirements. As part of this strategy, the Company implemented its compliance plan for the 2012 MATS Rule, which includes reliance on existing emission control technologies (e.g., co-benefits from SCRs and scrubbers), construction of baghouses to provide an additional level of control on the emissions of mercury and particulates, use of additives or other injection technology, use of existing or additional natural gas capability, unit retirements, and upgrades to certain transmission facilities.

GREENHOUSE GASES / CLIMATE CHANGE

In April 2007, the Supreme Court ruled that EPA has authority under the CAA to regulate greenhouse gas (**GHG**) emissions from new motor vehicles. In response to this decision, EPA

finalized an endangerment finding (a prerequisite for regulation) for GHG emissions from mobile sources in December 2009. The finding concluded that six GHGs in the atmosphere (carbon dioxide (**CO_2**), methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride) threaten both public health and welfare. It also found that emissions from new motor vehicles and motor vehicle engines contribute to the atmospheric concentrations of these GHGs and thus to the threat of climate change. In March 2010, EPA finalized an interpretation of its stationary source rules, which specified that once GHGs are regulated under any part of the CAA, GHG emissions from new and modified sources will become "regulated pollutants" under the CAA. In April 2010, EPA (in a joint rulemaking with the National Highway Traffic Safety Administration) finalized new motor vehicle emission standards for the following GHGs: CO_2, methane, nitrous oxide and hydrofluorocarbons. These standards became effective on January 2, 2011, the first date that 2012 model-year vehicles could be sold. Accordingly, GHGs became "regulated pollutants" under the CAA on January 2, 2011, subjecting new and significantly modified stationary sources that emit certain quantities of GHGs to undergo a Best Available Control Technology (**BACT**) review for control of GHGs.

In an attempt to reduce the number of sources that would be required to obtain permits and the administrative burden that would ensue if Prevention of Significant Deterioration (**PSD**) permitting and Title V requirements were triggered for GHGs at the current program thresholds of 100/250 tons per year, EPA finalized a GHG "tailoring rule" on May 13, 2010. The tailoring rule increased the major source emission thresholds for the PSD and Title V programs to 100,000 tons of CO_2 equivalent per year. The rule also increased the significance level for major modifications under the PSD program to 75,000 tons of CO_2 equivalent per year. In July 2011, EPA finalized a rule that deferred, for a period of three years, GHG permitting requirements for CO_2 emissions from biomass and other biogenic sources under the PSD and Title V programs. On July 12, 2013,

the D.C. Circuit vacated this three-year deferral, but on October 15, 2013, the Supreme Court agreed to hear argument on the basic question of whether new GHG rules for mobile sources could trigger permitting requirements for stationary sources. On June 23, 2014, the Supreme Court ruled that EPA lacked the authority to require air permits from facilities based solely on their GHG emissions. However, it affirmed EPA's authority to regulate GHG emissions from sources when those sources become subject to PSD requirements due to their emissions of conventional pollutants. The decision invalidated several elements of EPA's rules that had to be addressed by the EPA and the D.C. Circuit. On July 24, 2014, EPA issued guidance outlining its views on how to implement the Supreme Court's decision.

EPA also finalized its GHG Reporting Program on September 22, 2009, which requires annual reporting of GHGs. Alabama Power is fulfilling all monitoring, recordkeeping and reporting requirements necessary to comply with this rule.

On April 13, 2012, EPA published in the *Federal Register* a proposed *Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units*. Had this rule been finalized as proposed, it would have effectively eliminated the development of any new coal-fired electric generating units without carbon capture and storage capability. Although this rule was not going to apply directly to existing units, EPA also planned to issue guidance to states to develop GHG standards for existing sources. However, states or courts could determine that the standard for new sources is relevant when establishing BACT for permitting modifications to existing sources.

On June 25, 2013, the President released a memorandum to the Administrator of the EPA, "Power Sector Carbon Pollution Standards", detailing a new regulatory timeline for GHG regulations. The President's memorandum directed EPA to take the following actions:

- Re-propose the GHG performance standards for new sources by September 20, 2013 and finalize these standards in a "timely fashion."
- Propose GHG standards, regulations, or guidelines for modified, reconstructed, and existing sources by June 1, 2014 and finalize these requirements by June 1, 2015.
- Include in the guidelines addressing existing sources a requirement that states submit implementation plans to EPA by June 30, 2016.

In response to these Presidential directives, EPA published in the *Federal Register* on January 8, 2014 proposed GHG emission performance standards for new electric generating units. In a companion action, EPA withdrew its proposed prior GHG emission performance standards for new electric generation units, which had been published on April 13, 2012. On June 18, 2014, EPA published in the *Federal Register* proposed GHG emission performance standards for existing electric generating units. These regulations proposed to reduce carbon emissions from existing power plants 30 percent below 2005 levels by 2030. EPA also proposed GHG standards for modified and reconstructed electric generating units.

On October 23, 2015, EPA finalized the proposal for new, modified and reconstructed units. This rule required partial carbon capture for any new or modified coal unit. EPA also on that date published the Clean Power Plan (**Clean Power Plan** or **CPP**), which established guidelines for states to develop plans to meet EPA-mandated CO_2 emission rates for existing coal- and gas-fired units. Regarding the final rule establishing standards for CO_2 emissions from new, modified, and reconstructed units, EPA later proposed to revise these standards in December 2018. If finalized, the proposal would replace EPA's 2015 determination that partial carbon capture technology was the "best system of emission reduction" (**BSER**) for new coal-fired units. The primary reasons for

the proposed revision were the high costs and limited geographic availability of carbon capture and sequestration (**CCS**)) and the inadequate demonstration of CCS as the best system of emission reduction.

Regarding the CPP, the final guidelines required state plans to meet interim CO_2 performance rates between 2022 and 2029 and final rates in 2030 and thereafter. EPA projected that the Clean Power Plan would reduce CO_2 emissions from existing power plants 32 percent below 2005 levels by 2030. EPA used three "building blocks" to establish BSER for CO_2: 1) improvements in plant efficiency (i.e., heat rate); 2) increased dispatch of natural gas fired units in favor of coal units; and 3) expansion of zero-emitting renewable energy sources (e.g., wind and solar). Also, on August 3, 2015, EPA proposed a federal plan and proposed model rule that states could adopt or that would be put in place if, a state either failed to submit a state plan in response to the final guidelines or its plan was not approved by EPA.

On June 30, 2016, EPA proposed the Clean Energy Incentive Program (**CEIP**), a voluntary, early action program that could provide emission rate credits or allowances (earned through implementation of certain demand-side energy efficiency and/or zero-emitting renewable energy projects) for use in compliance with the Clean Power Plan. On April 3, 2017, EPA withdrew this proposed rule as well as the federal plan and model rule (discussed above).

On February 9, 2016, the Supreme Court granted a stay of the Clean Power Plan. With the rule stayed, the requirement for state plan submittals was suspended. The stay was to remain in effect until the conclusion of litigation or the Supreme Court otherwise terminated it. On September 27, 2016, oral argument over the CPP was held before the full panel of judges in the D.C. Circuit. On March 28, 2017, after oral argument but before the Court ruled on the validity of the CPP, the

President signed Executive Order 13783 "Promoting Energy Independence and Economic Growth." Among other provisions, the Executive Order directs EPA to review the CPP (and the final rule applying to new sources) and, if appropriate and as soon as practicable, issue proposed rules suspending, revising, or rescinding the CPP. Also, on March 28, 2017, EPA filed a motion with the D.C. Circuit to hold litigation of the CPP in abeyance. On April 4, 2017, EPA initiated a review of the CPP as a result of Executive Order 13783. On April 28, 2017, the D.C. Circuit issued an abeyance of the CPP litigation.

On October 16, 2017, EPA proposed to repeal the CPP. EPA also indicated that it would separately ask for comment on whether to replace the CPP, which it subsequently did through an advanced notice of proposed rulemaking issued December 27, 2017.

On August 31, 2018, EPA proposed a replacement rule for the CPP—the Affordable Clean Energy Rule (**ACE**). ACE would provide emission guidelines that inform the development and implementation of state plans to reduce GHG emissions from existing coal-fired steam generating units by requiring efficiency improvements.

On June 19, 2019, EPA signed a final rule containing three separate agency actions: 1) repeal of the CPP; 2) replacement of the CPP with ACE; and 3) revisions to regulations for implementing ACE and any future emission guidelines issued under section 111(d) of the CAA. The CPP was repealed due to EPA's determination that the CPP exceeded EPA's statutory authority under the CAA by relying on a BSER that could not be implemented by individual facilities. With ACE, in contrast, EPA finalized heat rate improvement (i.e., efficiency improvement) as the BSER for reducing CO_2 emissions from these units, and states were required to evaluate each affected unit and establish new CO_2 emission limits based on heat rate or efficiency improvements that each

unit can achieve. States were given three years to submit plans, with the deadline being July 8, 2022. All of Alabama Power's coal-fired generating units were subject to ACE.

With EPA's repeal of the CPP, several states including the State of Alabama, and several private parties, including Alabama Power, filed a joint motion in the D.C. Circuit to dismiss their petitions for review of the CPP. On September 17, 2019, the Court ordered that these petitions and all pending motions regarding the CPP be dismissed as moot, effectively ending the original CPP litigation.

Petitions for review of ACE and the repeal of the CPP were then filed in the D.C. Circuit. Litigation was initiated and oral argument was held on October 8, 2020. The D.C. Circuit issued its opinion on January 19, 2021, finding that both ACE and the repeal of the CPP were unlawful, and the Court vacated and remanded ACE back to EPA. EPA filed a motion for a partial stay of the mandate asking the D.C. Circuit to not issue the mandate with regard to the repeal of the CPP until EPA completes a new rulemaking to replace ACE with new regulations consistent with the Court's opinion. The D.C. Circuit granted EPA's motion and on February 22, 2021, issued a partial mandate, finalizing only the Court's vacatur of ACE. This step removed the possibility that CPP could arguably come back into effect during EPA's rulemaking process of a replacement rule. Industry and several states (including Alabama) filed petitions with the U.S. Supreme Court seeking review of the D.C. Circuit's decision in the ACE litigation, and on October 29, 2021, petitions for review were granted by the Court. The Supreme Court agreed to consider whether section 111(d) of the CAA authorizes EPA to impose standards (e.g., BSER) for existing sources based on technology and methods that go beyond the individual source.

Oral argument before the Supreme Court occurred on February 28, 2022, and on June 30, 2022, the Court reversed the lower court's ruling in the ACE litigation. The Court confirmed EPA has the authority to regulate greenhouse gas emissions from existing power plants but rejected the approach used in the 2015 Clean Power Plan, holding that the CAA does not give the agency authority to require power plants to shift generation from fossil fuels to renewables. In reaching this decision, the Court formalized the "major questions doctrine", which prevents courts from deferring to federal agencies when they adopt regulations with major economic or political significance unless the agencies have clear direction from Congress. The Court held that Congress did not give EPA clear authority under section 111(d) of the CAA to engage in generation shifting. Following this ruling from the Supreme Court, EPA asked for further action on ACE to be stayed while EPA developed a new section 111(d) rule for power plants. On May 23, 2023, EPA published a series of proposed rules, Greenhouse Gas Standards and Guidelines for Fossil Fuel-Fired Power Plants, which would set limits for new gas-fired combustion turbines, existing coal, oil and gas-fired steam generating units, require states to set similar limits for existing fossil units, and would formally repeal the ACE rule. The proposed standards are based on technologies such as CCS, low GHG hydrogen co-firing, and natural gas co-firing. The proposed requirements vary by the type of unit, (new or existing combustion turbine or coal-fired or natural gas-fired EGU), how frequently it operates (base load, intermediate load, or low load (peaking)) and its operating horizon (i.e., planned operation after certain future dates). The proposed rule states compliance could begin as early as January 1, 2030 for some units. EPA expects to finalize the proposed rule in spring 2024. Through Southern Company, Alabama Power submitted comments on EPA's proposal. On November 20, 2023, EPA published a supplemental notice of proposed rulemaking seeking public comment on an Initial Regulatory Flexibility Analysis that was prepared to evaluate the economic impact of the proposed rule on small entities. Additionally, EPA is soliciting comments on recommended measures the agency should consider in an effort to mitigate electric

system reliability concerns that numerous parties raised in comments on the proposal. If finalized as proposed, EPA's rule could have a significant impact on Alabama Power's operations and planning, but it is not possible to quantify that impact until both a final rule and subsequent state plans are issued. As with all major air regulations affecting the Company, the courts will continue to play a significant role in the implementation of rules aimed at reducing GHG emissions from electric generating units.

