

**2/18/20**

**Minutes  
Environmental Management Commission Meeting  
Alabama Department of Environmental Management Building  
1400 Coliseum Boulevard  
Montgomery, Alabama 36110-2400  
December 13, 2019**

**This is to certify that the Minutes contained herein are a true and accurate account of actions taken by the Alabama Environmental Management Commission on December 13, 2019.**

A handwritten signature in black ink, appearing to read "J. Masingill, III", written over a horizontal line.

**John (Jay) H. Masingill, III, Acting Chair  
Alabama Environmental Management Commission**

**Certified this 14th day of February 2020.**

**Minutes**  
**Environmental Management Commission Meeting**  
**Alabama Department of Environmental Management Building**  
**1400 Coliseum Boulevard**  
**Montgomery, Alabama 36110-2400**  
**December 13, 2019**

**Convened: 11:07 a.m.**  
**Adjourned: 11:47 a.m.**

**Part A**

**Transcript**  
**Word Index**

**Part B**

**Attachment Index**  
**Attachment 1**  
**Attachment 2**  
**Attachment 3**

**Part A**



Page 1

1 ALABAMA ENVIRONMENTAL MANAGEMENT  
 2 COMMISSION MEETING  
 3  
 4  
 5  
 6  
 7  
 8  
 9 ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 10 Alabama Room  
 11 1400 Coliseum Boulevard  
 12 Montgomery, Alabama 36110-2400  
 13 December 13, 2019  
 14 11:07 a.m.  
 15  
 16  
 17  
 18  
 19  
 20  
 21  
 22  
 23 Taken by: Victoria M. Castillo, ACCR No. 17

Page 3

1 (WHEREUPON, proceedings began at  
 2 11:07 a.m.)  
 3 CHAIRMAN MILLER: I'm going to  
 4 call the December 13th meeting of the  
 5 Environmental Management Commission to order.  
 6 The first order of business is the  
 7 consideration of the minutes from the meeting  
 8 from October 18th, 2019. These have been  
 9 circulated to all the Commissioners for their  
 10 advanced perusal.  
 11 I will entertain a motion to adopt  
 12 the minutes as written.  
 13 VICE-CHAIR BROWN: So moved.  
 14 DR. PERRY: Second.  
 15 CHAIRMAN MILLER: All in favor,  
 16 say "aye."  
 17 (All Commissioners signify with  
 18 "aye.")  
 19 CHAIRMAN MILLER: All opposed?  
 20 (No response.)  
 21 CHAIRMAN MILLER: All right.  
 22 Our next item is election of the committees for  
 23 the coming year. We have had nominations for the

Page 2

1 A P P E A R A N C E S  
 2  
 3 COMMISSION MEMBERS PRESENT:  
 4 H. Lanier Brown, II, Esquire, Vice Chair  
 5 Samuel L. Miller, M.D., Chair  
 6 John H. Masingill, III  
 7 Kevin McKinstry  
 8 Mary J. Merritt  
 9 Ruby L. Perry, D.V.M.  
 10 Thomas P. Walters, P.E.  
 11  
 12 ALSO PRESENT:  
 13 Zack Wilson, AEMC Legal Counsel  
 14 Debi Thomas, AEMC Executive Assistant  
 15 Lance R. LeFleur, ADEM Director  
 16  
 17  
 18  
 19  
 20  
 21  
 22  
 23

Page 4

1 Personnel Committee with Mr. Tom Walters as  
 2 Chair, with Kevin McKinstry and Dr. Ruby Perry as  
 3 members. And the Rulemaking Committee with  
 4 Lanier Brown as Chairman and John Masingill and  
 5 Mary Merritt as members.  
 6 Are there any further nominations?  
 7 (No response.)  
 8 CHAIRMAN MILLER: All right. I  
 9 would --  
 10 VICE-CHAIR BROWN: I move to  
 11 accept the nominations to the committees as cited  
 12 by the Chair.  
 13 MR. MASINGILL: Second.  
 14 CHAIRMAN MILLER: Any further  
 15 discussions?  
 16 (No response.)  
 17 CHAIRMAN MILLER: If not, I will  
 18 call for the question. All in favor say "aye."  
 19 (All Commissioners signify with  
 20 "aye.")  
 21 CHAIRMAN MILLER: All opposed,  
 22 "no."  
 23 (No response.)

Page 5

1 CHAIRMAN MILLER: And now we're  
2 going to call on Director LeFleur for his report.  
3 DIRECTOR LeFLEUR: Thank you.  
4 Good morning and welcome to the second meeting of  
5 the Environmental Management Commission for  
6 fiscal year 2020. Today's report will focus on  
7 current issues related to three environmental  
8 contaminants: Coal Combustion Residuals, per and  
9 poly fluorinated alkyl substances known as PFAS,  
10 and lead in drinking water.  
11 The first environmental contaminant  
12 on which today's report will focus is Coal  
13 Combustion Residuals, or CCR, sometimes referred  
14 to as coal ash. This issue has increasingly been  
15 in the news and a topic of concern. The concern  
16 is with impoundments containing coal ash  
17 material, especially those that are unlined where  
18 contaminants can be released to groundwater.  
19 Coal ash is an issue both nationally and here in  
20 Alabama.  
21 We begin with a description of what  
22 makes up Coal Combustion Residuals. As the name  
23 implies, CCR is the solid material remaining

Page 6

1 after the combustion of coal from the production  
2 of electricity by electric generating utilities.  
3 It is comprised of bottom ash, fly ash (the  
4 particles that rise and are captured in a  
5 baghouse or electrostatic precipitator), boiler  
6 slag, and the solid material generated when the  
7 flue gasses are subjected to a chemical reaction  
8 to remove sulphur and other contaminants.  
9 Here are some of the characteristics  
10 of coal ash. Coal ash has been determined by EPA  
11 to be non-hazardous. However, it does contain  
12 hazardous constituents including lead, arsenic,  
13 cadmium, barium, lithium.  
14 Next, some significant historical  
15 events related to coal ash. A large coal ash  
16 spill at a TVA site in Kingston, Tennessee, in  
17 2008 drew the attention of environmental  
18 regulators and the nation to the CCR issue. In  
19 2010, EPA published a draft Federal CCR rule to  
20 address coal ash concerns. A second spill at the  
21 Duke Energy facility in Dan River, North  
22 Carolina, in 2014 reinforced concerns about coal  
23 ash impoundments. The Federal CCR rule became

Page 7

1 final in 2015, but several portions were  
2 subsequently subjected to court challenges and  
3 those portions are currently in the process of  
4 being amended.  
5 The 2015 Federal CCR rule required  
6 utilities to have a record of tests of  
7 groundwater near all coal ash ponds no later than  
8 January 31, 2018, and to publish the findings on  
9 their website within 30 days. Upon disclosure  
10 that releases to groundwater from CCR  
11 impoundments in Alabama had occurred, ADEM  
12 commenced enforcement actions which included  
13 assessing the maximum allowable monetary  
14 penalties and initiating the steps to remediate  
15 the impacted groundwater.  
16 In order to obtain state authority  
17 over the regulation of coal ash and expand on the  
18 Federal CCR rule, the Department proposed  
19 rulemaking to adopt a State CCR rule. At the  
20 April 2018 Alabama Environmental Management  
21 Commission meeting, the Commission approved the  
22 ADEM CCR rule. The State CCR rule was patterned  
23 after the Federal CCR rule. The ADEM CCR rule

Page 8

1 was submitted to EPA in June of 2018 for  
2 approval. Approval by EPA requires the ADEM CCR  
3 program to be, I quote, at least as protective as  
4 the Federal CCR program, closed quote. EPA CCR  
5 rule amendments to respond to court mandates are  
6 going through the federal rulemaking process  
7 which is expected to be complete in early 2020.  
8 After EPA's rulemaking is complete and the  
9 conforming amendments are made to the ADEM CCR  
10 rule, EPA is anticipated to act on approving the  
11 ADEM CCR rule. Until EPA approves the ADEM CCR  
12 rule, CCR generators are required to comply with  
13 both the State and the Federal CCR rules.  
14 The two primary issues related to  
15 CCR are the closure of unlined impoundments and  
16 the remediation of groundwater contamination  
17 caused by CCR. Both of these issues will be  
18 addressed in the permit to be issued for each CCR  
19 site in Alabama.  
20 This slide shows the nine sites in  
21 Alabama where CCR have been deposited. On the  
22 nine sites there are eleven surface impoundments  
23 and three coal ash landfills that fall under the

Page 9

1 CCR rules. There are also two legacy units not  
2 covered by the CCR rules. The six red dots show  
3 sites with nine individual surface impoundments  
4 that have not yet been closed, along with three  
5 landfills that have not been closed. The blue  
6 dots show the two sites where surface  
7 impoundments subject to the CCR rules have  
8 already been capped. However, these closures  
9 have not yet received ADEM approval. The yellow  
10 dots represent the two legacy units in Alabama  
11 that are not currently covered by the Federal and  
12 State CCR rules because they were closed before  
13 the date to qualify for coverage by CCR rules.  
14 Of the 16 total units in Alabama, five are lined  
15 and will remain operational.  
16 The closure issue has received the  
17 most attention nationally, and we will look at it  
18 first. The adoption of the ADEM CCR rule  
19 provided the authority to require the closure of  
20 unlined CCR impoundments within the state. There  
21 are two methods of closure allowable under the  
22 Federal CCR rules and likewise under the ADEM CCR  
23 rules. Clean closure is the removal of coal ash

