February 17, 2022

VIA ELECTRONIC MAIL
Ronald W. Gore, Chief
ADEM-Air Division
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Re: Comments on Special Order by Consent for Alabama Power Company Barry Steam Electric Generating Plant

Dear Mr. Gore:

GASP, Energy Alabama, Sierra Club, MEJAC and C.H.E.S.S. (the “Commenters”) respectfully submit the following comments on The Special Order by Consent (“CD” or “Consent Decree”) to Alabama Power Company (“APC”) for their Barry Steam Electric Generating Plant (“Plant Barry”). We appreciate the opportunity to make these public comments and hope that the Alabama Department of Environmental Management (“ADEM”) will take into consideration our comments and recommendations.

Commenters

GASP (the Greater Birmingham Alliance to Stop Air Pollution) is a health advocacy organization focused on air quality issues in the Greater Birmingham Area. GASP has been actively involved in addressing community concerns involving air quality issues in communities throughout Alabama. One way in which GASP seeks to improve air quality, address historic and ongoing environmental justice issues and combat climate change is through advocating for an adequate enforcement of violations, especially those found by ADEM at Plant Barry for exceedances of HCl.

Energy Alabama is a membership-based non-profit organization accelerating Alabama’s transition to sustainable energy. Energy Alabama accomplishes its mission by educating at all levels, informing smart energy policy, building the next generation workforce, and providing technical assistance to deploy more sustainable energy. Energy Alabama is actively involved in regulatory issues throughout the state, including Jefferson County, that reduce the state's reliance on fossil fuels and increase the state's amount of clean energy. The organization advocates for the strongest possible permitting and oversight protections for the public, which will provide improved health, economic, environmental, and social outcomes.
Sierra Club is one of the oldest and largest national nonprofit environmental organizations in the country, with over 3.5 million members and supporters dedicated to exploring, enjoying, and protecting the wild places and resources of the earth; practicing and promoting the responsible use of the earth’s ecosystems and resources; educating and enlisting humanity to protect and restore the quality of the natural and human environment; and using all lawful means to carry out these objectives. One of Sierra Club’s priority national goals is promoting and improving air quality. Another is endeavoring to secure environmental justice for those disproportionately impacted by pollution.

MEJAC (Mobile Environmental Justice Action Coalition) was formed in 2013 by residents of Africatown in partnership with regional advocates with the mission to engage and organize with Mobile’s most threatened communities in order to defend the inalienable rights to clean air, water, soil, health, and safety and to take direct action when government fails to do so, ensuring community self-determination.

C.H.E.S.S. (Clean Healthy Educated Safe Sustainable Africatown) is a community driven organization that works to improve living conditions and preserve unity within the Africatown community in Mobile, Alabama. C.H.E.S.S. aims to advance the cleanliness, health, education, safety, and sustainability of these aspects within the community. This is achieved by working with the Deep South Center of Environmental Justice (DSCEJ), the HBCU-CBO Gulf Coast Equity Consortium, and the Kellogg Foundation to implement strategies to better identify and meet the needs of members within the community in order to create long standing prosperity.

I. Background

a. Plant Barry And Its Controls For SO2 and HCL

APC owns and operates Plant Barry, in Bucks, Alabama, about twenty-five miles north of Mobile. The plant presently includes two coal fired units, known as Units Four (4) and Five (5), which have been in operation for more than fifty years. Unit Four has a generation capacity rating of 403 MW. It has an electrostatic precipitator (ESP) for PM control. A Selective Non-Catalytic Reduction system (SNCR) for NOx control that “is only operated as necessary, to comply with the requirements of 40 CFR 76.”¹ Unit 4 also does not have state of the art pollution controls for Sulfur Dioxide (SO2) —referred to as scrubbers, or Flue Gas Desulfurization (FGDs)—that are used to control HCL.² Instead, it has direct sorbent injection (DSI)³ which can be used to control for SO2 and HCL, but it is a far less effective technology and does not reflect the most effective state of the art modern pollution control technology.