On September 3, 2016, the United States joined the Paris Agreement (which includes a goal to hold global average temperature to well below 2°C above pre-industrial levels). In accordance with its terms—i.e., when at least 55 parties to the convention accounting for at least an estimated 55 percent of the total global greenhouse gas emissions formally joined the agreement—the Paris Agreement took effect on November 4, 2016. The United States' country-specific contribution, as submitted in March 2015, was an economy-wide emission target to reduce GHG emissions 26 to 28 percent below 2005 levels by 2025. However, on June 1, 2017, the United States announced it would withdraw from the Paris Agreement and begin negotiations for re-entry or negotiate a new agreement with more favorable terms for the United States. On November 4, 2019, the United States officially began the process to withdraw from the Paris agreement by submitting formal notification to the United Nations. The United States' withdrawal from the Paris Agreement became effective on November 4, 2020.

However, on January 20, 2021, the United States reversed course and accepted the Paris Agreement effective February 19, 2021. In April 2021, as part of a renewed commitment to the Paris Agreement, the President committed the United States to achieve a 50-52 percent reduction from 2005 levels in economy-wide net-zero greenhouse gas emissions in 2030. The President also emphasized his commitment to achieve a carbon-free power sector by 2035. Presently, there are

no details on how the administration expects to achieve the 2030 target or the 2035 commitment. Specifics may be outlined when the National Climate Task Force releases its national climate strategy. At this time, the potentially significant implications of any national initiatives, the Paris Agreement or any future international accord or treaty concerning constraint of GHG emissions are unknown.

Over the years Congress has considered many legislative proposals that would reduce emissions of GHGs and/or mandate generation of electricity from renewable energy sources, and efforts to introduce carbon- and climate-related legislation continue. The Inflation Reduction Act of 2022 is being recognized as the first significant action by Congress to address GHGs, but to date, Congress has not passed legislation that would tax the carbon content of fuels or mandate renewable/clean energy. The prospects for, and potential impacts of, any such legislation remain uncertain at this time.

WATER INITIATIVES

Steam Electric Effluent Guidelines Revisions

On September 30, 2015, EPA issued a rulemaking revising the technology-based rules for steam-electric plants (the **2015 ELG Rule**). This rulemaking required dry or closed-loop ash handling and high levels of treatment for flue gas desulfurization (**FGD**) wastewater, among other things. The earliest compliance date for meeting the 2015 ELG Rule was November 1, 2018, with the latest possible compliance date of December 31, 2023[1]. On September 18, 2017, EPA released a

[1] On April 15, 2019, the Fifth Circuit Court of Appeals issued a decision vacating limited portions of the 2015 ELG Rule and directing EPA to reevaluate effluent limitations applicable to "legacy wastewaters" and combustion residual leachate. The Fifth Circuit's decision has not materially impacted Alabama Power because ADEM has applied the requirements of previously established effluent limitations (the 1982 ELGs) to the respective wastewater streams, and Alabama Power is in compliance with those limits.

final postponement rule that delayed the earliest compliance date for bottom ash transport water (**BATW**) and FGD wastewater streams from November 1, 2018 to November 1, 2020, to allow the agency time to reconsider the limitations imposed on these wastewater streams. On November 22, 2019, EPA published the proposed rule for BATW and FGD wastewater, with a final rule (the **2020 ELG Rule**) published on October 13, 2020, with an effective date of December 14, 2020.

The 2020 ELG Rule differed from the 2015 ELG Rule in several important respects: 1) the rule established changes to the Best Available Technology (**BAT**) effluent limitations applicable to FGD wastewater and BATW, including making limitations for certain constituents more stringent; 2) the rule altered the mandatory compliance timelines (including extending the latest "as soon as possible" date from December 31, 2023 to December 31, 2025); and 3) the rule provided alternate compliance options, in lieu of complying with the generally applicable limitations, and established an "automatic transfer" process allowing regulated entities to transfer among certain compliance options, subject to specified requirements.

The 2020 ELG Rule also provided several subcategory compliance options for certain facilities. One is a subcategory for low utilization boilers (i.e., boilers with a two-year annual average of less than a 10 percent capacity utilization rating (**CUR**) that requires physical/chemical treatment for FGD wastewater and allows discharges of BATW (requiring a best management practices plan)). The latest compliance deadline for this option is December 31, 2023, meaning a boiler must fall below the two-year annual 10 percent CUR average on or before that date. A second involves a Voluntary Incentive Program for FGD wastewater, based on membrane treatment technology. The compliance deadline for this option is December 31, 2028. Lastly, there is a retirement/repowering subcategory, which allows continued discharges of FGD wastewater and BATW without the installation of additional treatment technologies, if the unit retires or repowers by December 31,

2028. Participation in one of these subcategories requires the submission of a tailored Notice of Planned Participation (**NOPP**) followed by annual progress updates.

Due to overlapping requirements of the Coal Combustion Residuals (**CCR** or **CCRs**) rule and the 2015 ELG Rule, the Company installed dry or hybrid ash systems and new low volume wastewater treatment systems. All of the systems were operational to meet the April 2019 cease receipt CCR date. With regard to the 2020 ELG Rule, the Company submitted permit modification requests to ADEM on January 11, 2021, requesting that the recently issued NPDES permits at Plants Gaston and Barry, which reflect the 2015 ELG Rule requirements and compliance dates of December 31, 2023, for BATW and FGD wastewater, be revised to incorporate EPA's latest rulemaking. These requests specifically asked ADEM to modify the NPDES permits to incorporate all of the above-referenced options for compliance set out in the 2020 ELG Rule. ADEM issued a final modified NPDES permit for Plant Barry on January 14, 2022, and for Plant Gaston on June 30, 2023.

Additionally, on October 13, 2021, Alabama Power filed NOPPs with ADEM for permanently ceasing coal combustion at Plants Barry and Gaston. Alabama Power has also filed required annual progress reports for Plants Barry and Gaston since that initial filing.

On November 2, 2020, environmental groups filed legal challenges to EPA's 2020 ELG Rule in the U.S. Court of Appeals for the Fourth Circuit and the D.C. Circuit. These two petitions for review have been consolidated in the Fourth Circuit. The Court is still considering a contested motion by Utility Water Act Group (**UWAG**) to transfer the case to the U.S. Court of Appeals for the Fifth Circuit, where litigation over the 2015 ELG Rule remains pending. The 2020 ELG rule case continues to be held in abeyance, in large part because EPA announced in August 2021 that

it intended to reconsider aspects of the 2020 ELG Rule. An April 8, 2022, order from the Court explains that the case will remain in abeyance for as long as it takes the agency to complete the aforementioned rulemaking to reconsider previously promulgated regulations. The order also requires EPA to submit rulemaking status updates every 30 days and inform the Court once the rulemaking is complete. EPA has submitted status updates in accordance with the Court's April 8, 2022 order and will continue to do so until the agency's new rulemaking is finalized.

On March 29, 2023, EPA published its proposed supplemental effluent limitation guidelines (**2023 Proposed ELG Rule**). The proposal changes the effluent limitations for BATW and FGD wastewater to zero liquid discharge (**ZLD**) with an "as soon as possible" but no later than December 31, 2029 compliance date. As proposed, additional technology for FGD wastewater would be required at Plant Miller to comply. The proposed rule does maintain the permanent cessation of coal combustion subcategory and, therefore, there are no expected impacts to Plants Gaston and Barry. The proposal also includes new effluent limitations for combustion residual leachate and legacy wastewater. The proposal is expected to be finalized by April 2024.

Clean Water Act (CWA) Section 316(a)

Plant Gaston has thermal discharge limits for the months of June through September, and Plants Barry and Greene County have year-round thermal limits. These limits are predicated on studies the Company previously conducted demonstrating a lack of appreciable harm to the balanced indigenous population in the receiving waterbodies, meaning variances to otherwise applicable thermal limits were appropriate. Across the country, EPA has encouraged state permitting agencies to require permittees to conduct supplemental studies during the CWA National Pollutant Discharge Elimination System (**NPDES**) five-year permit cycle to demonstrate the continued lack of appreciable harm.

Included in the current NPDES permits issued by ADEM for Plants Greene County, Gaston and Barry was a requirement to conduct another section 316(a) study during the five-year permit term. The agency required the submission of study plans for ADEM approval within 365 days of the effective dates of the respective permits. Alabama Power submitted plans as directed, received approval from ADEM and has largely completed the associated analyses. A final section 316(a) report for Greene County has been submitted to ADEM and reports for Plants Barry and Gaston will be submitted to ADEM in 2024.

CWA Section 316(b)

Section 316(b) requires that "the location, design, construction and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact." After a series of rulemakings and court cases extending to the Supreme Court, a final rule was published in the *Federal Register* on August 15, 2014. The rule in general gives state directors (such as ADEM) flexibility to set requirements at each power plant based on various required reports and information provided by the permittee to the state directors. Options could range from continuing with the current intake structure configuration and operations to installing closed-cycle cooling towers. One common outcome could be the installation of "fish friendly" traveling screens and fish return troughs.

The Company has been making progress on the required reports for each of its facilities. ADEM has specified a schedule to submit the remaining studies within the five-year NPDES permit terms for Plants Greene County, Gaston, and Barry. Plant Greene County submitted the required 316(b) required studies on October 3, 2023. Plant Gaston's reports are due December 31, 2023, and Plant Barry's reports are due in 2024.

CWA Section 404

Section 404 gives the Secretary of the Army, through the U.S. Army Corps of Engineers (**Corps of Engineers** or **Corps**), authority to permit the dredging from or filling of material into wetlands and streams deemed waters of the United States. This authorization may be received through the issuance of general permits (e.g., Nationwide Permits) or individual permits. Construction of transmission lines, substations, power plants and environmental control facilities may require the dredging or filling of wetlands and streams. Significant impacts to wetlands and streams must be mitigated in kind. A "mitigation bank" is a wetland, stream, or other aquatic resource area that has been restored, established, enhanced, or (in certain circumstances) preserved for the purpose of providing compensation for unavoidable impacts to aquatic resources permitted under section 404. To this end, Alabama Power is using mitigation banks managed either by the Company or by others in Alabama, when needed.

"Waters of the United States" or WOTUS, is the threshold term establishing the geographic scope of federal jurisdiction over wetlands and other waters under the CWA. WOTUS is currently defined in Alabama in accordance with rulemakings that EPA and the Corps of Engineers finalized prior to 2015, subject to the additional limitations established in the U.S. Supreme Court's May 25, 2023 decision in *Sackett v. EPA*. Prior to the Supreme Court's ruling, EPA and the Corps of Engineers had published the "Revised Definition of 'Water of the United States'" rule on January 18, 2023, which took effect on March 20, 2023 (**January 2023 Rule**). Application of the "pre-2015" WOTUS regulations in Alabama stems from an April 12, 2023 preliminary injunction issued by the U.S. District Court for the District of North Dakota that prohibits the application of the agencies' January 2023 Rule, in 24 states (including Alabama). Two other courts also enjoined the January 2023 Rule in three additional states.