Page 10

1 from an unlined impoundment and then recycling it  
2 or placing it in a lined landfill. And the other  
3 method is closure-in-place which is the covering  
4 of the impoundment with an impervious cover  
5 material. The footprint of the impoundment may  
6 or may not be reduced by consolidation before  
7 capping. Both methods require dewatering of the  
8 coal ash material before closure.  
9 EPA has determined that nationwide  
10 approximately 31 percent of the unlined coal ash  
11 impoundments will be clean closed. It should be  
12 noted that some portion of the clean closures  
13 will be the consolidation of one or more unlined  
14 impoundments into another unlined impoundment  
15 that will then be capped and closed-in-place.  
16 North Carolina and Virginia have taken  
17 legislative action to mandate the clean closure  
18 method for all unlined impoundments in their  
19 respective states.  
20 There are pros and cons to each  
21 closure method. For clean closure, the pros are:  
22 Once the material is removed, there is no longer  
23 the possibility of future releases to

Page 11

1 groundwater; and, since most impoundments are  
2 very near surface waterbodies, removal can move  
3 the material away from those bodies of water.  
4 On the con side, it takes much  
5 longer to clean close because the material must  
6 be moved rather than covered. It involves heavy  
7 truck traffic for an extended period of time.  
8 And the site to which the coal ash is delivered  
9 can potentially have issues such as resistance by  
10 those living near the new site.  
11 For closure-in-place, the pros are:  
12 Faster exposure control; and, minimal truck  
13 traffic and the risks associated with truck  
14 traffic.  
15 The cons include possible future  
16 releases to groundwater and continued proximity  
17 to surface waterbodies. You will note that the  
18 cost of one method versus the other is not listed  
19 in the pros and cons. The reason is that cost is  
20 not a factor considered by ADEM in assessing  
21 closure plans.  
22 There have been questions from the  
23 public on the process and the opportunity for

Page 12

1 public input on how closure plans are developed  
2 and approved. There are a number of steps  
3 involved. The process begins with a utility  
4 submitting to ADEM a permit application which  
5 includes proposed closure plans. This was done  
6 in December of 2018. An iterative process then  
7 takes place between ADEM and the utility to  
8 assure the final closure plans meet all technical  
9 regulatory requirements of the ADEM CCR rule.  
10 This is underway and is expected to be complete  
11 by mid year 2020. As is the case with every  
12 permit from ADEM, these permits, including the  
13 closure plans, must be protective of human health  
14 and the environment. The technical regulatory  
15 requirements for the closure of CCR impoundments  
16 are consistent with the EPA and ADEM requirements  
17 that have been in development and use for at  
18 least 40 years for the closure of hazardous waste  
19 sites. ADEM is encouraging CCR generators to go  
20 beyond the minimum requirements of the CCR rule.  
21 After the utility submits a complete  
22 and technically correct application, ADEM will  
23 draft a permit with a closure plan for each

Page 13

1 impoundment site. The next step in the process  
2 will involve the public. There will be a 35-day  
3 public comment period on the draft permit  
4 including the closure plan. And during the  
5 public comment period, and following 35 days  
6 notice, ADEM will hold a public hearing near each  
7 impoundment site to receive comments on that  
8 site's proposed permit. If the permit  
9 application including the closure plan meets the  
10 requirements of the Federal and State CCR rules,  
11 it will be approved by ADEM and closure will be  
12 commenced.

13 This next slide addresses the second  
14 primary CCR issue, remediation. The groundwater  
15 remediation requirement is the result of both an  
16 enforcement action for unpermitted releases under  
17 ADEM groundwater rules and the ADEM CCR rule.  
18 State enforcement action was enabled when the  
19 Federal CCR rule required mandatory groundwater  
20 testing near CCR units and the publishing of the  
21 testing results. Groundwater remediation is  
22 required for all CCR impoundment sites where  
23 groundwater contamination has occurred,

Page 14

1 regardless of which closure method is used.  
2 As with the development of closure  
3 plans, the groundwater remediation portion of the  
4 CCR permit requires a number of steps. The  
5 process begins with the submission by the  
6 impoundment operator of plans for sampling both  
7 unimpacted and impacted groundwater near the  
8 impoundment site. Upon approval of the sampling  
9 plans by ADEM, sampling of the unimpacted  
10 groundwater takes place and the normal background  
11 levels of naturally occurring elements such as  
12 arsenic, lead, barium, and so forth, in the  
13 groundwater are determined. Next, the impacted  
14 groundwater is sampled and assessed to determine  
15 what levels of contamination above normal  
16 background exist and the boundary of the  
17 contamination.

18 Next, an assessment of possible  
19 corrective measures is performed to determine the  
20 best alternative for obtaining results. The  
21 utility will then hold public meetings near each  
22 impoundment site to discuss the proposed  
23 remediation plan for that site. Upon approval by

Page 15

1 ADEM, the selected corrective measures are  
2 implemented. Groundwater remediation progress is  
3 monitored by ADEM and, if necessary, plans are  
4 adjusted during implementation to achieve ADEM  
5 cleanup standards.

6 As you can see, the process to  
7 address coal ash issues in Alabama is well  
8 underway, but much is left to be done. Future  
9 reports will keep you and the public updated on  
10 progress. A video covering the points just made  
11 as well as additional information on CCR is  
12 available on our website by selecting "ADEM  
13 Programs" in the gray area at the top left, then  
14 clicking "Waste/Remediation" on the next display  
15 and scrolling down to "CCR."

16 The second environmental contaminant  
17 being addressed in today's report is also an  
18 issue throughout the nation and here in Alabama  
19 and it involves per and poly fluorinated alkyl  
20 substances abbreviated as PFAS. This family of  
21 substances is characterized by a chemical bond  
22 between carbon and fluorine that is exceptionally  
23 strong, making them very stable. Because they

Page 16

1 are so stable, they persist in the environment  
2 which in turn allows them to accumulate in  
3 humans.

4 We begin with some background and  
5 concerns related to PFAS. This family of  
6 chemicals has been produced and used since the  
7 1940s. There are at least 5,000 chemical  
8 compounds in this family. The stability and  
9 other characteristics make them useful as  
10 firefighting foams, oil and moisture resistant  
11 food packaging, clothing fire retardants, high  
12 temperature sealants and gasket materials, and  
13 many other applications used by the public every  
14 day. Until the early 2000s, these materials were  
15 considered safe from a health perspective and  
16 extremely beneficial for their usefulness. In  
17 the early 2000s, regulators began investigating  
18 potential health impacts of PFAS accumulating in  
19 humans.

20 Around this time, high doses of PFAS  
21 were found to cause reproductive and other  
22 anomalies in lab animals. In 2009 EPA developed  
23 a provisional health advisory for two PFAS

Page 17

1 compounds, PFOA and PFOS. EPA advised that  
2 individuals, especially pregnant and nursing  
3 mothers, who consume drinking water consistently  
4 over a lifetime that has a concentration of more  
5 than 400 parts per trillion of PFOA or 200 parts  
6 per trillion of PFOS may have a higher risk of  
7 adverse health impacts. In 2016 EPA reduced the  
8 threshold for a lifetime of exposure health  
9 advisory level to 70 parts per trillion for any  
10 combination of PFOA and PFOS.

11 The regulation of PFAS is a  
12 developing issue. Despite having issued a health  
13 advisory for a lifetime of exposure, EPA has not  
14 set a standard, called a Maximum Contaminant  
15 Level or MCL, for PFOA, PFOS, or any other PFAS  
16 compound in drinking water, nor has EPA set water  
17 quality criteria or cleanup standards for soil  
18 and groundwater. EPA is currently engaged in the  
19 scientific and regulatory process to determine  
20 the toxicity level of PFAS that will then allow  
21 it to set standards. Without standards, ADEM has  
22 no scientific basis upon which to set drinking  
23 water MCLs, PFAS discharge limits, or PFAS

Page 18

1 cleanup standards. PFAS chemicals do fall under  
2 the federal Toxic Substances Control Act, TSCA,  
3 which is administered solely by EPA. Under TSCA,  
4 EPA is able to restrict the discharge of  
5 chemicals such as PFAS where toxicity has not  
6 been determined.

7 Although no PFAS drinking water  
8 standards, discharge limits, or cleanup standards  
9 exist, the Department has nevertheless undertaken  
10 a number of initiatives to address the PFAS issue  
11 in Alabama. A program is in place to complete  
12 the testing of all the public drinking water  
13 systems in Alabama for the presence of a panel of  
14 PFAS compounds. All public drinking water  
15 systems where PFOA and PFOS concentrations in the  
16 finished water are at or above the lifetime  
17 exposure health advisory level have been detected  
18 and are required to report that information to  
19 their customers. Granulated Activated Carbon  
20 systems have been or are being installed to  
21 remove PFAS from those drinking water systems  
22 reporting PFOA and PFOS at or above the lifetime  
23 exposure health advisory level. ADEM is

Page 19

1 identifying primary and secondary sources of PFAS  
2 compounds present in Alabama.

3 The Department required the  
4 development and implementation of a PFAS  
5 Reduction Plan at the one primary source of PFAS  
6 in Alabama, which is a manufacturer. The program  
7 was initiated in 2009, expanded in 2012, and in  
8 conjunction with EPA is being expanded again in  
9 2019. The plan calls for continued monitoring  
10 and timely reporting of all PFAS releases.