¹ Statement of Basis for the Alabama Power Company, Barry Steam Electric Generating Plant, MSOP No. 503-1001 at 5. [Hereinafter “SOB”].
Unit Five, another coal-fired unit, has a generation capacity rating of 785 MW.\(^4\) The unit has a selective catalytic reduction (SCR) system for NOx control, and a flue gas desulfurization system (FGD or scrubber) to control SO2, mercury and PM.\(^5\) It also has an ESP for PM control.\(^6\)

**b. Plant Barry’s Violations of HCL Limits And ADEM’s Proposed Consent Decree**

In December of 2020, APC was required to test the HCL emissions at Plant Barry for compliance with emission limits. Unit 4 failed the test because it exceeded its HCL emission limit of 0.0020 lbs/MMBTu. ADEM and APC entered into a Consent Order No. 21-015-CAP on December 17, 2020 that purported to resolve the issue.\(^7\)

Approximately half a year later, on August 4, 2021, Unit 4 was tested again for compliance with its HCL emission limits. Once again, Unit 4 failed and violated the HCL emission limit of 0.0020 lbs/MMBTu, recording an emission limit of 0.0023 lbs/MMBTu.

It should come as no surprise to ADEM or APC that Unit 4 is failing to comply with HCL emission limits. As discussed above, Unit 4 lacks modern wet FGDs and controls its SO2 and HCL with DSI, which is an inferior technology.

After the August 4, 2021 violation, APC asserts that it conducted an investigation into why Barry Unit 4 violated its HCL limits. According to APC, its investigation “revealed that constituents in the delivered coal varied from historic ranges.”\(^8\) “These changes in coal composition upset the balance that Unit 4 had achieved.”\(^9\)

What APC fails to acknowledge is that the lack of modern FGD controls on Unit 4 is the underlying reason why Unit 4’s emissions vary depending upon fuel type. It also reflects the inability of ADEM to operate Unit 4’s DSI controls to reliably lower HCL emissions to comply with the HCL limits in Barry’s Permit as Plant Barry’s coal composition varies.

ADEM now proposes to issue another Consent Decree to purportedly resolve Unit 4’s violations of emission limits. The Consent Decree includes a fine of $75,000, and a requirement to cease burning coal at Unit 4 over six years from now, in 2028. The Consent Decree does nothing to address the root cause of the HCL violations—the lack of FGD controls and the inability of the DSI technology to ensure that Unit 4 will meet required HCL limits. Further, in

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\(^4\) Id. at 9.
\(^5\) Id. at 10.
\(^6\) Id.
\(^7\) In 2020 APC entered into a Special Order by Consent with ADEM for violations of Emission Standard No. 8 of the provisos for the Unit 4 Power Boiler by exceeding the .0020 lb/MMBtu emissions rate for HCl. See Special Order by Consent between AL Dep’t of Env’t Mgmt and Alabama Power Co. (Nov. 6, 2020) (on file with Authors), [hereinafter “2020 APC Barry Consent Order”].
\(^8\) 2020 APC Barry Consent Order. at Par. 18
\(^9\) Id. at Par. 19.
reaching its conclusion, ADEM never considers nor provides a finding concerning the
requirement of Ala. Code 22-22A-5(18)c, that ADEM consider impacts to public health.  

c. EJ Communities Downwind of Plant Barry Bear The Risk And Brunt Of Plant Barry’s Pollution.

Particle dispersion modeling conducted in 2021 by Wingra Engineering using AERMOD
identified the pollution plume that is created by the Barry Plant.  The modelling predicted that
the proposed emission limits in the draft Permit would unlawfully allow emissions at a level that
would cause a violation of the SO2 NAAQS -- leading to SO2 levels as high as 681 ug/m3 or
430 ug/m3, (depending on what limit one of the coal units complies with) versus the NAAQS
limit of 196.2 µg/m3 -- exceedances over two or three times the allowable health-based limit.

As noted in the attached report, Barry’s pollution plume is felt most strongly and has the
most significant impacts on the environmental justice and fence line communities in the vicinity
of Plant Barry. More specifically, in determining the SO2 levels resulting from Plant Barry’s
emissions, Wingra Engineering used AERMOD to establish the scope of the area impacted by
Barry’s SO2 emissions and relative concentrations of the SO2 pollution. The SO2 pollution
plumes are reflected in Figures 1 and 2 below.
AERMOD is also EPA’s preferred modeling tool for HCL. The general inputs are the same and the general shape and relative concentration of Plant Barry’s pollution plume for HCL would be the same as the shape and relative concentration of the SO2 plume. Notably, SO2 is modeled using a 4th highest average. In contrast, HCL is frequently modeled using a 1st highest. Thus, in many ways, the SO2 modeling reflected in Wingra Engineering’s report is an underrepresentation of Plant Barry’s HCL impacts.