Following these injunctions, the U.S. Supreme Court issued the *Sackett* decision in May, which limited the reach of the CWA and determined that the statute is not applicable to an array of waters over which EPA and the Corps of Engineers historically have asserted regulatory jurisdictions. This included rejecting the seventeen-year-old "significant nexus" test from *Rapanos v. United States* in favor of a "continuous surface connection" test to determine what constitutes WOTUS. Because the *Sackett* decision rendered certain aspects of the January 2023 Rule invalid, EPA and the Corps finalized another rulemaking on September 8, 2023, to amend the January 2023 Rule to conform to the *Sackett* decision (**Conforming Rule**). Where the January 2023 Rule is not enjoined, agencies are implementing the January 2023 Rule, as amended by the Conforming Rule. In the other 27 states (including Alabama), WOTUS is currently defined by the pre-2015 regulatory scheme and the *Sackett* decision. Additional action is expected by the North Dakota federal court in light of the *Sackett* decision and issuance of the agencies' Conforming Rule. Moreover, new litigation challenging the agencies' Conforming Rule is anticipated.

Hydro Licensing

The Federal Energy Regulatory Commission (**FERC**) issued a new hydro license for the Coosa Projects on June 20, 2013. Because a number of provisions in the new license were not properly based on the FERC licensing record or were problematic operationally, Alabama Power sought a rehearing of certain provisions in the Coosa License and a delay in their implementation until the rehearing process was complete. Alabama Rivers Alliance and American Rivers appealed the FERC order on the Coosa License in the D.C. Circuit, raising issues under NEPA and the ESA.

On January 12, 2018, the D.C. Circuit held oral argument in the Coosa License appeal. Alabama Power had intervened in support of FERC and U.S. Fish & Wildlife Service (**FWS**), but was not

given an opportunity to participate in the oral argument. On July 6, 2018, the D.C. Circuit vacated the Coosa License and remanded it to FERC for further proceedings. Additionally, the Court deemed unlawful the biological opinion upon which the Coosa License relied. Following the Court's decision, Alabama Power met with FERC staff as well as environmental regulators to review the changes in operations that had taken place to comply with the Coosa License to determine the compliance requirements for operation of the plants pending issuance of a new Coosa License.

On September 10, 2018, FERC issued a Notice of Reinstatement of Authorization for Continued Project Operation, which reinstated the three August 8, 2007 Notice of Authorizations and returned the July 28, 2005 application for the Coosa Project to a pending status. On October 30, 2018, FERC issued a scoping document for the Coosa Projects as well as a Notice of Intent (**NOI**) to prepare an Environmental Impact Statement (**EIS**) and solicit comments on the scoping document. The NOI also re-initiated informal consultation with FWS. Alabama Power filed comments with FERC on November 29, 2018. On January 8, 2019, FERC issued a revised scoping document as well as an additional information request for the Coosa Projects. FERC determined that the agency would be consulting directly with FWS on threatened and endangered species and expanded the geographic scope to include the entire Alabama-Coosa-Tallapoosa basin for cumulative effects. On September 27, 2019, FERC issued a second additional information request for the Coosa Project, with a response deadline of December 26, 2019. On March 10, 2020, FERC issued a third additional information request, to which Alabama Power responded on March 27, 2020.

On July 17, 2021, FERC issued the Draft Supplemental Environmental Impact Statement (**DSEIS**) for the Coosa River Project. The DSEIS recommended essentially no material changes to the 2013 Coosa license that was vacated by the D.C. Circuit Court in 2018. External comments were filed

by several parties (including EPA, the ADCNR, Department of the Interior, Alabama Rivers Alliance and American Rivers). Alabama Power also submitted minor comments and clarifications along with a letter from ADEM stating that all the Coosa developments are meeting state water quality standards. Along with issuing the DSEIS, FERC requested formal consultation with the FWS to develop a biological opinion for protection of threatened and endangered species as required by NEPA before a new license can be issued. On January 18, 2022, the FWS issued its final biological opinion for the relicensing of the Coosa River Project. In it, the FWS addressed the ESA issues identified by the D.C. Circuit as needing further analysis, expanded upon the analysis contained in the 2012 Biological Opinion, and updated the opinion to include analysis of the relicensing impacts on additional species that have been added since 2012. In addition, FWS filed an updated programmatic biological opinion on July 15, 2022 to address shoreline permitting on the Lower Coosa reservoirs. This second consultation completed FERC's formal consultation with the FWS.

On October 6, 2023, FERC released its Final Supplemental Environmental Impact Statement (**FSEIS**) in the remanded Coosa relicensing process. The FSEIS recommends issuing a new license to Alabama Power based on the license proposal as modified by a few Staff alternatives. Most significantly, the FSEIS is recommending that the new Coosa license require Alabama Power to meet a 5.0 mg/L dissolved oxygen (**DO**) standard at all times (including during generation and non-generation) in the tailraces of each development on the Coosa and in the Weiss bypass. FERC will now use the biological opinions and the FSEIS and to develop license articles.

Starting in September 2018, Alabama Power began the process to obtain a new operating license for the R.L. Harris Project, a multi-year endeavor that will include the evaluation of environmental, operational, and economic resource issues associated with the project and its relicensing. Alabama

Power hosted numerous public and agency meetings, covering topics such as the history of the project, the current operations, current use of the surrounding lands, and proposed studies to be completed during relicensing. In addition, Alabama Power provided opportunities for stakeholders to bring up issues they felt should be addressed during relicensing.

On June 1, 2018, Alabama Power filed with FERC an NOI to relicense the Harris Project, as well as a Preliminary Application Document (**PAD)**, which included all the information known about the potential issues that had been raised in the meetings discussed above, and draft study plans. This filing was the official start of the relicensing process. On July 31, 2018, FERC issued the scoping document for the Harris relicensing and requested comments on the PAD. FERC held two scoping meetings in Lineville on August 28-29, 2018 to tour the dam and current license recreation sites, solicit feedback from the agencies and public, and obtain input for its NEPA analysis.

On November 13, 2018, Alabama Power filed updated proposed study plans that addressed the comments that were filed with FERC. Alabama Power's proposed studies were reviewed and approved by FERC with modifications on April 12, 2019. Alabama Power incorporated FERC's modifications and filed the final study plans on May 13, 2019. With the study plans finalized, Alabama Power began collecting the required data and setting up public meetings with interested stakeholders. The first large public meeting to review how the studies were being implemented, as well as initial discussions on potential changes to the project, was held on September 11, 2019. Topics included proposed lake level changes, flows through the dam, water quality, erosion and sedimentation, and possible uses of Alabama Power land.

As required by FERC, Alabama Power filed six draft study reports on April 10, 2020. A required FERC meeting to review the study reports was held on April 28, 2020. All stakeholders were invited to participate. On July 10, 2020, Alabama Power submitted updated study reports to FERC that reflected stakeholder input or the Company's reasons for not incorporating the feedback. On August 10, 2020, FERC issued a letter to Alabama Power in which the Commission responded to stakeholder comments on the initial study reports and requested additional studies. FERC denied most of the stakeholder comments that Alabama Power declined to evaluate except for two changes. First, FERC required Alabama Power to evaluate three more minimum flow alternatives in addition to the nine that Alabama Power was considering. Additionally, FERC agreed with Alabama Rivers Alliance that Alabama Power should evaluate the installation of a battery system that would store at least half the plant capacity for peak generation. This study considered the feasibility and cost of such a system, including replacing or retrofitting the turbines.

Alabama Power completed year two of the study period and distributed the reports externally. Public meetings with the agencies and stakeholders began in April 2021. On June 29, 2021, Alabama Power filed the Preliminary License Proposal (**PLP**) for the Harris Project with FERC. FERC and stakeholders had until October 1, 2021, to provide comments. The Company filed the final license application with FERC on November 23, 2021. On December 23, 2021, FERC issued a letter requesting additional information on the Harris application to be filed within 90 days. On February 15, 2022, FERC requested further additional information on the Harris application to be filed within 60 days. Alabama Power submitted all the information requested by FERC. On April 14, 2022, FERC issued a notice for the Harris Project accepting the license application and soliciting motions to intervene and protests. Alabama Rivers Alliance, Lake Wedowee Property Owners Association and one downstream landowner filed motions to intervene. On August 28, 2022, FERC issued a third information request on the Harris project which Alabama Power

responded on December 27, 2022. On January 17, 2023, FERC issued its "Notice to Ready for Environmental Analysis, and Soliciting Comments, Recommendations, Preliminary Terms and Conditions and Preliminary Fish Passage Prescriptions (NREA)", with comments due on or before March 20, 2023. FERC received comment letters to which Alabama Power responded on May 2, 2023. Finally, on March 31, 2023, FERC issued a Notice of Intent to prepare an EIS with a target date for a draft to be issued in September and a final EIS by April of 2024.

Endangered Species

Alabama is home to a growing list of threatened and endangered (**T&E**) species. One such species is the Gopher Tortoise, which has been listed as threatened in the western portions of south Alabama since 1987 and has been a candidate species for listing in the rest of south Alabama since 2011. Ongoing efforts by multiple agencies and organizations, including Alabama Power, are aimed at providing management tools that could eliminate the need for this additional level of protection. On October 11, 2022, the FWS determined that the eastern portion of Alabama was not warranted for listing and was removed from the candidate list.

In April 2015, the Northern Long-Eared Bat (**NLEB**) was listed as threatened, and on March 22, 2022, the FWS proposed to reclassify the species to endangered. FWS reclassified the NLEB to endangered on November 29, 2022. On September 13, 2022, the FWS also proposed that the tri-colored bat be listed as endangered and a decision is expected later this year. These listings, as well as the endangered Indiana Bat, have the potential to impact transmission line construction as well as any other projects that would require tree clearing. Responsive adjustments are being made to Alabama Power's operations, including efforts to clear in months when the bats are least likely to be impacted.

On October 4, 2017, FWS listed the Tri-spot Darter as threatened. This small fish is endemic to the upper Coosa River drainage in Alabama and Georgia, and it is known to exist on land owned by Alabama Power. This listing could impact forest management activities in some areas. In September 2020, FWS designated critical habitat for the Tri-spot Darter. Some of the designated critical habitat overlaps Alabama Power property, which could impact future developments.

Alabama Power continues to address the impacts to its construction, maintenance and operations activities as threatened and endangered species are encountered.

TOXICS RELEASE INVENTORY

As part of the Emergency Planning and Community Right-to-Know Act (**EPCRA**), coal- and oil-fired electric power plants began in 1999 to provide EPA with data relative to specific chemicals released in the burning of fossil fuels. The report is part of a provision of the act known as the Toxics Release Inventory (**TRI**). A number of other industries had been reporting under this provision since 1987. While TRI neither sets emission limits nor establishes discharge requirements, the information in the inventory is made public. Currently, EPA and EPRI studies on power plants show that chemical emissions of TRI substances from coal- and oil-fired plants are not present in the air at levels that should pose a concern to public health. Historically, the largest TRI releases from coal-fired power plants have consisted of acid gases such as hydrochloric acid, sulfuric acid and hydrogen fluoride. With the installation and operation of scrubbers at several plants, Alabama Power has reduced the release of these aerosols by 95 percent.

COAL COMBUSTION RESIDUALS

On April 17, 2015, EPA finalized the first comprehensive set of minimum requirements for coal ash management and disposal under Subtitle D of the Resource Conservation and Recovery Act (**RCRA**) (**CCR Rule**). EPA designed the rule to be "self-implementing"; however, on December 16, 2016, Congress amended Subtitle D of RCRA to allow states to seek EPA approval of a state Coal Combustion Residuals (**CCR**) permitting program under which individualized facility permits would operate in lieu of the national criteria in the federal CCR rule.

EPA's CCR Rule provided two options to close ash ponds: closure by removal (excavation and transport to a landfill) or closure in place. ADEM implemented a state CCR permit program in 2018 with the same closure provisions as EPA's. Beginning in 2018 and concluding in December 2021, ADEM provided information to EPA about the state program and requested EPA's approval. Once EPA approves a state CCR program, the state's ash pond permit governs the facility instead of federal regulations.

After completing its regulations, ADEM issued permits to Alabama Power and other utilities to close ash ponds in place. EPA did not object to those permits. Beginning in January 2022, EPA issued new interpretations of its regulations to prohibit closures with ash in contact with groundwater. EPA's actions have been challenged in court.