11 Continued employment of best management practices  
12 and control technologies to minimize discharges  
13 of PFAS including the installation and operation  
14 of a Granulated Activated Carbon system and other  
15 control measures to remove a very high percentage  
16 of the PFAS from process wastewater. Performing  
17 a comprehensive assessment of all locations where  
18 PFAS compounds produced have been disposed of  
19 both on site and off site. Undertaking an array  
20 of studies to determine what PFAS compounds are  
21 present in the environment in the vicinity of the  
22 manufacturing facility including surface water,  
23 groundwater, and soil. Undertaking toxicity

Page 20

1 studies for the PFAS manufactured at the  
2 facility. And, finally, the PFAS Reduction Plan  
3 will be updated in the future, in particular when  
4 PFAS standards are developed by EPA.

5 Additionally, at the request of ADEM, a  
6 comprehensive analysis of PFAS compounds from  
7 interstate sources on the Coosa River system is  
8 being performed by EPA.

9 The third and final environmental  
10 contaminant of considerable public concern being  
11 addressed in today's report is lead in drinking  
12 water. This is an update on the lead testing and  
13 control program the Department has underway.

14 Lead is below detection levels in the drinking  
15 water produced by all public drinking water  
16 systems in Alabama. However, lead can enter the  
17 drinking water consumed by the public if it is  
18 delivered through piping or fixtures that contain  
19 lead at or near the point of delivery. Although  
20 lead piping and lead containing fixtures have  
21 been banned for many years, there are some older  
22 piping and fixtures that were placed in service  
23 before the ban.



Page 21

1 The Department has undertaken a  
2 number of initiatives that were not required by  
3 statute or regulation to address public concerns  
4 over lead in drinking water. In 2016, ADEM and  
5 the State Department of Education initiated a  
6 program to test for lead in drinking water from  
7 fixtures at every public school in Alabama. It  
8 was developed to provide an added level of  
9 protection for school aged children who are the  
10 most vulnerable to the adverse impacts of lead.  
11 At the time it was one of only two or three such  
12 programs in the nation. The testing has now been  
13 expanded to cover day care facilities and all  
14 Pre-K programs in the state. The program has  
15 been very successful. Of the nearly 5,300  
16 fixtures tested, 30 (less than six-tenths of one  
17 percent) tested above the action level for the  
18 presence of lead and each of those fixtures was  
19 either replaced or taken out of service.  
20 Any interested parent or other party  
21 can view the results for any tested school on the  
22 ADEM website by going to the "What's Happening in  
23 Your County" icon on the front of the webpage.

Page 22

1 In Alabama parents can enjoy the peace of mind  
2 knowing the drinking water at school has been  
3 tested and shown to be safe. Recently, EPA has  
4 proposed to update the federal rule dealing with  
5 lead in drinking water and the new rules would  
6 require all public schools to be tested in a  
7 manner similar to the testing here in Alabama.  
8 In fact, I am pleased to report that in  
9 recognition of Alabama's leadership, EPA selected  
10 Montgomery, Alabama, as the site to announce the  
11 new rule in EPA Region 4, which is made up of the  
12 eight southeastern states.  
13 That concludes today's report. I  
14 will be pleased to answer any questions you may  
15 have.  
16 CHAIRMAN MILLER: Any questions  
17 from Commissioners?  
18 MR. WALTERS: Yes, I have one.  
19 It has to do with the commentary on the CCR  
20 closure methods. And you listed a pro I think  
21 for the removal -- clean closure as --  
22 CHAIRMAN MILLER: Turn on your  
23 mic.

Page 23

1 MR. WALTERS: How do I turn on  
2 the mic?  
3 There it is. Now I can see. I  
4 adjusted the microphone.  
5 DIRECTOR LeFLEUR: I saw that.  
6 I saw that.  
7 MR. WALTERS: I thought. I  
8 thought. All right. So, anyhow, in the clean  
9 closure you listed a pro as it's obviously being  
10 taken away from the surface water impoundment or  
11 proximity. Which, by my interpretation, would be  
12 after it's completed, which as you stated is a  
13 lengthy process.  
14 DIRECTOR LeFLEUR: Correct.  
15 MR. WALTERS: On the other side,  
16 from the standpoint of cap-in-place, would not it  
17 also, after it's capped-in-place, remove it in  
18 essence from its -- although it still remains  
19 close to the surface water, since it's capped,  
20 they seem almost equivalent once the closure is  
21 completed.  
22 DIRECTOR LeFLEUR: You're  
23 correct. Removing the material means there's

Page 24

1 nothing there that can contaminate groundwater.  
2 Whereas, in the cap-in-place if the cap were to  
3 fail or something such as that then there would  
4 be that potential.  
5 MR. WALTERS: So really both  
6 methods, until it's completed, are still  
7 susceptible to the risk of surface water  
8 contamination for all practical purposes, until  
9 it's completed? All right. Thanks for that  
10 clarification.  
11 DIRECTOR LeFLEUR: Okay. Thank  
12 you.  
13 CHAIRMAN MILLER: Any further  
14 questions?  
15 MR. WALTERS: Thanks for showing  
16 me where the button is.  
17 CHAIRMAN MILLER: Okay. All  
18 right. Thank you, Mr. Director.  
19 DIRECTOR LeFLEUR: Thank you.  
20 CHAIRMAN MILLER: The next item  
21 is the report from the Commission Chair, and I  
22 don't have anything to report at this point other  
23 than the fact that we are considering having some

Page 25

1 seminars for the Commission on the PFAS problem.  
2 And hopefully in the next few months we can get  
3 that done.  
4 Is there any other business that any  
5 of the Commissioners would like to bring forward?  
6 (No response.)  
7 CHAIRMAN MILLER: We have future  
8 business sessions lined up at February 14th,  
9 April 10th, June 12th, August 14th, October 9th,  
10 and December 11th of 2020. As you will notice,  
11 these are all the second Friday of the month  
12 rather than the third Friday because of some new  
13 rulemaking problems.  
14 I will for sure not be here on  
15 February 14th. I don't know if that's -- I've  
16 asked Lanier if he's going to be here. As far as  
17 he knows, he will be I think.  
18 But are there any other conflicts  
19 that you know of?  
20 MR. WALTERS: I know I won't be  
21 here on August 14th, but that's only other.  
22 MR. McKINSTRY: I will miss the  
23 February 14th meeting as well.

Page 26

1 CHAIRMAN MILLER: You will?  
2 Well, we'll still have a quorum I  
3 guess. All right. Very good.  
4 All right. Now, let's see. Let's  
5 adopt these proposed Commission dates, if  
6 everybody is all right with doing that.  
7 Do I have a motion to adopt the  
8 hearing dates?  
9 VICE-CHAIR BROWN: So moved.  
10 MR. MASINGILL: Second.  
11 CHAIRMAN MILLER: All right.  
12 Any further discussion?  
13 (No response.)  
14 CHAIRMAN MILLER: All in favor  
15 say "aye."  
16 (All Commissioners signify with  
17 "aye.")  
18 CHAIRMAN MILLER: All opposed,  
19 "no."  
20 (No response.)  
21 CHAIRMAN MILLER: Okay. Our  
22 next item here is public comment period. We have  
23 a request from Michael Mullen to speak this

Page 27

1 morning.  
2 MR. MULLEN: Thank you, ladies  
3 and gentlemen. First, I want to thank you for  
4 serving, being out in this weather and doing this  
5 sort of thing. I also want to thank you-all for  
6 probably, after what happened at the Public  
7 Service Commission -- probably being the best  
8 state agency for handling public comment and  
9 allowing public comment. So I thank you for the  
10 opportunity to make that comment.  
11 I hate to be repetitive, but I want  
12 to really go back once more to the statement of  
13 your mission statement to ensure that all  
14 citizens in the state have a safe, healthful, and  
15 productive environment. You know, ADEM has had a  
16 number of fumbles recently that really don't meet  
17 that statement. Opposing the ABC Coke site  
18 listing. I think there were some fumbles of  
19 notification and how to notify people about the  
20 PFAS notification. Just had one just a minute  
21 ago. You know, you're talking about the coal ash  
22 hazard as if it's only a groundwater hazard.  
23 After you just had a mention of the failures in

Page 28

1 Kingston and the failures in North Carolina, when  
2 these large facilities are sitting right next to  
3 our waterbodies, one of them not far upstream  
4 from Mobile Bay. The risk of contamination is  
5 horrendous. You know, I'm not a risk assessment  
6 person. But even if there's a small risk of it  
7 happening, when the consequences are very high  
8 those risks have to be considered.  
9 ADEM has had some fumbles in  
10 promptly notifying the public of spills into  
11 recreational waters that involve bacteriological  
12 contamination. It's bent its own rules in  
13 landfill permitting. It bent its own rules or  
14 violated the state rule for landfill cover.  
15 I'm going to go back today and  
16 inspect a construction site which has been out of  
17 compliance on a regular basis since -- I don't  
18 know whether it's the end of 2018 or the  
19 beginning of this year. And I can almost  
20 guarantee you it's going to be out of compliance  
21 again because of inadequate BMPs. I inspected  
22 one -- a huge site in the Tennessee Valley for  
23 Tennessee Riverkeeper as a CPSC that got a notice