As shown below, EPA’s EJSCREEN shows that the communities in the areas surrounding Plant Barry rank in the highest percentile ranges for “NATA cancer risk” (measuring cancer risk from inhalation of air toxics). The screening ranks these communities surrounding Plant Barry west of the Mobile River in the 95 to 100 percent range, while those in the remaining area east of Plant Barry are only slightly less burdened -- ranking in the 90 to 95 percentile range. This data amplifies how the communities surrounding Barry have been suffering from exposure to environmental pollutants and hazards for far too long. This is reflected in Figure 3, below.

15 See Cancer Risk Map (Attachment 3)
There is a clear overlap between the AERMOD modelled pollution plume in Figures 1 and 2 and the environmental justice communities reflected in Figure 3. Simply put, Plant Barry is polluting the communities with some of the highest cancer risks nationwide. Additionally, Plant Barry’s violations of its HCL limits will likewise be felt in those same communities.

II. ADEM’s Proposed Consent Decree Fails To Ensure That Plant Barry Will Come Into Compliance With Its HCL Limits, And Thus Fails To Protect The Environmental Justice Communities Living In The Vicinity Of The Plant.

As noted above, the environmental justice communities that live in the vicinity of Plant Barry are already suffering from significant cancer risks. In addition to that, they are at risk from ADEM’s lax SO2 limits in the Barry Plant Title V permit, which AERMOD modelling predicts would allow the plant to cause SO2 levels as high as 681 µg/m3 versus the NAAQS limit of 196.2 µg/m3. Short-term exposure to SO2, ranging from five minutes to twenty-four hours, causes an array of health problems, including premature death; worsening of respiratory diseases such as emphysema and bronchitis; aggravation of asthma; exacerbation of heart disease; chest tightness; and decrements in lung function. These adverse health effects are more pronounced in people who exercise and play outdoors, especially those with asthma. Studies also show a

16 See EPA Integrated Science Assessment for SO2, Ch. 5 tbsls. 5-1, 5-2; Primary National Ambient Air Quality Standard for Sulfur Dioxide, 75 Fed. Reg. 35,525; EPA, Our Nation’s Air: Status and Trends Through 2008, at 4 (2010), available at: https://nepis.epa.gov/Exe/ZyPDF.cgi/P1008KCP.PDF?Dockey=P1008KCP.PDF.
connection between short-term SO2 exposure and increased hospitalizations, particularly in at-risk populations such as children, the elderly, and asthmatics. Now, added to these other risks, Plant Barry’s violations of its HCL limits threaten to compound the harm that Plant Barry causes its neighbors. HCl can be inhaled from breathing in air that contains hydrogen chloride gas. Hydrogen chloride gas can cause irritation of the eyes, skin, and respiratory tract. Exposure to high levels can result in corrosive damage to the eyes, skin, and respiratory tissues, and could lead to pulmonary edema and even death in extreme cases. According to the Agency for Toxic Substances and Disease Registry (“ATSDR”), HCl is removed from the atmosphere by rainfall.

ADEM’s Proposed Consent Decree does nothing to protect the environmental justice communities living in the vicinity of Plant Barry for the next 6 years. To be sure, ADEM proposes that APC cease burning coal on December 31, 2028—but that is six years from now. In the meantime, ADEM proposes zero new measures to ensure that Plant Barry does not continue to violate its HCL limits between now and December 31, 2028. Yet some further measures are clearly warranted: Barry has a history of violating its HCL limit, the last time just a half year earlier. Further, even the requirement to cease coal burning in 2028 is toothless: APC propose to cease burning coal 5 years earlier, by December 31, 2023. ADEM could at least order APC to do what it is already planning to do so the public has some guarantee of protection post 2023.

ADEM’s do nothing approach to ensuring that Plant Barry Unit 4 stop violating its HCL limit is inconsistent with ADEM’s finding that Plant Barry’s repeated violations of the HCL limits are a “serious violation,” and that APC “failed to exhibit a sufficient standard of care in exceeding the permitted HCL emission limit for Unit 4.” While ADEM asserts that it “is not aware of any irreparable harm to the environment,” it provides no evidence that it looked for such harm, nor does ADEM ever discuss and render a finding concerning the violations’ health impacts to humans contrary to Ala. Code 22-22A-5(18)c.

III. ADEM Must Issue A Consent Decree That Does More To Protect The Environmental Justice Communities Around Plant Barry And That Mitigates The Impacts To The Communities Impacted By The Plant.