EPA's Proposed Denial of ADEM's Program

On December 9, 2022, ADEM submitted a Notice of Intent to Sue letter to EPA regarding EPA's failure to act on ADEM's proposed State CCR Permitting Program, which was originally submitted to the EPA on December 29, 2021. ADEM filed suit against EPA on April 3, 2023. On

August 14, 2023, EPA issued its proposed determination to deny ADEM's CCR permit program. EPA proposes to determine that ADEM's program fails to comply with federal CCR standards or alternative criteria that are at least as protective as the federal CCR requirements.

EPA held an in-person public hearing on September 20, 2023 in Montgomery and a virtual public hearing on September 27, 2023. Public comments were due by October 13, 2023. EPA must respond to issues raised in the public hearings and comments before it can issue a final decision. EPA's action could be challenged in court. In the meantime, Alabama Power remains subject to its ADEM permits.

Notice of Potential Violation (NOPV)

On January 31, 2023, EPA issued Alabama Power a Notice of Potential Violations and Opportunity to Confer letter regarding the ash pond closure at Plant Barry. The letter outlined potential violations of the federal CCR rule, specifically related to closure with ash in contact with groundwater as well as potential violations related to the groundwater monitoring system and emergency action plan. The company has been proactive and transparent in providing EPA the technical and regulatory basis for its actions. Alabama Power responded to the NOPV and EPA's additional questions with:

- Five letters between March and July 2023 that provided approximately 85 pages of text and 101 attachments comprising more than 6,200 pages.
- An in-person meeting with EPA's technical experts and attorneys in Atlanta on May 9, 2023.

The Company remains confident that its plans comply with federal and state regulations and protect human health and the environment. However, based on its new interpretations, EPA could issue a Notice of Violation (NOV) for Plant Barry as soon as October 2023. Depending on EPA's

decision, EPA and Alabama Power would have further discussions to determine if a settlement of EPA's claims is possible.

On September 26, 2022, the Southern Environmental Law Center, on behalf of the Mobile Baykeeper, filed suit against Alabama Power in the U.S. District Court for the Southern District of Alabama over the closure of the Plant Barry ash pond. The complaint alleges that the closure plan for the Plant Barry ash pond fails to meet the performance standards outlined in the CCR Rule. The company submitted an initial response to the complaint on December 19, 2022. Additional motions have been filed by both parties in the court case. Those motions remain pending before the U.S. District Court for the Southern District of Alabama and an initial hearing was held on May 25, 2023.

On July 20, 2023, Alabama Power moved to certify a question of state law to the Alabama Supreme Court. The doctrine of collateral estoppel generally precludes a party from relitigating an issue that was previously decided elsewhere. The question in this case is whether collateral estoppel principles apply on the basis of a state agency permitting decision, given that Mobile Baykeeper argued the same issues to ADEM in the context of the Barry CCR permit. Mobile Baykeeper filed an opposition to Company's motion on August 17, 2023 and Alabama Power filed a reply on August 24, 2023. On September 30, 2023, the Magistrate Judge issued a Report and Recommendation recommending that the overseeing Judge deny the Company's motion to dismiss Baykeeper's complaint. Alabama Power filed objections to the Report and Recommendation on October 16, 2023. The overseeing Judge will then adopt the Report and Recommendation or issue a different opinion of her own.

While the Company believes its plans for closure and corrective action are consistent with the requirements of the CCR Rule and ADEM's regulations, the risk of an adverse outcome remains. A requirement to close by removal would introduce new environmental risks, dramatically increase the costs of closure, extend time to close the facility within the regulatory requirement, and could impact the quality of life for residents near the plant sites (e.g., decades of constant truck traffic as part of the removal process).

Proposed Regulations

On May 18, 2023, EPA posted to the Federal Register the Proposed Legacy Surface Impoundment Rule. This rule proposes the CCR management standards for legacy CCR surface impoundments (i.e., inactive surface impoundments at inactive power plants). Alabama Power does not believe it has any impoundments that fall under this rule, but the rule takes positions that could impact other CCR units. Southern Company submitted comments on the proposed rule on July 17, 2023, and Alabama Power will continue to evaluate any impacts a final rule could have on the Company's CCR program.

ESTIMATED ENVIRONMENTAL CAPITAL EXPENDITURES FOR 2024–2028

Including Cost of Removal (Cost for Closure in Place Pursuant to CCR Rule)

GENERATION

Table 1 – Summary of Generation Environmental Capital Expenditures for 2024–2028

(in thousands)

2024 Capital Budget*

	2024	2025	2026	2027	2028
NOx Projects (SCRs)	6,331	16,385	17,697	15,100	7,486
SO2 Projects (Scrubbers)	893	1,673	1,268	-	-
CCR-WATER	-	-	-	-	-
CCR-LAND	17,693	4,686	1,378	3,216	-
Effluent Guidelines/NPDES	14,555	13,034	471	1,235	4,162
MATS	-	-	-	-	-
Particulate Matter (PM)	1,670	2,024	1,636	877	1,801
Hydro Aeration and Minimum Flow Projects	351	500	-	-	-
CEMS Projects	166	560	2,370	2,278	99
Sewage Treatment	-	-	-	-	301
Cooling Tower/Intake Structure	3,454	7,726	15,655	12,332	5,241
Environmental Projects - Total	45,112	46,588	40,476	35,038	19,090
Air	9,061	20,642	22,972	18,255	9,386
Land	17,693	4,686	1,378	3,216	-
Water	18,359	21,260	16,126	13,567	9,704
Environmental Projects - Total	45,112	46,588	40,476	35,038	19,090

*Third party offsets are included in the numbers above which will be excluded in the Rate CNP, Part C filing

Projections reflected in this document are subject to change based on various factors, including but not limited to future legislative and regulatory actions.

Totals may not sum due to rounding

Total CCR Expenditures (Including Cost of Removal by Closure in Place)

	2024	2025	2026	2027	2028
Capital Expenditures for CCR	17,693	4,686	1,378	3,216	0
Cost of Removal (Closure in Place) for CCR (Not included in above dollars)	346,282	363,957	299,421	236,733	216,413
Total CCR	363,975	368,643	300,799	239,949	216,413

Totals may not sum due to rounding

Table 2 – Summary by Plant of Environmental Capital Expenditures for 2024–2028

(in thousands)

2024 Capital Budget

	2024	2025	2026	2027	2028
Total Barry	**20,527**	**8,222**	**7,812**	**8,104**	**5,941**
CEMS Projects	-	-	202	-	-
CCR-LAND	16,210	3,424	-	-	-
NOx Projects (SCRs)	1,018	3,469	-	-	-
SO2 Projects (Scrubbers)	305	659	-	-	-
Effluent Guidelines/NPDES	2,994	669	165	317	2,896
Cooling Tower/Intake Structure	-	-	7,444	7,787	3,045
Total Gadsden	**50**	**-**	**-**	**-**	**-**
Effluent Guidelines/NPDES	50	-	-	-	-
Total Gaston	**12,470**	**15,502**	**5,569**	**2,590**	**1,002**
NOx Projects (SCRs)	1,001	3,001	5,003	100	201
SO2 Projects (Scrubbers)	-	-	-	-	-
Effluent Guidelines/NPDES	9,831	12,125	108	137	249
CEMS Projects	67	-	-	-	-
CCR-LAND	333	-	-	-	-
Cooling Tower/Intake Structure	1,082	252	458	2,352	252
Particulate Matter (PM)	156	125	-	-	-
Sewage Treatment	-	-	-	-	301
Total Gorgas	**75**	**75**	**75**	**75**	**75**
Effluent Guidelines/NPDES	75	75	75	75	75
Total Greene Co	**31**	**5,937**	**6,081**	**36**	**38**
CEMS Projects	-	219	-	-	-
Effluent Guidelines/NPDES	31	33	35	36	38
Cooling Tower/Intake Structure	-	5,685	6,046	-	-
Total Miller	**5,589**	**13,344**	**19,051**	**20,785**	**9,873**
NOx Projects (SCRs)	763	8,797	12,611	13,845	7,167
SO2 Projects (Scrubbers)	588	1,014	1,268	-	-
Particulate Matter (PM)	1,514	1,898	1,636	877	1,801
CCR-LAND	1,150	1,261	1,378	3,216	-
CEMS Projects	-	241	2,068	2,178	-
Effluent Guidelines/NPDES	1,574	133	89	670	904
Total Other*	**6,021**	**3,007**	**1,889**	**3,448**	**2,162**
Other Cooling Tower/Intake Structure	2,372	1,789	1,706	2,193	1,945
Other NOx Projects (SCRs)	3,549	1,118	83	1,155	118
Other CEMS Projects	100	100	100	100	99
Total Hydro	**351**	**500**	**-**	**-**	**-**
Hydro Aeration and Minimum Flow Projects	351	500	-	-	-

*Third party offsets are included in the numbers above which will be excluded in the Rate CNP, Part C filing
Totals may not sum due to rounding

Table 2 – Summary by Plant of Environmental Capital Expenditures for 2024–2028 (continued)
(in thousands)

Total CCR Expenditures (Including Cost of Removal by Closure in Place)					
	2024	2025	2026	2027	2028
Barry Capital Expenditures for CCR	16,210	3,424	-	-	-
Barry Cost of Removal (Closure in Place) for CCR (Not included in above amounts)	106,592	100,058	88,836	91,688	89,040
Barry Total CCR	122,801	103,482	88,836	91,688	89,040
Gadsden Capital Expenditures for CCR	-	-	-	-	-
Gadsden Cost of Removal (Closure in Place) for CCR (Not included in above amounts)	1,129	1,153	1,177	1,200	1,225
Gadsden Total CCR	1,129	1,153	1,177	1,200	1,225
Gaston Capital Expenditures for CCR	333	-	-	-	-
Gaston Cost of Removal (Closure in Place) for CCR (Not included in above amounts)	25,620	22,018	18,543	4,293	6,978
Gaston Total CCR	25,952	22,018	18,543	4,293	6,978
Gorgas Capital Expenditures for CCR	-	-	-	-	-
Gorgas Cost of Removal (Closure in Place) for CCR (Not included in above amounts)	116,762	141,611	110,168	99,634	112,434
Gorgas Total CCR	116,762	141,611	110,168	99,634	112,434
Greene Co. Capital Expenditures for CCR	-	-	-	-	-
Greene Co. Cost of Removal (Closure in Place) for CCR (Not included in above amounts)	34,103	43,660	18,264	1,398	1,428
Greene Co. Total CCR	34,103	43,660	18,264	1,398	1,428
Miller Capital Expenditures for CCR	1,150	1,261	1,378	3,216	-
Miller Cost of Removal (Closure in Place) for CCR (Not included in above amounts)	62,077	55,457	62,433	38,520	5,307
Miller Total CCR	63,226	56,718	63,811	41,735	5,307
Totals may not sum due to rounding					

Table 3(a) – Plant Barry Environmental Capital Expenditures for 2024–2028

(in thousands)