Page 29

1 in February of this year and still was out of  
2 compliance in October.  
3       So it's hardly as if the Department  
4 and its director appear to be striving or hitting  
5 the mark on meeting that mission statement.  
6 Things like coal ash, things like climate change  
7 that's going to affect everything with water  
8 quality, you guys are missing the boat, too,  
9 because you're not doing your job as far as  
10 making policy.  
11       Now, I know you don't have resources  
12 to do it. But you need to be finding the  
13 resources to go out and get some of our  
14 university people, our consultants, and  
15 developing policy. So we don't have pending  
16 disasters like we may have with the coal ash.  
17 It's just amazing to me that nobody mentions the  
18 risk of failure of those containment ponds. It's  
19 like the groundwater is only there. It's sort of  
20 like if it doesn't come from EPA, we're not going  
21 to address it. You have a duty. You have a duty  
22 to the state as Commissioners to provide a safe,  
23 healthy, productive environment for the people of

Page 30

1 Alabama. And that's all I have. Thank you.  
2       CHAIRMAN MILLER: Thank you,  
3 Mr. Mullen.  
4       Mayor McCarty, you didn't quite make  
5 it on the list, but we're going to ask you to  
6 speak.  
7       MAYOR McCARTY: I struggled  
8 valiantly to get here, and I very much appreciate  
9 you allowing me to speak.  
10       It's an interesting thing going on  
11 right now in North Carolina. Duke Energy is  
12 trying to get their insurance companies to help  
13 them pay for some coal ash cleanup. The  
14 insurance companies are refusing. They're suing  
15 back and forth each other. The insurance  
16 companies have made a statement, an allegation in  
17 their filing saying something to the effect of,  
18 We're not paying because you intentionally  
19 polluted with this coal ash. And if you didn't  
20 intentionally do it, you had substantial  
21 knowledge that this would happen.  
22       If you're backing out of your  
23 driveway, Dr. Miller, and you back into your

Page 31

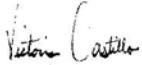
1 neighbor's car, it's unintentional. Even if you  
2 were negligent in doing that, your insurance  
3 company is going to cover it. But if you go out  
4 with a sledgehammer and you beat your neighbor's  
5 car down, the insurance company is going to say,  
6 That was intentional, we're not going to do that,  
7 we're not going to cover that. The insurance  
8 companies say, We all know, everybody knows that  
9 these unlined ponds pollute the groundwater.  
10       Mr. Walters your question earlier  
11 about a con on the cap-in-place that it -- the  
12 way Mr. LeFleur phrased it was it may pollute the  
13 groundwater. It may actually have a failure and  
14 ruin the river, but it will, it does pollute the  
15 groundwater forever. That is, show me, please,  
16 if you know of one, show me a capped-in-place  
17 facility that does not pollute the groundwater.  
18 Name one anywhere. There's not one.  
19       The French philosopher Voltaire  
20 said, If you can -- Those who can make you  
21 believe an absurdity can make you commit an  
22 atrocity. It's absurd to even suggest that a  
23 capped-in-place, unlined coal ash pond is not

Page 32

1 going to pollute the groundwater. It is. That's  
2 just a fact. They all do.  
3       So if you knowingly believe or  
4 acquiesce to that and you leave that coal ash  
5 unlined in place, you are committing or at least  
6 aiding and abetting an atrocity. And that's not  
7 hyperbole. I've got people living right on top  
8 of this stuff. Thank you for your time.  
9       CHAIRMAN MILLER: Thank you.  
10       I think our next item of business is  
11 perhaps a proposal to adjourn.  
12       DR. PERRY: I move to adjourn.  
13       MR. MASINGILL: Second.  
14       CHAIRMAN MILLER: All in favor  
15 say "aye."  
16       (All Commissioners signify with  
17 "aye.")  
18       CHAIRMAN MILLER: All opposed,  
19 "no."  
20       (No response.)  
21       CHAIRMAN MILLER: All right. We  
22 are adjourned. Thank you.  
23       (The meeting concluded at



1 11:47 a.m.)  
2 \*\*\*\*\*  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23

1 STATE OF ALABAMA)  
2 COUNTY OF ELMORE)  
3  
4 I hereby certify that the above  
5 proceedings were taken down by me and transcribed  
6 by me using computer-aided transcription and that  
7 the above is a true and accurate transcript of  
8 said proceedings taken down by me and transcribed  
9 by me.  
10 I further certify that I am neither  
11 of kin nor of counsel to any of the parties nor  
12 in anywise financially interested in the outcome  
13 of this case.  
14 I further certify that I am duly  
15 licensed by the Alabama Board of Court Reporting  
16 as a Certified Court Reporter as evidenced by the  
17 ACCR number following my name found below.  
18  
19  
20  
21   
22 VICTORIA CASTILLO, ACCR #17, 9/30/20  
23 FREELANCE COURT REPORTER

	18:23;20:5;21:4,22; 27:15;28:9	29:17	6:17;9:17	29:8
*	<b>adjourn (2)</b>	<b>amended (1)</b> 7:4	<b>August (2)</b> 25:9,21	<b>bodies (1)</b> 11:3
***** (1) 33:2	32:11,12 <b>adjourned (1)</b> 32:22	<b>amendments (2)</b> 8:5,9	<b>authority (2)</b> 7:16;9:19	<b>boiler (1)</b> 6:5
<b>A</b>	<b>adjusted (2)</b> 15:4;23:4	<b>analysis (1)</b> 20:6	<b>available (1)</b> 15:12	<b>bond (1)</b> 15:21
<b>abbreviated (1)</b> 15:20	<b>administered (1)</b> 18:3	<b>animals (1)</b> 16:22	<b>away (2)</b> 11:3;23:10	<b>both (8)</b> 5:19;8:13,17;10:7; 13:15;14:6;19:19;24:5
<b>ABC (1)</b> 27:17	<b>adopt (4)</b> 3:11;7:19;26:5,7	<b>announce (1)</b> 22:10	<b>aye (8)</b> 3:16,18;4:18,20; 26:15,17;32:15,17	<b>bottom (1)</b> 6:3
<b>abetting (1)</b> 32:6	<b>adoption (1)</b> 9:18	<b>anomalies (1)</b> 16:22	<b>B</b>	<b>boundary (1)</b> 14:16
<b>able (1)</b> 18:4	<b>advanced (1)</b> 3:10	<b>anticipated (1)</b> 8:10	<b>back (4)</b> 27:12;28:15;30:15, 23	<b>bring (1)</b> 25:5
<b>above (4)</b> 14:15;18:16,22; 21:17	<b>adverse (2)</b> 17:7;21:10	<b>appear (1)</b> 29:4	<b>background (3)</b> 14:10,16;16:4	<b>BROWN (4)</b> 3:13;4:4,10;26:9
<b>absurd (1)</b> 31:22	<b>advised (1)</b> 17:1	<b>application (3)</b> 12:4,22;13:9	<b>backing (1)</b> 30:22	<b>business (4)</b> 3:6;25:4,8;32:10
<b>absurdity (1)</b> 31:21	<b>advisory (5)</b> 16:23;17:9,13;18:17, 23	<b>applications (1)</b> 16:13	<b>bacteriological (1)</b> 28:11	<b>button (1)</b> 24:16
<b>accept (1)</b> 4:11	<b>affect (1)</b> 29:7	<b>appreciate (1)</b> 30:8	<b>baghouse (1)</b> 6:5	<b>C</b>
<b>accumulate (1)</b> 16:2	<b>again (2)</b> 19:8;28:21	<b>Approval (5)</b> 8:2,2;9:9;14:8,23	<b>ban (1)</b> 20:23	<b>cadmium (1)</b> 6:13
<b>accumulating (1)</b> 16:18	<b>aged (1)</b> 21:9	<b>approved (3)</b> 7:21;12:2;13:11	<b>banned (1)</b> 20:21	<b>call (3)</b> 3:4;4:18;5:2
<b>achieve (1)</b> 15:4	<b>agency (1)</b> 27:8	<b>approves (1)</b> 8:11	<b>barium (2)</b> 6:13;14:12	<b>called (1)</b> 17:14
<b>acquiesce (1)</b> 32:4	<b>ago (1)</b> 27:21	<b>approving (1)</b> 8:10	<b>basis (2)</b> 17:22;28:17	<b>calls (1)</b> 19:9
<b>act (2)</b> 8:10;18:2	<b>aiding (1)</b> 32:6	<b>approximately (1)</b> 10:10	<b>Bay (1)</b> 28:4	<b>can (14)</b> 5:18;11:2,9;15:6; 20:16;21:21;22:1;23:3; 24:1;25:2;28:19;31:20, 20,21
<b>action (4)</b> 10:17;13:16,18; 21:17	<b>Alabama (19)</b> 5:20;7:11,20;8:19, 21:9;10:14;15:7,18; 18:11,13;19:2,6;20:16; 21:7;22:1,7,10;30:1	<b>April (2)</b> 7:20;25:9	<b>beat (1)</b> 31:4	<b>cap (1)</b> 24:2
<b>actions (1)</b> 7:12	<b>Alabama's (1)</b> 22:9	<b>area (1)</b> 15:13	<b>became (1)</b> 6:23	<b>cap-in-place (3)</b> 23:16;24:2;31:11
<b>Activated (2)</b> 18:19;19:14	<b>alkyl (2)</b> 5:9;15:19	<b>Around (1)</b> 16:20	<b>began (2)</b> 3:1;16:17	<b>capped (3)</b> 9:8;10:15;23:19
<b>actually (1)</b> 31:13	<b>allegation (1)</b> 30:16	<b>array (1)</b> 19:19	<b>begin (2)</b> 5:21;16:4	<b>capped-in-place (3)</b> 23:17;31:16,23
<b>added (1)</b> 21:8	<b>allow (1)</b> 17:20	<b>arsenic (2)</b> 6:12;14:12	<b>beginning (1)</b> 28:19	<b>capping (1)</b> 10:7
<b>additional (1)</b> 15:11	<b>allowable (2)</b> 7:13;9:21	<b>ash (26)</b> 5:14,16,19;6:3,3,10, 10,15,15,20,23;7:7,17; 8:23;9:23;10:8,10; 11:8;15:7;27:21;29:6, 16;30:13,19;31:23; 32:4	<b>begins (2)</b> 12:3;14:5	<b>captured (1)</b> 6:4
<b>Additionally (1)</b> 20:5	<b>allowing (2)</b> 27:9;30:9	<b>assessed (1)</b> 14:14	<b>below (1)</b> 20:14	<b>car (2)</b> 31:1,5
<b>address (5)</b> 6:20;15:7;18:10; 21:3;29:21	<b>allows (1)</b> 16:2	<b>assessing (2)</b> 7:13;11:20	<b>beneficial (1)</b> 16:16	<b>carbon (3)</b> 15:22;18:19;19:14
<b>addressed (3)</b> 8:18;15:17;20:11	<b>almost (2)</b> 23:20;28:19	<b>assessment (3)</b> 14:18;19:17;28:5	<b>bent (2)</b> 28:12,13	<b>care (1)</b> 21:13
<b>addresses (1)</b> 13:13	<b>along (1)</b> 9:4	<b>associated (1)</b> 11:13	<b>best (3)</b> 14:20;19:11;27:7	<b>Carolina (4)</b> 6:22;10:16;28:1; 30:11
<b>ADEM (34)</b> 7:11,22,23;8:2,9,11, 11;9:9,18,22;11:20; 12:4,7,9,12,16,19,22; 13:6,11,17,17;14:9; 15:1,3,4,12;17:21;	<b>alternative (1)</b> 14:20	<b>assure (1)</b> 12:8	<b>beyond (1)</b> 12:20	<b>case (1)</b> 12:11
	<b>Although (3)</b> 18:7;20:19;23:18	<b>atrocious (2)</b> 31:22;32:6	<b>blue (1)</b> 9:5	<b>cause (1)</b> 16:21
	<b>amazing (1)</b>	<b>attention (2)</b>	<b>BMPs (1)</b> 28:21	
			<b>boat (1)</b>	