Section 112(l) of the Clean Air Act (“CAA”) and Subpart E of 40 C.F.R. §63.90 grants to ADEM the authority to implement and enforce Section 112 Federal rules, emission standards or requirements. Further, ADEM also stipulates that “the Department is authorized to administer the provisions of the Alabama Air Pollution Control Act, Ala. Code §§22-28-1 to 22-28-23, as

17 Id.
18 ATSDR, Hydrogen Chloride CAS#7647-01-0, Toxicology-ToxFAQs (April 2002), available at https://www.atsdr.cdc.gov/toxfaqs/toxFAQs173.pdf; [hereinafter “HCl ToxFAQs Sheet”].
19 Id.
20 2022 APC Barry Consent Order Pars. 10 A, 10 B.
22 40 C.F.R. 63.99(a)(1)(i).
amended.” Acting Assistant Administrator Lawrence Starfield gave a message to all EPA employees on April 7, 2021. This message directed “all EPA offices to 'strengthen enforcement of violations of cornerstone environmental statutes in communities overburdened by pollution.'” Further, the July 1, 2021 Memo calls on EPA to engage in environmental justice communities in a proactive, transparent and consistent manner throughout the cleanup and enforcement process. Accordingly, where ADEM receives its authority to enforce through EPA, ADEM should strengthen its enforcement against Plant Barry that disproportionately impacts EJ communities.

Meanwhile, Ala. Code 22-22A-5(18)c requires that ADEM consider impacts to public health, the environment, the seriousness of the violation, the standard of care, the economic benefits of the violation, and the ability of the violator to pay a penalty. ADEM must also consider the extent to which the violator has mitigated the impact of its violations on the environment and public.

ADEM has already concluded that Plant Barry’s violations were serious and that APC exhibited an insufficient standard of care. APC clearly has the ability to pay a penalty than $75,000, and a $75,000 penalty will do nothing to deter APC from future violations.

While ADEM states that it is not aware of an economic benefit to APC from the violations, it is self-evident that APC is in fact deriving economic benefits. APC is running a coal unit with comparatively inexpensive DSI controls that are demonstrably unable to ensure compliance with Plant Barry’s HCL limits. The economic benefit that is derived by APC from its repeated violations of its HCL permit limits is the cost savings from not installing state of the art wet FGD pollution controls that would actually protect the communities around the plant.

Equally important is that APC has done nothing to rectify its violations by mitigating the impacts on the communities around the plant. To be sure, ADEM is proposing a fine be paid to the state. But $75,000 is a pittance for APC, and it does nothing for the communities that are most directly affected by APC’s violations.

ADEM itself admits in its proposed consent decree that it must consider the effectiveness of its enforcement action. To do so, ADEM must include the following measures in its final consent order:

1) APC must:

[23] Special Order by Consent between AL Dep’t of Env’t Mgmt and Alabama Power Co. (Jan. 19, 2022), [hereinafter “2022 APC Barry Consent Order”].
[26] 2022 APC Barry Consent Order at Par. 11
a. cease burning coal in Unit 4 at the earliest date practicable, but no later than 12/31/2023, APC’s planned date for ceasing to burn coal; and
b. restrict the coal that can be burned in Unit 4 to a fuel composition that has demonstrated compliance with the HCL limits.

2) APC must test for HCL compliance at Unit 4 on a monthly basis.
3) APC must contribute the balance of $250,000, less the $75,000 penalty, to a community benefit fund to redress environmental or public health issues, to be used by the communities around Plant Barry, to mitigate the impacts that Plant Barry has had on those communities.

These are the only terms that will protect the communities around the plant while Plant Barry transitions to cease burning coal, and that promises some modicum of mitigation for the impacts the plant has had on its neighboring communities.\(^27\)

IV. Conclusion

Commenters urge ADEM to work with APC to arrive at a Consent Decree that will truly protect the communities living in the vicinity of Plant Barry. APC has benefited economically from its operations of the plant, while the communities have suffered with lax controls and high levels of pollution and cancer. Some mitigation is owed to those communities to redress the harm that has been done. The proposed terms are one step in this direction.

We appreciate this opportunity to comment.

Sincerely,

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\(^27\) It should be noted that ADEM is not limited to a onetime violation cap of $250,000. Each intervening day that the plant has operated between recorded violations should be treated as a new violation. Without a fuller record of APC’s testing history at Plant Barry, the exact calculation of total maximum fines is not possible, and ADEM has that information in its records.
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