2024 Capital Budget

	DESCRIPTION	2024	2025	2026	2027	2028
BARRY	Unit 4 CEMS Data Loggers	-	-	202	-	-
BARRY	Unit 4 Intake Screens	-	-	4,400	4,742	-
BARRY	Barry Unit 5- Bottom Ash Clinker Grinder	-	182	-	-	-
BARRY	Barry Unit 5- RSCC Pumps	203	203	-	-	-
BARRY	Barry Unit 5- RSCC Motors	100	101	-	-	-
BARRY	Barry Unit 5- FGD Pumps	203	203	-	-	-
BARRY	Barry Unit 5- FGP Motors	102	102	-	-	-
BARRY	Barry Unit 5- Gas Cooling Duct Expansion Joints	-	354	-	-	-
BARRY	Barry Unit 5- SCR Expansion Joints	-	506	-	-	-
BARRY	Barry Unit 5- SCR Catalyst Replacement	1,018	2,964	-	-	-
BARRY	Barry Common Ash Pond Non ARO	12,861	-	-	-	-
BARRY	Barry Common Ash Handling	3,045	2,938	-	-	-
BARRY	Barry Common Cooling Tower Structure	-	-	3,045	3,045	3,045
BARRY	Barry Common Environmental Transformer	-	-	-	-	2,018
BARRY	Barry Common Environmental 4160 Switchgear Bus Breakers	51	-	-	51	-
BARRY	Barry Common Low Volume Waste Water 480 MCC Breakers	51	-	-	51	-
BARRY	Barry Common Low Volume Waste Water 4160 Switchgear	51	-	-	51	-
BARRY	Barry Common Low Volume Waste Water Simulator Replacement	-	505	-	-	-
BARRY	Barry Common Low Volume Waste Water Lab Building Upgrade	50	-	-	-	-
BARRY	Barry Common LVWW Collection Sump Pump Motor Replacement	-	-	-	-	25
BARRY	Barry Common LVWW Collection Sump Pump Replacement	-	-	-	-	25
BARRY	Barry Common LVWW Discharge Addition	252	-	-	-	-
BARRY	Barry Common LVWW Effluent Sump Pump Motor Replacement	-	-	-	-	15
BARRY	Barry Common LVWW Effluent Sump Pump Motor VFD Replacement	-	-	-	-	15
BARRY	Barry Common LVWW Effluent Sump Pump Replacement	100	-	-	-	33
BARRY	Barry Common LVWW Feed Pump Motor/VFD Replacement	51	-	-	-	152
BARRY	Barry Common LVWW Feed Pump Replacement	114	-	-	-	35
BARRY	Barry Common Lagoon A Pump Motor Replacement	-	-	-	-	30
BARRY	Barry Common Lagoon A Pump Replacement	56	-	-	-	28
BARRY	Barry Common Lagoon Addition	1,514	-	-	-	-
BARRY	Barry Common Lagoon B Pump Motor Replacement	-	-	-	-	30
BARRY	Barry Common Lagoon B Pump Replacement	56	-	-	-	27
BARRY	Barry Common Landfill Sump Pump Motor Replacement	-	-	-	-	45
BARRY	Barry Common Landfill Sump Pump Replacement	86	-	-	-	43
BARRY	Barry Common Mother Sump Pump Motor Replacement	101	51	51	51	51
BARRY	Barry Common Mother Sump Pump Motor VFD Replacement	76	38	39	38	39
BARRY	Barry Common Mother Sump Pump Replacement	152	76	76	76	76
BARRY	Barry Common Thickener Mechanism Replacement	-	-	-	-	15
BARRY	Barry Common Gravity Filter Feed Pump Motor/VFD Replacement	51	-	-	-	51
BARRY	Barry Common Gravity Filter Feed Pump Replacement	81	-	-	-	41
BARRY	Barry Common Mercury Monitor Replacement	100	-	-	-	100
	Total Barry	20,527	8,222	7,812	8,104	5,941
	CEMS Projects	-	-	202	-	-
	CCR-LAND	16,210	3,424	-	-	-
	NOx Projects (SCRs)	1,018	3,469	-	-	-
	SO2 Projects (Scrubbers)	305	659	-	-	-
	Effluent Guidelines/NPDES	2,994	669	165	317	2,896
	Cooling Tower/Intake Structure	-	-	7,444	7,787	3,045

Totals may not sum due to rounding

Total Plant Barry CCR Expenditures (Including Cost of Removal by Closure in Place)

	DESCRIPTION	2024	2025	2026	2027	2028
Barry	Barry Capital Expenditures for CCR	16,210	3,424	-	-	-
Barry	Barry Cost of Removal (Closure in Place) for CCR (Not included in above amounts)	106,592	100,058	88,836	91,688	89,040
	Barry Total CCR	122,801	103,482	88,836	91,688	89,040

Totals may not sum due to rounding

Table 3(b) – Plant Gadsden Environmental Capital Expenditures for 2024–2028

(in thousands)

2024 Capital Budget

	DESCRIPTION	2024	2025	2026	2027	2028
GADSDEN	Low Volume Waste Water	50	-	-	-	-
	Total Gadsden	50	-	-	-	-
	Effluent Guidelines/NPDES	50	-	-	-	-

Totals may not sum due to rounding

Total Plant Gadsden CCR Expenditures (Including Cost of Removal by Closure in Place)

	DESCRIPTION	2024	2025	2026	2027	2028
Gadsden	Gadsden Capital Expenditures for CCR	-	-	-	-	-
Gadsden	Gadsden Cost of Removal (Closure in Place) for CCR (Not included in above amounts)	1,129	1,153	1,177	1,200	1,225
	Gadsden Total CCR	1,129	1,153	1,177	1,200	1,225

Totals may not sum due to rounding

Table 3(c) – Plant Gaston Environmental Capital Expenditures for 2024–2028

(in thousands)

2024 Capital Budget

	DESCRIPTION	2024	2025	2026	2027	2028
GASTON	Unit 5 CO Catalyst	1,001	2,001	3,002	-	-
GASTON	Unit 5 Replace SCR Air Compressors	-	-	-	-	201
GASTON	Unit 5 SCR Catalyst Replacement	-	1,000	2,001	-	-
GASTON	Unit 5 SCR Controls Upgrade	-	-	-	100	-
GASTON	Unit 5 Closed Cycle Cooling Monitor	-	-	106	-	-
GASTON	Unit 5 Cooling Tower Bleach Dechlorination Pump	-	-	20	-	-
GASTON	Unit 5 Cooling Tower Bleach Injection Tank	-	-	80	-	-
GASTON	Unit 5 Cooling Tower Distribution	500	-	-	-	-
GASTON	Unit 5 Cooling Tower Fill Replacement	-	-	-	2,000	-
GASTON	Unit 5 Cooling Tower Gearboxes/Blades	252	252	252	252	252
GASTON	Unit 5 Replace Power Feed to Cooling Tower	330	-	-	-	-
GASTON	Unit 5 Cooling Tower Controls Upgrade	-	-	-	100	-
GASTON	Unit 5 Fly Ash Bin Vent Bag Replacement	56	-	-	-	-
GASTON	Unit 5 Fly Ash Handling Blower Replacement	100	-	-	-	-
GASTON	Unit 5 Fly Ash Handling Vacuum Pump Replacement	-	125	-	-	-
GASTON	Unit 5 Replace Bottom Ash Handling Valves	100	-	-	-	-
GASTON	Unit 5 RSCC Bearing Replacement	233	-	-	-	-
GASTON	Unit 5 Low Volume Waste Water Pond Chemical Island Pumps	26	26	-	26	-
GASTON	Unit 5 Low Volume Waste Water Water Analyzers	-	-	-	-	45
GASTON	Unit 5 100% Natural Gas Project	9,503	11,994	-	-	-
GASTON	Unit 5 Chemical Tanks and Piping	-	-	-	-	90
GASTON	Unit 5 Replace ECO Fan Yard Sumps	103	105	108	111	114
GASTON	Unit 5 Low Volume Waste Water Quality Skid	200	-	-	-	-
GASTON	Unit 5 Sewage Treatment Plant Screen Replacement	-	-	-	-	250
GASTON	Unit 5 Sewage Treatment Plant Filter Replacement	-	-	-	-	50
GASTON	Unit 1-5 Common CEMS	67	-	-	-	-
	Total Gaston	12,470	15,502	5,569	2,590	1,002
	NOx Projects (SCRs)	1,001	3,001	5,003	100	201
	Effluent Guidelines/NPDES	9,831	12,125	108	137	249
	CEMS Projects	67	-	-	-	-
	CCR-LAND	333	-	-	-	-
	Cooling Tower/Intake Structure	1,082	252	458	2,352	252
	Particulate Matter (PM)	156	125	-	-	-
	Sewage Treatment	-	-	-	-	301

Totals may not sum due to rounding

Total Plant Gaston CCR Expenditures (Including Cost of Removal by Closure in Place)

	DESCRIPTION	2024	2025	2026	2027	2028
Gaston	Gaston Capital Expenditures for CCR	333	-	-	-	-
Gaston	Gaston Cost of Removal (Closure in Place) for CCR (Not included in above amounts)	25,620	22,018	18,543	4,293	6,978
	Gaston Total CCR	25,952	22,018	18,543	4,293	6,978

Totals may not sum due to rounding

Table 3(d) – Plant Gorgas Environmental Capital Expenditures for 2024–2028

(in thousands)

2024 Capital Budget

	DESCRIPTION	2024	2025	2026	2027	2028
GORGAS	Low Volume Waste Water	75	75	75	75	75
	Total Gorgas	75	75	75	75	75
	Effluent Guidelines/NPDES	75	75	75	75	75

Totals may not sum due to rounding

Total Plant Gorgas CCR Expenditures (Including Cost of Removal by Closure in Place)

	DESCRIPTION	2024	2025	2026	2027	2028
Gorgas	Gorgas Capital Expenditures for CCR	-	-	-	-	-
Gorgas	Gorgas Cost of Removal (Closure in Place) for CCR (Not included in above amounts)	116,762	141,611	110,168	99,634	112,434
	Gorgas Total CCR	116,762	141,611	110,168	99,634	112,434

Totals may not sum due to rounding

Table 3(e) – Plant Greene Co. Environmental Capital Expenditures for 2024–2028

(in thousands)

2024 Capital Budget

	DESCRIPTION	2024	2025	2026	2027	2028
GREENE CO	Unit 1&2 Low Volume Waste Water	31	33	35	36	38
GREENE CO	Unit 1&2 Common CEMS	-	219	-	-	-
GREENE CO	Unit 1&2 Intake Screens	-	5,685	6,046	-	-
	Total Greene Co	31	5,937	6,081	36	38
	CEMS Projects	-	219	-	-	-
	Effluent Guidelines/NPDES	31	33	35	36	38
	Cooling Tower/Intake Structure	-	5,685	6,046	-	-

Totals may not sum due to rounding

Total Plant Greene Co. CCR Expenditures (Including Cost of Removal by Closure in Place)

	DESCRIPTION	2024	2025	2026	2027	2028
Greene Co.	Greene Co. Capital Expenditures for CCR	-	-	-	-	-
Greene Co.	Greene Co. Cost of Removal (Closure in Place) for CCR (Not included in above amounts)	34,103	43,660	18,264	1,398	1,428
	Greene Co. Total CCR	34,103	43,660	18,264	1,398	1,428

Totals may not sum due to rounding

Table 3(f) – Plant Miller Environmental Capital Expenditures for 2024–2028

(in thousands)