<p><b>caused (1)</b> 8:17</p> <p><b>CCR (48)</b> 5:13,23;6:18,19,23; 7:5,10,18,19,22,22,23, 23;8:2,4,4,9,11,11,12, 13,15,17,18,21;9:1,2,7, 12,13,18,20,22,22; 12:9,15,19,20;13:10, 14,17,19,20,22;14:4; 15:11,15;22:19</p> <p><b>Chair (3)</b> 4:2,12;24:21</p> <p><b>CHAIRMAN (26)</b> 3:3,15,19,21;4:4,8, 14,17,21;5:1,22;16,22; 24:13,17,20;25:7;26:1, 11,14,18,21;30:2;32:9, 14,18,21</p> <p><b>challenges (1)</b> 7:2</p> <p><b>change (1)</b> 29:6</p> <p><b>characteristics (2)</b> 6:9;16:9</p> <p><b>characterized (1)</b> 15:21</p> <p><b>chemical (3)</b> 6:7;15:21;16:7</p> <p><b>chemicals (3)</b> 16:6;18:1,5</p> <p><b>children (1)</b> 21:9</p> <p><b>circulated (1)</b> 3:9</p> <p><b>cited (1)</b> 4:11</p> <p><b>citizens (1)</b> 27:14</p> <p><b>clarification (1)</b> 24:10</p> <p><b>Clean (8)</b> 9:23;10:11,12,17,21; 11:5;22:21;23:8</p> <p><b>cleanup (5)</b> 15:5;17:17;18:1,8; 30:13</p> <p><b>clicking (1)</b> 15:14</p> <p><b>climate (1)</b> 29:6</p> <p><b>close (2)</b> 11:5;23:19</p> <p><b>closed (5)</b> 8:4;9:4,5,12;10:11</p> <p><b>closed-in-place (1)</b> 10:15</p> <p><b>closure (26)</b> 8:15;9:16,19,21,23; 10:8,17,21,21;11:21; 12:1,5,8,13,15,18,23; 13:4,9,11;14:1,2;22:20, 21;23:9,20</p>	<p><b>closure-in-place (2)</b> 10:3;11:11</p> <p><b>closures (2)</b> 9:8;10:12</p> <p><b>clothing (1)</b> 16:11</p> <p><b>Coal (28)</b> 5:8,12,14,16,19,22; 6:1,10,10,15,15,20,22; 7:7,17;8:23;9:23;10:8, 10;11:8;15:7;27:21; 29:6,16;30:13,19; 31:23;32:4</p> <p><b>Coke (1)</b> 27:17</p> <p><b>combination (1)</b> 17:10</p> <p><b>Combustion (4)</b> 5:8,13,22;6:1</p> <p><b>coming (1)</b> 3:23</p> <p><b>commenced (2)</b> 7:12;13:12</p> <p><b>comment (6)</b> 13:3,5;26:22;27:8,9, 10</p> <p><b>commentary (1)</b> 22:19</p> <p><b>comments (1)</b> 13:7</p> <p><b>Commission (8)</b> 3:5;5:5;7:21,21; 24:21;25:1;26:5;27:7</p> <p><b>Commissioners (8)</b> 3:9,17;4:19;22:17; 25:5;26:16;29:22; 32:16</p> <p><b>commit (1)</b> 31:21</p> <p><b>Committee (2)</b> 4:1,3</p> <p><b>committees (2)</b> 3:22;4:11</p> <p><b>committing (1)</b> 32:5</p> <p><b>companies (4)</b> 30:12,14,16;31:8</p> <p><b>company (2)</b> 31:3,5</p> <p><b>complete (5)</b> 8:7,8;12:10,21;18:11</p> <p><b>completed (4)</b> 23:12,21;24:6,9</p> <p><b>compliance (3)</b> 28:17,20;29:2</p> <p><b>comply (1)</b> 8:12</p> <p><b>compound (1)</b> 17:16</p> <p><b>compounds (7)</b> 16:8;17:1;18:14; 19:2,18,20;20:6</p> <p><b>comprehensive (2)</b></p>	<p>19:17;20:6</p> <p><b>comprised (1)</b> 6:3</p> <p><b>con (2)</b> 11:4;31:11</p> <p><b>concentration (1)</b> 17:4</p> <p><b>concentrations (1)</b> 18:15</p> <p><b>concern (3)</b> 5:15,15;20:10</p> <p><b>concerns (4)</b> 6:20,22;16:5;21:3</p> <p><b>concluded (1)</b> 32:23</p> <p><b>concludes (1)</b> 22:13</p> <p><b>conflicts (1)</b> 25:18</p> <p><b>conforming (1)</b> 8:9</p> <p><b>conjunction (1)</b> 19:8</p> <p><b>cons (3)</b> 10:20;11:15,19</p> <p><b>consequences (1)</b> 28:7</p> <p><b>considerable (1)</b> 20:10</p> <p><b>consideration (1)</b> 3:7</p> <p><b>considered (3)</b> 11:20;16:15;28:8</p> <p><b>considering (1)</b> 24:23</p> <p><b>consistent (1)</b> 12:16</p> <p><b>consistently (1)</b> 17:3</p> <p><b>consolidation (2)</b> 10:6,13</p> <p><b>constituents (1)</b> 6:12</p> <p><b>construction (1)</b> 28:16</p> <p><b>consultants (1)</b> 29:14</p> <p><b>consume (1)</b> 17:3</p> <p><b>consumed (1)</b> 20:17</p> <p><b>contain (2)</b> 6:11;20:18</p> <p><b>containing (2)</b> 5:16;20:20</p> <p><b>containment (1)</b> 29:18</p> <p><b>contaminant (4)</b> 5:11;15:16;17:14; 20:10</p> <p><b>contaminants (3)</b> 5:8,18;6:8</p> <p><b>contaminate (1)</b></p>	<p>24:1</p> <p><b>contamination (7)</b> 8:16;13:23;14:15,17; 24:8;28:4,12</p> <p><b>continued (3)</b> 11:16;19:9,11</p> <p><b>control (5)</b> 11:12;18:2;19:12,15; 20:13</p> <p><b>Coosa (1)</b> 20:7</p> <p><b>corrective (2)</b> 14:19;15:1</p> <p><b>cost (2)</b> 11:18,19</p> <p><b>County (1)</b> 21:23</p> <p><b>court (2)</b> 7:2;8:5</p> <p><b>cover (5)</b> 10:4;21:13;28:14; 31:3,7</p> <p><b>coverage (1)</b> 9:13</p> <p><b>covered (3)</b> 9:2,11;11:6</p> <p><b>covering (2)</b> 10:3;15:10</p> <p><b>CPSC (1)</b> 28:23</p> <p><b>criteria (1)</b> 17:17</p> <p><b>current (1)</b> 5:7</p> <p><b>currently (3)</b> 7:3;9:11;17:18</p> <p><b>customers (1)</b> 18:19</p>	<p>8:21</p> <p><b>description (1)</b> 5:21</p> <p><b>Despite (1)</b> 17:12</p> <p><b>detected (1)</b> 18:17</p> <p><b>detection (1)</b> 20:14</p> <p><b>determine (4)</b> 14:14,19;17:19; 19:20</p> <p><b>determined (4)</b> 6:10;10:9;14:13; 18:6</p> <p><b>developed (4)</b> 12:1;16:22;20:4; 21:8</p> <p><b>developing (2)</b> 17:12;29:15</p> <p><b>development (3)</b> 12:17;14:2;19:4</p> <p><b>dewatering (1)</b> 10:7</p> <p><b>Director (9)</b> 5:2,3;23:5,14,22; 24:11,18,19;29:4</p> <p><b>disasters (1)</b> 29:16</p> <p><b>discharge (3)</b> 17:23;18:4,8</p> <p><b>discharges (1)</b> 19:12</p> <p><b>disclosure (1)</b> 7:9</p> <p><b>discuss (1)</b> 14:22</p> <p><b>discussion (1)</b> 26:12</p> <p><b>discussions (1)</b> 4:15</p> <p><b>display (1)</b> 15:14</p> <p><b>disposed (1)</b> 19:18</p> <p><b>done (3)</b> 12:5;15:8;25:3</p> <p><b>doses (1)</b> 16:20</p> <p><b>dots (3)</b> 9:2,6,10</p> <p><b>down (2)</b> 15:15;31:5</p> <p><b>DR (4)</b> 3:14;4:2;30:23; 32:12</p> <p><b>draft (3)</b> 6:19;12:23;13:3</p> <p><b>drew (1)</b> 6:17</p> <p><b>drinking (16)</b> 5:10;17:3,16,22; 18:7,12,14,21;20:11,</p>
<b>D</b>				
			<p><b>Dan (1)</b> 6:21</p> <p><b>date (1)</b> 9:13</p> <p><b>dates (2)</b> 26:5,8</p> <p><b>day (2)</b> 16:14;21:13</p> <p><b>days (2)</b> 7:9;13:5</p> <p><b>dealing (1)</b> 22:4</p> <p><b>December (3)</b> 3:4;12:6;25:10</p> <p><b>delivered (2)</b> 11:8;20:18</p> <p><b>delivery (1)</b> 20:19</p> <p><b>Department (7)</b> 7:18;18:9;19:3; 20:13;21:1,5;29:3</p> <p><b>deposited (1)</b></p>	