2024 Capital Budget

	DESCRIPTION	2024	2025	2026	2027	2028
MILLER	Unit 1 Replace SCR Catalyst	-	1,433	4,746	717	2,327
MILLER	Unit 1 Replace Fly Ash Seg/Dust Valves & Install Limit Switches on Hopper Floors	-	-	93	-	-
MILLER	Unit 1 Replace Hopper Iso Gates, Clinker Grinders	-	-	-	-	674
MILLER	Unit 1 Replace Unit Seg Valves	69	71	70	71	-
MILLER	Unit 1 Replace Precip Inlet Expansion Joint	-	-	372	-	-
MILLER	Unit 1 Replace Fly Ash Transfer Vessel	324	-	-	-	-
MILLER	Unit 1 Replace Dry Stack Expansion Joint	-	-	70	-	-
MILLER	Unit 1 Replace PCAMS	32	-	-	-	-
MILLER	Unit 1 Replace FGD Mist Eliminator Piping	-	-	186	-	-
MILLER	Unit 1 Replace Dry Bottom Ash Transport Line	1,150	-	-	-	-
MILLER	Unit 2 Replace Screw Feeder	-	-	-	-	163
MILLER	Unit 2 Replace SCR Catalyst	-	1,437	4,746	717	3,117
MILLER	Unit 2 Replace Precip Inlet Expansion Joint	-	-	372	-	-
MILLER	Unit 2 Replace Unit Seg Valves	69	-	70	71	-
MILLER	Unit 2 Replace Fly Ash Seg/Dust Valves & Install Limit Switches on Hopper Floors	-	95	-	-	-
MILLER	Unit 2 Replace Dry Stack Expansion Joint	-	-	70	-	-
MILLER	Unit 2 Replace Dry Ash Handling System	3	-	-	-	-
MILLER	Unit 2 Replace Fly Ash Transfer Vessel	322	-	-	-	-
MILLER	Unit 2 Replace PCAMS	32	-	-	-	-
MILLER	Unit 2 Replace FGD Mist Eliminator Piping	-	-	186	-	-
MILLER	Unit 2 Replace Dry Bottom Ash Transport Line	-	1,261	-	-	-
MILLER	Unit 3 Replace SCR Catalyst	763	2,583	1,560	6,636	780
MILLER	Unit 3 Replace Unit Seg Valves	75	76	-	-	78
MILLER	Unit 3 Replace Clinker Grinder	-	-	-	735	-
MILLER	Unit 3 Replace Fly Ash Seg/Dust Valves & Install Limit Switches on Hopper Floors	100	-	-	-	-
MILLER	Unit 3 Replace Precip Outlet Expansion Joint	-	355	-	-	-
MILLER	Unit 3 Dry Stack Expansion Joint	-	76	-	-	-
MILLER	Unit 3 Replace PCAMS	35	-	-	-	-
MILLER	Unit 3 Replace FGD Mist Eliminator Piping	-	203	-	-	-
MILLER	Unit 3 Replace Dry Bottom Ash Transport Line	-	-	1,378	-	-
MILLER	Unit 4 Replace SCR Catalyst	-	3,343	1,560	5,775	780
MILLER	Unit 4 Replace Unit Seg Valves	75	76	78	-	78
MILLER	Unit 4 Replace Precip Outlet Expansion Joint	-	355	-	-	-
MILLER	Unit 4 Replace Fly Ash Seg/Dust Valves & Install Limit Switches on Hopper Floors	100	-	-	-	-
MILLER	Unit 4 Replace Dry Stack Expansion Joint	-	76	-	-	-
MILLER	Unit 4 Replace PCAMS	35	-	-	-	-
MILLER	Unit 4 Replace FGD Mist Eliminator Piping	-	203	-	-	-
MILLER	Unit 4 Replace Dry Bottom Ash Transport Line	-	-	-	2,001	-
MILLER	Units 1-4 Waste Water Management Client & Server Upgrade	444	-	-	-	-
MILLER	Units 1-4 Replace Waste Water Forwarding Pump	-	-	-	492	-
MILLER	Units 1-4 Replace Waste Water Cell Discharge Pump	-	-	-	-	720
MILLER	Units 1-4 Replace Waste Water Misc Valves	97	133	89	-	-
MILLER	Units 1-4 Replace FGD Waste Water Misc Valves	69	-	-	178	185
MILLER	Units 1-4 Install FGD Makeup Water UV Treatment	579	-	-	-	-
MILLER	Units 1-4 Replace Turbidimeters FGD Waste Water	271	-	-	-	-
MILLER	Units 1-4 Replace Turbidimeters Low Volume Waste Water	115	-	-	-	-
MILLER	Units 1-4 Dry Ash Client & Server Upgrade	-	-	-	-	971
MILLER	Units 1-4 ECO HVAC Replacements	241	719	443	-	-
MILLER	Units 1-4 Plant Isolation CEMS Reconfiguration	-	222	-	-	-
MILLER	Units 1-4 FGD Dewatering Cloth Filter Belt A	38	-	-	-	-
MILLER	Units 1-4 Gypsum Dewatering Main Filter Belts	-	608	897	-	-
MILLER	Units 1-4 Replace Racking Motors	48	-	-	-	-
MILLER	Units 1-4 Replace Bottom Ash Transport Exhausters	-	-	-	1,215	-
MILLER	Unit 1&2 Replace CEMS Shelters	-	-	2,047	-	-
MILLER	Unit 1&2 Replace PA Compressor for FGD Inlet CEMS Shelter	-	19	-	-	-
MILLER	Unit 1&2 Install A Auto Transfer Switch 480V source	46	-	-	-	-
MILLER	Unit 1&2 Install B Auto Transfer Switch 480V source	46	-	-	-	-
MILLER	Unit 3&4 Replace CEMS Shelters	-	-	-	2,178	-
MILLER	Unit 3&4 Replace PA Compressor for FGD Inlet CEMS Shelter	-	-	21	-	-
MILLER	Unit 3&4 Install A Auto Transfer Switch 480V source	51	-	-	-	-
MILLER	Unit 3&4 Install B Auto Transfer Switch 480V source	50	-	-	-	-
MILLER	Unit 3&4 Replace FGD Inlet Expansion Joint	309	-	-	-	-
	Total Miller	5,589	13,344	19,051	20,785	9,873
	NOx Projects (SCRs)	763	8,797	12,611	13,845	7,167
	SO2 Projects (Scrubbers)	588	1,014	1,268	-	-
	Particulate Matter (PM)	1,514	1,898	1,636	877	1,801
	CCR-LAND	1,150	1,261	1,378	3,216	-
	CEMS Projects	-	241	2,068	2,178	-
	Effluent Guidelines/NPDES	1,574	133	89	670	904

Totals may not sum due to rounding

Total Plant Miller CCR Expenditures (Including Cost of Removal by Closure in Place)

	DESCRIPTION	2024	2025	2026	2027	2028
Miller	Miller Capital Expenditures for CCR	1,150	1,261	1,378	3,216	-
Miller	Miller Cost of Removal (Closure in Place) for CCR (Not included in above amounts)	62,077	55,457	62,433	38,520	5,307
	Miller Total CCR	63,226	56,718	63,811	41,735	5,307

Totals may not sum due to rounding

Table 4 – Other Generation Environmental Capital Expenditures for 2024–2028

(in thousands)

2024 Capital Budget

	DESCRIPTION	2024	2025	2026	2027	2028
WASHINGTON CO	Cooling Tower Structure	304	292	304	265	256
WASHINGTON CO	Replace Waste Water Cooling Tower	202	-	-	-	-
WASHINGTON CO	Service Water Tower	-	303	-	-	-
WASHINGTON CO	Cooling Tower Drift Eliminator Media	-	-	-	-	101
WASHINGTON CO	Cooling Tower Media	-	-	-	-	353
WASHINGTON CO	Neutralization Tank and System	-	-	-	504	-
THEODORE	Cooling Tower Structure	254	294	305	267	258
THEODORE	Cooling Tower Gearboxes	157	-	-	-	-
THEODORE	Neutralization Tank and System	-	-	203	194	-
BARRY CC	Unit 6 Cooling Tower Gearbox	81	81	81	81	81
BARRY CC	Unit 6 Cooling Tower Drift Eliminator Media Replacement	252	-	-	-	-
BARRY CC	Unit 7 Cooling Tower Gearbox	81	81	81	81	81
BARRY CC	Unit 7 Cooling Tower Drift Eliminator Media Replacement	-	252	-	-	-
BARRY CC	Unit 6&7 Cooling Tower Structure	304	304	304	304	304
BARRY CC	Unit 8 Cooling Tower Structure	51	101	101	101	101
BARRY CC	Unit 8 Cooling Tower Lube Oil Filtration	252	-	-	-	-
BARRY CC	Unit 8 CT Gear Box Vibration Monitoring System	-	-	-	252	-
BARRY CC	Unit 8 SCR Catalyst	-	1,018	83	1,045	-
CENTRAL ALABAMA	Cooling Tower Structure	51	80	51	81	49
CENTRAL ALABAMA	Cooling Tower Chemical Skids	125	-	-	-	-
CENTRAL ALABAMA	Cooling Tower Fan Gearbox	107	-	114	-	122
CENTRAL ALABAMA	Cooling Tower Make-Up Pump & Motor	-	-	-	60	66
CENTRAL ALABAMA	Cooling Tower Fan	150	-	160	-	171
CENTRAL ALABAMA	Stack Expansion Joint	-	100	-	110	118
CENTRAL ALABAMA	SCR Catalyst	2,246	-	-	-	-
CALHOUN	Install New Demineralizer Storage Tank	1,101	-	-	-	-
CALHOUN	Replace U1 Water Injection Pump	50	-	-	-	-
CALHOUN	Replace U2 Water Injection Pump	50	-	-	-	-
CALHOUN	Replace U3 Water Injection Pump	50	-	-	-	-
CALHOUN	Replace U4 Water Injection Pump	50	-	-	-	-
CALHOUN	Common CEMS	100	100	100	100	99
	Total Other*	6,021	3,007	1,889	3,448	2,162
	Other Cooling Tower/Intake Structure	2,372	1,789	1,706	2,193	1,945
	Other NOx Projects (SCRs)	3,549	1,118	83	1,155	118
	Other CEMS Projects	100	100	100	100	99

*Third party offsets are included in the numbers above which will be excluded in the Rate CNP, Part C filing

Totals may not sum due to rounding

Table 5 – Hydro Generation Environmental Capital Expenditures for 2024–2028

(in thousands)

2024 Capital Budget

	DESCRIPTION	2024	2025	2026	2027	2028
HYDRO	Coosa System - Adaptive Mgmt Plan for Habitat of Endangered Species	351	500	-	-	-
	Total Hydro	351	500	-	-	-
	Hydro Aeration and Minimum Flow Projects	351	500	-	-	-

Totals may not sum due to rounding

ESTIMATED ENVIRONMENTAL O&M EXPENSE FOR 2024–2028

Table 6 – Environmental O&M Expense for 2024–2028

2024 O&M Budget and Forecast

Work Type	Environmental Activities	2024	2025	2026	2027	2028
E316A	316A Regulation	299,192	299,192	299,192	299,192	299,192
E316B	316B Regulation	990,671	918,170	843,030	765,154	684,440
EDISPD, EDISPS	Enviro Disposal Activity-Enviro Affairs Compliance	526,233	526,233	526,233	526,233	526,233
EHYDR1	Coosa/Warrior/Tallapoosa Shoreline Studies, ESA studies&cons	837,098	853,775	871,285	889,671	908,976
EHYDR6	Enviro Trout Stocking - Smith Tailrace	36,000	37,800	39,690	41,675	43,758
EHYDR11	Enviro Fish Culture Facility	627,000	658,350	691,268	725,831	762,122
EHYDR12	Enviro Fisheries Habitat Enhancement	471,000	494,550	519,278	545,241	572,503
EHYDR9	Enviro Wildlife Habitat Enhancement&Restoration	1,130,000	1,186,500	1,245,825	1,308,116	1,373,522
EMERC	Environmental Mercury Rata Testing	1,708,476	1,753,910	1,804,025	1,863,114	1,915,037
COMPENO,COMPENS,COMPENV	Compliance-Environmental	71,593,111	74,568,676	76,483,032	78,945,397	58,015,027
ASHSALE	Ash Sales	(9,832,800)	(10,005,456)	(10,181,565)	(9,161,196)	(9,344,420)
GYPSALE	Gypsum Sales	(753,987)	(769,067)	(784,448)	(800,137)	(816,140)
ASLUICE	Ash Sluice	266,072	277,361	291,297	298,181	311,516
BASH	Bottom Ash	4,904,155	7,610,382	6,321,477	6,584,813	6,775,738
FASH	Fly Ash	3,834,475	3,670,718	3,567,880	1,871,897	1,913,833
NPDES	NPDES Treatment	1,721,467	1,749,822	1,778,989	1,811,265	1,842,446
ADISP,ADCOST	Ash Disposal	3,495,596	2,234,659	2,291,120	2,254,772	2,317,554
PRECIP	Precipitator	2,281,196	1,475,150	1,027,128	860,854	870,033
BAGHOUSE	Bag House	772,894	773,911	775,169		
STACK	Stack	408,804	400,976	407,061	413,848	419,863
CEMS,CEMSO,CEMSS	CEMS-All Assoc. Devices	3,095,640	3,164,749	3,128,646	3,191,601	3,349,893
INJECT, INJECTCHEM	Injection Systems	1,985,641	2,006,754	1,879,686	918,155	936,519
DUSTCOAL, DUSTCHEM, DUSTMAIN	Dust Suppression	3,417,141	3,477,386	3,353,428	3,375,113	3,452,838
COOLT	Cooling Towers	4,475,452	5,235,879	5,038,750	5,793,036	5,339,159
WASTEWT	Waste Water	1,657,593	1,601,014	1,640,173	1,727,878	1,797,412
PROCWT	Plant Process Waste Water Treatment	11,227,142	10,445,209	8,945,447	9,084,263	9,197,126
HYDROENV	Environmental Projects (Hydro)	3,895,283	3,988,824	4,102,850	4,237,114	4,355,129
FGHAND	Flue Gas Handling	9,363,481	6,392,413	6,389,669	5,942,949	6,106,312
LIME, LIMEHAND	Limestone Handling	13,424,431	13,646,919	10,869,703	7,719,684	7,874,078
GHAND	Gypsum Handling	2,625,425	2,661,933	1,622,813	1,302,876	1,314,576
STATSERV	Station Service	46,500	47,430	12,095		
OXAIR	Oxidation Air	419,630	425,622	413,965	293,802	299,678
SWATER	Water Treatment	377,837	381,794	296,101	87,915	89,673
FGDBUILD	Service Facilities-Scrubber Sys	905,525	842,768	758,422	191,631	195,463
FGDFIRE	Fire Protection-Scrubber Sys	82,452	84,101	81,394	69,411	70,800
SWSTWTR	Waste Water Treatment	2,200,076	1,430,063	2,792,955	1,470,388	1,470,388
SCRUBV, SRESPRAY	Scrubber Vessel	3,162,542	5,844,393	5,698,303	3,919,216	3,709,176
SCRCHEM	Ammonia Injection Grid	4,094,358	4,138,245	3,182,635	2,889,872	2,922,293
SCRMAINT	Selective Catalytic Reduction	6,611,686	7,832,228	7,468,416	7,668,396	8,178,309
		$ 158,384,488	**$ 162,363,339**	**$ 156,492,419**	**$ 149,927,220**	**$ 130,050,054**

***Third party offsets are included in the numbers above which will be excluded in the Rate CNP, Part C filing**

Projections reflected in this document are subject to change based on various factors, including but not limited to future legislative and regulatory actions.

Totals may not sum due to rounding.

ESTIMATED ENVIRONMENTAL CAPITAL PLACED IN SERVICE FOR 2024

GENERATION & POWER DELIVERY

Table 7 – Environmental Generation & Power Delivery Capital Placed In Service for 2024

Alabama Power Company
2024 Environmental Projects Placed In Service
Generation and Power Delivery

Plant	Project	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	2024 Total
Barry CC	Miscellaneous Environmental Additions and Improvements												304,485	304,485
Barry CC	Unit 6 Cooling Tower Drift Eliminator Media Replacement											232,214	20,037	252,251
Barry CC	Unit 6 Cooling Tower Gearbox												81,192	81,192
Barry CC	Unit 7 Cooling Tower Gearbox												81,195	81,195
Barry CC	Unit 8 Cooling Tower Lube Oil Filtration											232,214	20,037	252,251
Barry CC	Unit 8 Cooling Tower Structure												50,745	50,745
	Subtotal Barry CC											**464,428**	**557,690**	**1,022,117**
Barry Steam Plant	Ash Handling												3,044,846	3,044,846
Barry Steam Plant	Common Non ARO Ash Pond Sewer Line												14,682,416	14,682,416
Barry Steam Plant	Common 4160 Switchgear Bus Breakers												50,748	50,748
Barry Steam Plant	Common Gravity Filter Feed Pump Motor / VFD Replacement												50,748	50,748
Barry Steam Plant	Common Gravity Filter Feed Pump Replacement												81,195	81,195
Barry Steam Plant	Common Low Volume Waste Water 4160 Switchgear												50,748	50,748
Barry Steam Plant	Common Low Volume Waste Water 480 MCC Breakers												50,748	50,748
Barry Steam Plant	Common Low Volume Waste Water Building Upgrades											46,443	4,008	50,450
Barry Steam Plant	Common Low Volume Waste Water Discharge Addition											232,214	20,037	252,251
Barry Steam Plant	Common Low Volume Waste Water Effluent Sump Pump Replacement												99,465	99,465
Barry Steam Plant	Common Low Volume Waste Water Feed Pump Motor / VFD Replacement												50,748	50,748
Barry Steam Plant	Common Low Volume Waste Water Feed Pump Replacement												113,674	113,674
Barry Steam Plant	Common Lagoon A Pump Replacement												55,817	55,817
Barry Steam Plant	Common Lagoon Addition											1,393,286	120,217	1,513,503
Barry Steam Plant	Common Lagoon B Pump Replacement												55,831	55,831
Barry Steam Plant	Common Landfill Sump Pump Replacement												86,271	86,271
Barry Steam Plant	Common Mercury Monitor Replacement												101,496	101,496
Barry Steam Plant	Common Mother Sump Pump Motor Replacement												101,499	101,499
Barry Steam Plant	Common Mother Sump Pump Motor VFD Replacement												76,121	76,121
Barry Steam Plant	Common Mother Sump Pump Replacement												152,239	152,239
Barry Steam Plant	Unit 5 RSCC Pumps												203,496	203,496
Barry Steam Plant	Unit 5 RSCC Motors												99,360	99,360
Barry Steam Plant	Unit 5 FGD Pumps												203,487	203,487
Barry Steam Plant	Unit 5 FGP Motors												101,741	101,741
	Subtotal Barry Steam Plant											**1,671,943**	**19,656,951**	**21,328,894**
Gadsden Steam Plant	Miscellaneous Environmental Additions and Improvements												49,682	49,682
	Subtotal Gadsden Steam Plant												**49,682**	**49,682**
Gaston Steam Plant	Unit 1 - 5 Low Volume Waste Water Inlet Water Quality Skid								137,333	15,717	15,609	15,500	20,734	204,894
Gaston Steam Plant	Unit 5 Cooling Tower Gearboxes / Blades												251,536	251,536
Gaston Steam Plant	Unit 5 Cooling Tower Distribution												500,030	500,030
Gaston Steam Plant	Unit 5 Replace Bottom Ash Handling Valves												100,365	100,365
Gaston Steam Plant	Unit 5 Fly Ash Handling Blower Replacement												100,165	100,165
Gaston Steam Plant	Unit 5 Fly Ash Bin Vent Bag Replacement												56,144	56,144
Gaston Steam Plant	Unit 5 RSCC Bearing Replacement												232,527	232,527
Gaston Steam Plant	Unit 5 Replace Power Feed to Cooling Tower												330,004	330,004
Gaston Steam Plant	Unit 5 Low Volume Waste Water Chemical Island Pumps												25,755	25,755
Gaston Steam Plant	Unit 5 Replace ECO Fan Yard Sumps												102,740	102,740
Gaston Steam Plant	Unit 5 CEMs Replacement												66,677	66,677
	Subtotal Gaston Steam Plant								**137,333**	**15,717**	**15,609**	**15,500**	**1,786,678**	**1,970,838**
Miller Steam Plant	Unit 1&2 Install A Auto Transfer Switch 480V Source									45,995				45,995
Miller Steam Plant	Unit 1&2 Install B Auto Transfer Switch 480V Source									45,995				45,995
Miller Steam Plant	Unit 3&4 Replace FGD Inlet Expansion Joint									308,942				308,942
Miller Steam Plant	Unit 3&4 Install A Auto Transfer Switch 480V Source									50,657				50,657
Miller Steam Plant	Unit 3&4 Install B Auto Transfer Switch 480V Source											50,082		50,082
Miller Steam Plant	Unit 1-4 ECO HVAC Replacements									241,215				241,215
Miller Steam Plant	Unit 1-4 Waste Water Management Client & Server Upgrade												444,019	444,019
Miller Steam Plant	Unit 1-4 Replace Turbimeters Low Volume Waste Water											57,646	57,646	115,292
Miller Steam Plant	Unit 1-4 Replace Low Volume Waste Water Miscellaneous Valves									96,864				96,864
Miller Steam Plant	Unit 1-4 FGD Dewatering Cloth Filter Belt A											38,431		38,431
Miller Steam Plant	Unit 1-4 Install FGD Makeup Water UV Treatment									579,611				579,611
Totals may not sum due to rounding														

Table 7 – Environmental Generation & Power Delivery Capital Placed In Service for 2024

Alabama Power Company
2024 Environmental Projects Placed In Service
Generation and Power Delivery

Plant	Project	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	2024 Total
Miller Steam Plant	Unit 1-4 Replace Racking Motors											48,038		48,038
Miller Steam Plant	Unit 1-4 Replace Turbimeters FGD Low Volume Waste Water									270,590				270,590
Miller Steam Plant	Unit 1-4 Replace FGD Low Volume Waste Water Miscellaneous Valves									67,648				67,648
Miller Steam Plant	Unit 1 Replace Unit Segment Valves								68,993					68,993
Miller Steam Plant	Unit 1 Replace Fly Ash Transfer Vessel						324,306							324,306
Miller Steam Plant	Unit 1 Replace Dry Bottom Ash Transport Line						459,951	459,951	229,975					1,149,877
Miller Steam Plant	Unit 1 Replace Precipitator Control and Management System (PCAMS)							32,197						32,197
Miller Steam Plant	Unit 2 Replace Dry Ash Handling System			266,124										266,124
Miller Steam Plant	Unit 2 Replace Unit Segment Valves								68,993					68,993
Miller Steam Plant	Unit 2 Replace Fly Ash Transfer Vessel						91,990	91,990	137,985					321,966
Miller Steam Plant	Unit 2 Replace Precipitator Control and Management System (PCAMS)									32,355				32,355
Miller Steam Plant	Unit 3 Replace SCR Catalyst					209,750								209,750
Miller Steam Plant	Unit 3 Replace Unit Segment Valves									75,123				75,123
Miller Steam Plant	Unit 3 Replace Fly Ash Segment / Dust Valves								50,082	50,082				100,164
Miller Steam Plant	Unit 3 Replace Precipitator Control and Management System (PCAMS)								35,057					35,057
Miller Steam Plant	Unit 4 Replace Precipitator Control and Management System (PCAMS)							35,057	50,082	50,082				100,164
Miller Steam Plant	Unit 4 Replace Fly Ash Segment / Dust Valves										75,123			75,123
Miller Steam Plant	Unit 4 Replace SCR Catalyst						212,511							212,511
Miller Steam Plant	Unit 4 Replace Unit Segment Valves													
Miller Steam Plant	Unit 4 Replace Fly Ash Segment / Dust Valves													
Miller Steam Plant	Unit 4 Replace Precipitator Control and Management System (PCAMS)													
	Subtotal Miller Steam Plant			**266,124**		**209,750**	**1,851,924**	**619,195**	**641,167**	**1,915,158**	**75,123**	**194,197**	**501,665**	**6,274,303**
Theodore CC	Cooling Tower Gearboxes						763,166					144,623	12,742	157,365
Theodore CC	Miscellaneous Environmental Additions and Improvements						212,511						253,670	253,670
	Subtotal Theodore CC											**144,623**	**266,412**	**411,035**
Washington County CC	Miscellaneous Environmental Additions and Improvements												304,405	304,405
Washington County CC	Waste Water Cooling Tower											185,415	16,336	201,750
	Subtotal Washington County CC											**185,415**	**320,741**	**506,155**
Calhoun CT	Install New Demineralizer Storage Tank Calhoun		3,134,252											3,134,252
Calhoun CT	Unit 1 Replace Water Injection Pump VFD				50,328									50,328
Calhoun CT	Unit 2 Replace Water Injection Pump VFD				50,328									50,328
Calhoun CT	Unit 3 Replace Water Injection Pump VFD				50,328									50,328
Calhoun CT	Unit 4 Replace Water Injection Pump VFD				50,328									50,328
	Subtotal Calhoun CT		**3,134,252**		**201,310**									**3,335,563**
Central Alabama	Cooling Tower Chemical Skids						125,204							125,204
Central Alabama	SCR Catalyst												2,246,333	2,246,333
Central Alabama	Cooling Tower Fan											149,756		149,756
Central Alabama	Cooling Tower Fan Gearbox											106,825		106,825
	Subtotal Central Alabama CC					**125,204**						**256,581**	**2,246,333**	**2,628,118**
	Total Generation Placed In Service	-	3,134,252	266,124	201,310	334,954	1,851,924	619,195	778,500	1,930,876	90,732	2,932,686	25,386,152	37,526,707
	Total Generation Retirements	-	(313,425)	(26,612)	(20,131)	(33,495)	(185,192)	(61,919)	(77,850)	(193,088)	(9,073)	(293,269)	(2,538,615)	(3,752,671)
	Generation Cumulative Placed In Service 2024 Budget Process	**4,954,022,037**	**4,956,842,864**	**4,957,082,376**	**4,957,263,556**	**4,957,565,014**	**4,959,231,746**	**4,959,789,022**	**4,960,489,672**	**4,962,227,460**	**4,962,309,119**	**4,964,948,536**	**4,987,796,073**	