14,15,17;21:4,6;22:2,5 <b>driveway (1)</b> 30:23 <b>Duke (2)</b> 6:21;30:11 <b>during (2)</b> 13:4;15:4 <b>duty (2)</b> 29:21,21	7:20;15:16;20:9 <b>EPA (24)</b> 6:10,19;8:1,2,4,10, 11;10:9;12:16;16:22; 17:1,7,13,16,18;18:3,4; 19:8;20:4,8;22:3,9,11; 29:20 <b>EPA's (1)</b> 8:8 <b>equivalent (1)</b> 23:20 <b>especially (2)</b> 5:17;17:2 <b>essence (1)</b> 23:18 <b>even (3)</b> 28:6;31:1,22 <b>events (1)</b> 6:15 <b>everybody (2)</b> 26:6;31:8 <b>exceptionally (1)</b> 15:22 <b>exist (2)</b> 14:16;18:9 <b>expand (1)</b> 7:17 <b>expanded (3)</b> 19:7,8;21:13 <b>expected (2)</b> 8:7;12:10 <b>exposure (5)</b> 11:12;17:8,13;18:17, 23 <b>extended (1)</b> 11:7 <b>extremely (1)</b> 16:16	11:12 <b>favor (4)</b> 3:15;4:18;26:14; 32:14 <b>February (4)</b> 25:8,15,23;29:1 <b>Federal (14)</b> 6:19,23;7:5,18,23; 8:4,6,13;9:11,22;13:10, 19;18:2;22:4 <b>few (1)</b> 25:2 <b>filing (1)</b> 30:17 <b>final (3)</b> 7:1;12:8;20:9 <b>finally (1)</b> 20:2 <b>finding (1)</b> 29:12 <b>findings (1)</b> 7:8 <b>finished (1)</b> 18:16 <b>fire (1)</b> 16:11 <b>firefighting (1)</b> 16:10 <b>first (4)</b> 3:6;5:11;9:18;27:3 <b>fiscal (1)</b> 5:6 <b>five (1)</b> 9:14 <b>fixtures (6)</b> 20:18,20,22;21:7,16, 18 <b>flourine (1)</b> 15:22 <b>flue (1)</b> 6:7 <b>fluorinated (2)</b> 5:9;15:19 <b>fly (1)</b> 6:3 <b>foams (1)</b> 16:10 <b>focus (2)</b> 5:6,12 <b>following (1)</b> 13:5 <b>food (1)</b> 16:11 <b>footprint (1)</b> 10:5 <b>forever (1)</b> 31:15 <b>forth (2)</b> 14:12;30:15 <b>forward (1)</b> 25:5 <b>found (1)</b> 16:21	<b>French (1)</b> 31:19 <b>Friday (2)</b> 25:11,12 <b>front (1)</b> 21:23 <b>fumbles (3)</b> 27:16,18;28:9 <b>further (4)</b> 4:6,14;24:13;26:12 <b>future (5)</b> 10:23;11:15;15:8; 20:3;25:7	27:22,22 <b>hazardous (2)</b> 6:12;12:18 <b>health (9)</b> 12:13;16:15,18,23; 17:7,8,12;18:17,23 <b>healthful (1)</b> 27:14 <b>healthy (1)</b> 29:23 <b>hearing (2)</b> 13:6;26:8 <b>heavy (1)</b> 11:6 <b>help (1)</b> 30:12 <b>high (4)</b> 16:11,20;19:15;28:7 <b>higher (1)</b> 17:6 <b>historical (1)</b> 6:14 <b>hitting (1)</b> 29:4 <b>hold (2)</b> 13:6;14:21 <b>hopefully (1)</b> 25:2 <b>horrendous (1)</b> 28:5 <b>huge (1)</b> 28:22 <b>human (1)</b> 12:13 <b>humans (2)</b> 16:3,19 <b>hyperbole (1)</b> 32:7	
<b>E</b>			<b>G</b>		
<b>earlier (1)</b> 31:10 <b>early (3)</b> 8:7;16:14,17 <b>Education (1)</b> 21:5 <b>effect (1)</b> 30:17 <b>eight (1)</b> 22:12 <b>either (1)</b> 21:19 <b>election (1)</b> 3:22 <b>electric (1)</b> 6:2 <b>electricity (1)</b> 6:2 <b>electrostatic (1)</b> 6:5 <b>elements (1)</b> 14:11 <b>eleven (1)</b> 8:22 <b>employment (1)</b> 19:11 <b>enabled (1)</b> 13:18 <b>encouraging (1)</b> 12:19 <b>end (1)</b> 28:18 <b>Energy (2)</b> 6:21;30:11 <b>enforcement (3)</b> 7:12;13:16,18 <b>engaged (1)</b> 17:18 <b>enjoy (1)</b> 22:1 <b>ensure (1)</b> 27:13 <b>enter (1)</b> 20:16 <b>entertain (1)</b> 3:11 <b>environment (5)</b> 12:14;16:1;19:21; 27:15;29:23 <b>Environmental (8)</b> 3:5;5:5,7,11;6:17;	<b>F</b>		<b>gasket (1)</b> 16:12 <b>gasses (1)</b> 6:7 <b>generated (1)</b> 6:6 <b>generating (1)</b> 6:2 <b>generators (2)</b> 8:12;12:19 <b>gentlemen (1)</b> 27:3 <b>Good (2)</b> 5:4;26:3 <b>Granulated (2)</b> 18:19;19:14 <b>gray (1)</b> 15:13 <b>groundwater (28)</b> 5:18;7:7,10,15;8:16; 11:1,16;13:14,17,19, 21,23;14:3,7,10,13,14; 15:2;17:18;19:23;24:1; 27:22;29:19;31:9,13, 15,17;32:1 <b>guarantee (1)</b> 28:20 <b>guess (1)</b> 26:3 <b>guys (1)</b> 29:8	<b>I</b>	<b>icon (1)</b> 21:23 <b>identifying (1)</b> 19:1 <b>impacted (3)</b> 7:15;14:7,13 <b>impacts (3)</b> 16:18;17:7;21:10 <b>impervious (1)</b> 10:4 <b>implementation (2)</b> 15:4;19:4 <b>implemented (1)</b> 15:2 <b>implies (1)</b> 5:23 <b>impoundment (11)</b> 10:1,4,5,14;13:1,7, 22;14:6,8,22;23:10 <b>impoundments (13)</b> 5:16;6:23;7:11;8:15, 22;9:3,7,20;10:11,14,
			<b>H</b>		
			<b>handling (1)</b> 27:8 <b>happen (1)</b> 30:21 <b>happened (1)</b> 27:6 <b>Happening (2)</b> 21:22;28:7 <b>hardly (1)</b> 29:3 <b>hate (1)</b> 27:11 <b>hazard (2)</b>		

<p>18;11:1;12:15 <b>inadequate (1)</b> 28:21 <b>include (1)</b> 11:15 <b>included (1)</b> 7:12 <b>includes (1)</b> 12:5 <b>including (6)</b> 6:12;12:12;13:4,9; 19:13,22 <b>increasingly (1)</b> 5:14 <b>individual (1)</b> 9:3 <b>individuals (1)</b> 17:2 <b>information (2)</b> 15:11;18:18 <b>initiated (2)</b> 19:7;21:5 <b>initiating (1)</b> 7:14 <b>initiatives (2)</b> 18:10;21:2 <b>input (1)</b> 12:1 <b>inspect (1)</b> 28:16 <b>inspected (1)</b> 28:21 <b>installation (1)</b> 19:13 <b>installed (1)</b> 18:20 <b>insurance (6)</b> 30:12,14,15;31:2,5,7 <b>intentional (1)</b> 31:6 <b>intentionally (2)</b> 30:18,20 <b>interested (1)</b> 21:20 <b>interesting (1)</b> 30:10 <b>interpretation (1)</b> 23:11 <b>interstate (1)</b> 20:7 <b>into (3)</b> 10:14;28:10;30:23 <b>investigating (1)</b> 16:17 <b>involve (2)</b> 13:2;28:11 <b>involved (1)</b> 12:3 <b>involves (2)</b> 11:6;15:19 <b>issue (8)</b> 5:14,19;6:18;9:16; 13:14;15:18;17:12;</p>	<p>18:10 <b>issued (2)</b> 8:18;17:12 <b>issues (5)</b> 5:7;8:14,17;11:9; 15:7 <b>item (4)</b> 3:22;24:20;26:22; 32:10 <b>iterative (1)</b> 12:6</p> <p style="text-align: center;"><b>J</b></p> <p><b>January (1)</b> 7:8 <b>job (1)</b> 29:9 <b>John (1)</b> 4:4 <b>June (2)</b> 8:1;25:9</p> <p style="text-align: center;"><b>K</b></p> <p><b>keep (1)</b> 15:9 <b>Kevin (1)</b> 4:2 <b>Kingston (2)</b> 6:16;28:1 <b>knowing (1)</b> 22:2 <b>knowingly (1)</b> 32:3 <b>knowledge (1)</b> 30:21 <b>known (1)</b> 5:9 <b>knows (2)</b> 25:17;31:8</p> <p style="text-align: center;"><b>L</b></p> <p><b>lab (1)</b> 16:22 <b>ladies (1)</b> 27:2 <b>landfill (3)</b> 10:2;28:13,14 <b>landfills (2)</b> 8:23;9:5 <b>Lanier (2)</b> 4:4;25:16 <b>large (2)</b> 6:15;28:2 <b>later (1)</b> 7:7 <b>lead (15)</b> 5:10;6:12;14:12; 20:11,12,14,16,19,20, 20;21:4,6,10,18;22:5 <b>leadership (1)</b></p>	<p>22:9 <b>least (4)</b> 8:3;12:18;16:7;32:5 <b>leave (1)</b> 32:4 <b>LeFleur (8)</b> 5:2,3;23:5,14,22; 24:11,19;31:12 <b>left (2)</b> 15:8,13 <b>legacy (2)</b> 9:1,10 <b>legislative (1)</b> 10:17 <b>lengthy (1)</b> 23:13 <b>less (1)</b> 21:16 <b>level (7)</b> 17:9,15,20;18:17,23; 21:8,17 <b>levels (3)</b> 14:11,15;20:14 <b>lifetime (5)</b> 17:4,8,13;18:16,22 <b>likewise (1)</b> 9:22 <b>limits (2)</b> 17:23;18:8 <b>lined (3)</b> 9:14;10:2;25:8 <b>list (1)</b> 30:5 <b>listed (3)</b> 11:18;22:20;23:9 <b>listing (1)</b> 27:18 <b>lithium (1)</b> 6:13 <b>living (2)</b> 11:10;32:7 <b>locations (1)</b> 19:17 <b>longer (2)</b> 10:22;11:5 <b>look (1)</b> 9:17</p> <p style="text-align: center;"><b>M</b></p> <p><b>makes (1)</b> 5:22 <b>making (2)</b> 15:23;29:10 <b>Management (4)</b> 3:5;5:5;7:20;19:11 <b>mandate (1)</b> 10:17 <b>mandates (1)</b> 8:5 <b>mandatory (1)</b> 13:19 <b>manner (1)</b></p>	<p>22:7 <b>manufactured (1)</b> 20:1 <b>manufacturer (1)</b> 19:6 <b>manufacturing (1)</b> 19:22 <b>many (2)</b> 16:13;20:21 <b>mark (1)</b> 29:5 <b>Mary (1)</b> 4:5 <b>Masingill (4)</b> 4:4,13;26:10;32:13 <b>material (9)</b> 5:17,23;6:6;10:5,8, 22;11:3,5;23:23 <b>materials (2)</b> 16:12,14 <b>maximum (2)</b> 7:13;17:14 <b>may (7)</b> 10:5,6;17:6;22:14; 29:16;31:12,13 <b>Mayor (2)</b> 30:4,7 <b>McCarty (2)</b> 30:4,7 <b>McKinstry (2)</b> 4:2;25:22 <b>MCL (1)</b> 17:15 <b>MCLs (1)</b> 17:23 <b>means (1)</b> 23:23 <b>measures (3)</b> 14:19;15:1;19:15 <b>meet (2)</b> 12:8;27:16 <b>meeting (7)</b> 3:4,7;5:4;7:21; 25:23;29:5;32:23 <b>meetings (1)</b> 14:21 <b>meets (1)</b> 13:9 <b>members (2)</b> 4:3,5 <b>mention (1)</b> 27:23 <b>mentions (1)</b> 29:17 <b>Merritt (1)</b> 4:5 <b>method (5)</b> 10:3,18,21;11:18; 14:1 <b>methods (4)</b> 9:21;10:7;22:20; 24:6 <b>mic (2)</b></p>	<p>22:23;23:2 <b>Michael (1)</b> 26:23 <b>microphone (1)</b> 23:4 <b>mid (1)</b> 12:11 <b>MILLER (26)</b> 3:3,15,19,21;4:8,14, 17,21;5:1;22:16,22; 24:13,17,20;25:7;26:1, 11,14,18,21;30:2,23; 32:9,14,18,21 <b>mind (1)</b> 22:1 <b>minimal (1)</b> 11:12 <b>minimize (1)</b> 19:12 <b>minimum (1)</b> 12:20 <b>minute (1)</b> 27:20 <b>minutes (2)</b> 3:7,12 <b>miss (1)</b> 25:22 <b>missing (1)</b> 29:8 <b>mission (2)</b> 27:13;29:5 <b>Mobile (1)</b> 28:4 <b>moisture (1)</b> 16:10 <b>monetary (1)</b> 7:13 <b>monitored (1)</b> 15:3 <b>monitoring (1)</b> 19:9 <b>Montgomery (1)</b> 22:10 <b>month (1)</b> 25:11 <b>months (1)</b> 25:2 <b>more (3)</b> 10:13;17:4;27:12 <b>morning (2)</b> 5:4;27:1 <b>most (3)</b> 9:17;11:1;21:10 <b>mothers (1)</b> 17:3 <b>motion (2)</b> 3:11;26:7 <b>move (3)</b> 4:10;11:2;32:12 <b>moved (3)</b> 3:13;11:6;26:9 <b>much (3)</b> 11:4;15:8;30:8</p>
---	--	--	---	--