Power Delivery	Project	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	2024 Total
	Total Power Delivery Placed In Service													
	Total Power Delivery Retirements													
	Power Delivery Cumulative Placed In Service 2024 Budget Process	**37,475,592**	**37,475,592**	**37,475,592**	**37,475,592**	**37,475,592**	**37,475,592**	**37,475,592**	**37,475,592**	**37,475,592**	**37,475,592**	**37,475,592**	**37,475,592**	
	Total Cumulative Placed In Service 2024 Budget Process	**4,991,497,629**	**4,994,318,456**	**4,994,557,968**	**4,994,739,147**	**4,995,040,606**	**4,996,707,338**	**4,997,264,613**	**4,997,965,264**	**4,999,703,052**	**4,999,784,710**	**5,002,424,128**	**5,025,271,665**	
	Third Party Offset Placed In Service 2024 Budget Process		**1,672,925**	**1,672,925**	**1,672,925**	**1,678,897**	**1,678,897**	**1,678,897**	**1,678,897**	**1,678,897**	**1,678,897**	**1,702,213**	**1,812,739**	
	Total Cumulative Placed In Service, Excluding Third Party Offset, 2024 Budget Process*	**4,991,497,629**	**4,992,645,531**	**4,992,885,043**	**4,993,066,223**	**4,993,361,709**	**4,995,028,441**	**4,995,585,716**	**4,996,286,367**	**4,998,024,155**	**4,998,105,813**	**5,000,721,916**	**5,023,458,926**	

*Total Excludes adjustments related to third party arrangement.
Totals may not sum due to rounding

ESTIMATED ENVIRONMENTAL O&M EXPENSE FOR 2024

Table 8 – Environmental O&M Expense for 2024

2024 O&M Budget and Forecast

Work Type	Environmental Activities	2024
E316A	316A Regulation	299,192
E316B	316B Regulation	990,671
EDISPD, EDISPS	Enviro Disposal Activity-Enviro Affairs Compliance	526,233
EHYDR1	Coosa/Warrior/Tallapoosa Shoreline Studies, ESA studies&cons	837,098
EHYDR6	Enviro Trout Stocking - Smith Tailrace	36,000
EHYDR11	Enviro Fish Culture Facility	627,000
EHYDR12	Enviro Fisheries Habitat Enhancement	471,000
EHYDR9	Enviro Wildlife Habitat Enhancement&Restoration	1,130,000
EMERC	Environmental Mercury Rata Testing	1,708,476
COMPENO,COMPENS,COMPENV	Compliance-Environmental	71,593,111
ASHSALE	Ash Sales	(9,832,800)
GYPSALE	Gypsum Sales	(753,987)
ASLUICE	Ash Sluice	266,072
BASH	Bottom Ash	4,904,155
FASH	Fly Ash	3,834,475
NPDES	NPDES Treatment	1,721,467
ADISP,ADCOST	Ash Disposal	3,495,596
PRECIP	Precipitator	2,281,196
BAGHOUSE	Bag House	772,894
STACK	Stack	408,804
CEMS,CEMSO,CEMSS	CEMS-All Assoc. Devices	3,095,640
INJECT, INJECTCHEM	Injection Systems	1,985,641
DUSTCOAL, DUSTCHEM, DUSTMAINT	Dust Suppression	3,417,141
COOLT	Cooling Towers	4,475,452
WASTEWT	Waste Water	1,657,593
PROCWT	Plant Process Waste Water Treatment	11,227,142
HYDROENV	Environmental Projects (Hydro)	3,895,283
FGHAND	Flue Gas Handling	9,363,481
LIME, LIMEHAND	Limestone Handling	13,424,431
GHAND	Gypsum Handling	2,625,425
STATSERV	Station Service	46,500
OXAIR	Oxidation Air	419,630
SWATER	Water Treatment	377,837
FGDBUILD	Service Facilities-Scrubber Sys	905,525
FGDFIRE	Fire Protection-Scrubber Sys	82,452
SWSTWTR	Waste Water Treatment	2,200,076
SCRUBV, SRESPRAY	Scrubber Vessel	3,162,542
SCRCHEM	Ammonia Injection Grid	4,094,358
SCRMAINT	Selective Catalytic Reduction	6,611,686
		$ 158,384,488

***Third party offsets are included in the numbers above which will be excluded in the Rate CNP, Part C filing**

Totals may not sum due to rounding.

APPENDIX A

ACRONYMS AND ABBREVIATIONS

ACE	Affordable Clean Energy Rule
ACI	Activated Carbon Injection
ADEM	Alabama Department of Environmental Management
ADROP	Alabama Drought Response Operating Proposal
AIR	Additional Information Request
APC	Alabama Power Company
APEA	Applicant Prepared Environmental Assessment
ARP	Acid Rain Program
BA	Biological Assessment
BATW	Bottom Ash Transport Water
BACT	Best Available Control Technology
BART	Best Available Retrofit Technology
BAT	Best Available Technology
BO	Biological Opinion
BSER	Best System of Emission Reduction
BTU	British Thermal Unit
CAA	Clean Air Act
CAAA	Clean Air Act Amendments of 1990
CASAC	Clean Air Scientific Advisory Committee
CAIR	Clean Air Interstate Rule
CAM	Compliance Assurance Monitoring

CAMR	Clean Air Mercury Rule
CAVR	Clean Air Visibility Rule
CCS	Carbon Capture and Sequestration
CCR or CCRs	Coal Combustion Residuals
CEIP	Clean Energy Incentive Program
CEMS	Continuous Emissions Monitoring System
CMMS	Continuous Mercury Monitoring System
CFR	Code of Federal Regulations
CPP	Clean Power Plan
CO	Carbon Monoxide
CO_2	Carbon Dioxide
COHPAC	Compact Hybrid Particulate Collector
CSAPR	Cross-State Air Pollution Rule
CUR	Capacity Utilization Rating
CWA	Clean Water Act
DOJ	Department of Justice
DRR	Data Requirement Rule
DSEIS	Draft Supplemental Environmental Impact Statement
DSI	Dry Sorbent Injection
EGU	Electric Generating Unit
EIS	Environmental Impact Statement
ELG	Effluent Limitation Guidelines
EPA	Environmental Protection Agency
EPRI	Electric Power Research Institute
EPCRA	Emergency Planning and Community Right-to-Know Act

ESA	Endangered Species Act
ESP	Electrostatic Precipitator
FERC	Federal Energy Regulatory Commission
FGD	Flue Gas Desulfurization
FIP	Federal Implementation Plan
FPA	Federal Power Act
FR	Federal Register
FWS	Fish and Wildlife Service – Department of Interior
GHG	Greenhouse Gases
HAP	Hazardous Air Pollutant
HAT	Harris Action Team
Hg	Mercury
HLI	Hydrated Lime Injection
LAER	Lowest Achievable Emission Rate
LNB	Low-NO_x Burner
MACT	Maximum Achievable Control Technology
MATS	Mercury and Air Toxics Standards
NAAQS	National Ambient Air Quality Standards
NBP	NO_x Budget Trading Program
NEPA	National Environmental Policy Act
NH3	Ammonia
NMFS	National Marine Fisheries Service
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxides

NOI	Notice of Intent
NOPP	Notice of Planned Participation
NPDES	National Pollution Discharge Elimination System
NSPS	New Source Performance Standards
NWP12	U.S. Army Corps of Engineers Nationwide Permit 12
OFA	Overfire Air
OTAG	Ozone Transport Assessment Group
O&M	Operation and Maintenance
PAD	Preliminary Application Document
PCAMS	Precipitator Control and Management System
PLP	Preliminary License Proposal
PM	Particulate Matter
PM2.5	Particulate Matter less than 2.5 micrometers in size
PM10	Particulate Matter less than 10 micrometers in size
PME	Protection Mitigation and Enhancement
PPB	Parts per billion
PPM	Parts per million
PPT	Parts per trillion
PRB	Powder River Basin
PSD	Prevention of Significant Deterioration
RACT	Reasonably Available Control Technology
RCRA	Resource Conservation and Recovery Act
RES	Renewable Electricity Standard
RHS	Rough Hornsnail
RTR	Residual Risk and Technology Review

SAMC	Sulfuric Acid Mist Control
SCR	Selective Catalytic Reduction
SIP	State Implementation Plan
SNCR	Selective Noncatalytic Reduction
SO_2	Sulfur Dioxide
SO_3	Sulfur Trioxide
T-Fired	Tangential or tangentially fired
T&E	Threatened and Endangered
TR	Transformer/Rectifier
TRI	Toxics Release Inventory
UARG	Utility Air Regulatory Group
USWAG	Utility Solid Waste Activities Group
UWAG	Utility Water Act Group
UVB	Ultraviolet-B
VOC	Volatile Organic Compounds
WOTUS	Waters of the United States
ZLD	Zero Liquid Discharge

FORWARD-LOOKING STATEMENT CAUTIONARY NOTE

Certain information contained in this report is forward-looking information based on current expectations and plans that involve risks and uncertainties. Forward-looking information includes, among other things, statements concerning current and proposed environmental regulations and related compliance plans and estimated expenditures. Alabama Power cautions that there are various factors that could cause actual results to differ materially from the forward-looking information that has been provided. The reader is cautioned not to put undue reliance on this forward-looking information, which is not a guarantee of future performance and is subject to a number of uncertainties and other factors, many of which are outside the control of Alabama Power; accordingly, there can be no assurance that such suggested results will be realized. The following factors, in addition to those discussed in Alabama Power's Annual Report on Form 10-K for the fiscal year ended December 31, 2022 and subsequent securities filings, could cause actual results to differ materially from management expectations as suggested by such forward-looking information: the impact of recent and future federal and state regulatory changes, including environmental and other laws and regulations to which Alabama Power is subject, as well as changes in application of existing laws and regulations; the extent and timing of costs and legal requirements related to coal combustion residuals; current and future litigation or regulatory investigations, proceedings, or inquiries; available sources and costs of fuels; effects of inflation; the ability to control costs and avoid cost and schedule overruns during the development, construction, and operation of facilities or other projects; the ability to construct facilities in accordance with the requirements of permits and licenses to satisfy any environmental performance standards and the requirements of tax credits and other incentives, and to integrate facilities into the Southern Company system upon completion of construction; advances in technology; state and federal rate regulations and the impact of pending and future rate filings; catastrophic events such as fires, earthquakes, explosions, floods, tornadoes, hurricanes and other storms, droughts, pandemic health events, political unrest, wars, or other similar occurrences; and the direct or indirect effects on Alabama Power's business resulting from incidents affecting the U.S. electric grid or operation of generating resources. Alabama Power expressly disclaims any obligation to update any forward-looking information contained in this report, except in accordance with the rules and requirements of, and rate schedules on file with, the Alabama Public Service Commission.