<p><b>Mullen (3)</b> 26:23;27:2;30:3 <b>must (2)</b> 11:5;12:13</p>	<p><b>notify (1)</b> 27:19 <b>notifying (1)</b> 28:10 <b>number (5)</b> 12:2;14:4;18:10; 21:2;27:16 <b>nursing (1)</b> 17:2</p>	<p style="text-align: center;"><b>P</b></p>	<p>16:15 <b>perusal (1)</b> 3:10 <b>PFAS (31)</b> 5:9;15:20;16:5,18, 20,23;17:11,15,20,23, 23;18:1,5,7,10,14,21; 19:1,4,5,10,13,16,18, 20;20:1,2,4,6;25:1; 27:20 <b>PFOA (6)</b> 17:1,5,10,15;18:15, 22 <b>PFOS (6)</b> 17:1,6,10,15;18:15, 22 <b>philosopher (1)</b> 31:19 <b>phrased (1)</b> 31:12 <b>pipng (3)</b> 20:18,20,22 <b>place (4)</b> 12:7;14:10;18:11; 32:5 <b>placed (1)</b> 20:22 <b>placing (1)</b> 10:2 <b>plan (7)</b> 12:23;13:4,9;14:23; 19:5,9;20:2 <b>plans (9)</b> 11:21;12:1,5,8,13; 14:3,6,9;15:3 <b>please (1)</b> 31:15 <b>pleased (2)</b> 22:8,14 <b>point (2)</b> 20:19;24:22 <b>points (1)</b> 15:10 <b>policy (2)</b> 29:10,15 <b>pollute (5)</b> 31:9,12,14,17;32:1 <b>polluted (1)</b> 30:19 <b>poly (2)</b> 5:9;15:19 <b>pond (1)</b> 31:23 <b>ponds (3)</b> 7:7;29:18;31:9 <b>portion (2)</b> 10:12;14:3 <b>portions (2)</b> 7:1,3 <b>possibility (1)</b> 10:23 <b>possible (2)</b> 11:15;14:18</p>	<p><b>potential (2)</b> 16:18;24:4 <b>potentially (1)</b> 11:9 <b>practical (1)</b> 24:8 <b>practices (1)</b> 19:11 <b>precipitator (1)</b> 6:5 <b>pregnant (1)</b> 17:2 <b>Pre-K (1)</b> 21:14 <b>presence (2)</b> 18:13;21:18 <b>present (2)</b> 19:2,21 <b>primary (4)</b> 8:14;13:14;19:1,5 <b>pro (2)</b> 22:20;23:9 <b>probably (2)</b> 27:6,7 <b>problem (1)</b> 25:1 <b>problems (1)</b> 25:13 <b>proceedings (1)</b> 3:1 <b>process (11)</b> 7:3;8:6;11:23;12:3, 6;13:1;14:5;15:6; 17:19;19:16;23:13 <b>produced (3)</b> 16:6;19:18;20:15 <b>production (1)</b> 6:1 <b>productive (2)</b> 27:15;29:23 <b>program (7)</b> 8:3,4;18:11;19:6; 20:13;21:6,14 <b>Programs (3)</b> 15:13;21:12,14 <b>progress (2)</b> 15:2,10 <b>promptly (1)</b> 28:10 <b>proposal (1)</b> 32:11 <b>proposed (6)</b> 7:18;12:5;13:8; 14:22;22:4;26:5 <b>pros (4)</b> 10:20,21;11:11,19 <b>protection (1)</b> 21:9 <b>protective (2)</b> 8:3;12:13 <b>provide (2)</b> 21:8;29:22 <b>provided (1)</b></p>
<p style="text-align: center;"><b>N</b></p>	<p style="text-align: center;"><b>O</b></p>	<p><b>packaging (1)</b> 16:11 <b>panel (1)</b> 18:13 <b>parent (1)</b> 21:20 <b>parents (1)</b> 22:1 <b>particles (1)</b> 6:4 <b>particular (1)</b> 20:3 <b>parts (3)</b> 17:5,5,9 <b>party (1)</b> 21:20 <b>patterned (1)</b> 7:22 <b>pay (1)</b> 30:13 <b>paying (1)</b> 30:18 <b>peace (1)</b> 22:1 <b>penalties (1)</b> 7:14 <b>pending (1)</b> 29:15 <b>people (4)</b> 27:19;29:14,23;32:7 <b>per (5)</b> 5:8;15:19;17:5,6,9 <b>percent (2)</b> 10:10;21:17 <b>percentage (1)</b> 19:15 <b>performed (2)</b> 14:19;20:8 <b>Performing (1)</b> 19:16 <b>perhaps (1)</b> 32:11 <b>period (4)</b> 11:7;13:3,5;26:22 <b>permit (8)</b> 8:18;12:4,12,23; 13:3,8,8;14:4 <b>permits (1)</b> 12:12 <b>permitting (1)</b> 28:13 <b>PERRY (3)</b> 3:14;4:2;32:12 <b>persist (1)</b> 16:1 <b>person (1)</b> 28:6 <b>Personnel (1)</b> 4:1 <b>perspective (1)</b></p>		
<p><b>name (2)</b> 5:22;31:18 <b>nation (3)</b> 6:18;15:18;21:12 <b>nationally (2)</b> 5:19;9:17 <b>nationwide (1)</b> 10:9 <b>naturally (1)</b> 14:11 <b>near (8)</b> 7:7;11:2,10;13:6,20; 14:7,21;20:19 <b>nearly (1)</b> 21:15 <b>necessary (1)</b> 15:3 <b>need (1)</b> 29:12 <b>negligent (1)</b> 31:2 <b>neighbor's (2)</b> 31:1,4 <b>nevertheless (1)</b> 18:9 <b>new (4)</b> 11:10;22:5,11;25:12 <b>news (1)</b> 5:15 <b>next (12)</b> 3:22;6:14;13:1,13; 14:13,18;15:14;24:20; 25:2;26:22;28:2;32:10 <b>nine (3)</b> 8:20,22;9:3 <b>nobody (1)</b> 29:17 <b>nominations (3)</b> 3:23;4:6,11 <b>non-hazardous (1)</b> 6:11 <b>nor (1)</b> 17:16 <b>normal (2)</b> 14:10,15 <b>North (4)</b> 6:21;10:16;28:1; 30:11 <b>note (1)</b> 11:17 <b>noted (1)</b> 10:12 <b>notice (3)</b> 13:6;25:10;28:23 <b>notification (2)</b> 27:19,20</p>	<p><b>obtain (1)</b> 7:16 <b>obtaining (1)</b> 14:20 <b>obviously (1)</b> 23:9 <b>occurred (2)</b> 7:11;13:23 <b>occurring (1)</b> 14:11 <b>October (3)</b> 3:8;25:9;29:2 <b>off (1)</b> 19:19 <b>oil (1)</b> 16:10 <b>older (1)</b> 20:21 <b>Once (3)</b> 10:22;23:20;27:12 <b>one (12)</b> 10:13;11:18;19:5; 21:11,16;22:18;27:20; 28:3,22;31:16,18,18 <b>only (4)</b> 21:11;25:21;27:22; 29:19 <b>operation (1)</b> 19:13 <b>operational (1)</b> 9:15 <b>operator (1)</b> 14:6 <b>opportunity (2)</b> 11:23;27:10 <b>opposed (4)</b> 3:19;4:21;26:18; 32:18 <b>Opposing (1)</b> 27:17 <b>order (3)</b> 3:5,6;7:16 <b>out (8)</b> 21:19;27:4;28:16,20; 29:1,13;30:22;31:3 <b>over (3)</b> 7:17;17:4;21:4 <b>own (2)</b> 28:12,13</p>			



9:19 <b>provisional (1)</b> 16:23 <b>proximity (2)</b> 11:16;23:11 <b>public (22)</b> 11:23;12:1;13:2,3,5, 6;14:21;15:9;16:13; 18:12,14;20:10,15,17; 21:3,7;22:6;26:22; 27:6,8,9;28:10 <b>publish (1)</b> 7:8 <b>published (1)</b> 6:19 <b>publishing (1)</b> 13:20 <b>purposes (1)</b> 24:8	<b>referred (1)</b> 5:13 <b>refusing (1)</b> 30:14 <b>regardless (1)</b> 14:1 <b>Region (1)</b> 22:11 <b>regular (1)</b> 28:17 <b>regulation (3)</b> 7:17;17:11;21:3 <b>regulators (2)</b> 6:18;16:17 <b>regulatory (3)</b> 12:9,14;17:19 <b>reinforced (1)</b> 6:22 <b>related (4)</b> 5:7;6:15;8:14;16:5 <b>released (1)</b> 5:18 <b>releases (5)</b> 7:10;10:23;11:16; 13:16;19:10 <b>remain (1)</b> 9:15 <b>remaining (1)</b> 5:23 <b>remains (1)</b> 23:18 <b>remediate (1)</b> 7:14 <b>remediation (7)</b> 8:16;13:14,15,21; 14:3,23;15:2 <b>removal (3)</b> 9:23;11:2;22:21 <b>remove (4)</b> 6:8;18:21;19:15; 23:17 <b>removed (1)</b> 10:22 <b>Removing (1)</b> 23:23 <b>repetitive (1)</b> 27:11 <b>replaced (1)</b> 21:19 <b>report (10)</b> 5:2,6,12;15:17; 18:18;20:11;22:8,13; 24:21,22 <b>reporting (2)</b> 18:22;19:10 <b>reports (1)</b> 15:9 <b>represent (1)</b> 9:10 <b>reproductive (1)</b> 16:21 <b>request (2)</b> 20:5;26:23	<b>require (3)</b> 9:19;10:7;22:6 <b>required (7)</b> 7:5;8:12;13:19,22; 18:18;19:3;21:2 <b>requirement (1)</b> 13:15 <b>requirements (5)</b> 12:9,15,16,20;13:10 <b>requires (2)</b> 8:2;14:4 <b>Residuals (3)</b> 5:8,13,22 <b>resistance (1)</b> 11:9 <b>resistant (1)</b> 16:10 <b>resources (2)</b> 29:11,13 <b>respective (1)</b> 10:19 <b>respond (1)</b> 8:5 <b>response (8)</b> 3:20;4:7,16,23;25:6; 26:13,20;32:20 <b>restrict (1)</b> 18:4 <b>result (1)</b> 13:15 <b>results (3)</b> 13:21;14:20;21:21 <b>retardants (1)</b> 16:11 <b>right (13)</b> 3:21;4:8;23:8;24:9, 18;26:3,4,6,11;28:2; 30:11,32;7,21 <b>rise (1)</b> 6:4 <b>risk (6)</b> 17:6;24:7;28:4,5,6; 29:18 <b>risks (2)</b> 11:13;28:8 <b>River (3)</b> 6:21;20:7;31:14 <b>Riverkeeper (1)</b> 28:23 <b>Ruby (1)</b> 4:2 <b>ruin (1)</b> 31:14 <b>rule (21)</b> 6:19,23;7:5,18,19,22, 22,23,23;8:5,10,11,12; 9:18;12:9,20;13:17,19; 22:4,11;28:14 <b>Rulemaking (5)</b> 4:3;7:19;8:6,8;25:13 <b>rules (13)</b> 8:13;9:1,2,7,12,13, 22,23;13:10,17;22:5;	28:12,13  <b>S</b>  <b>safe (4)</b> 16:15;22:3;27:14; 29:22 <b>sampled (1)</b> 14:14 <b>sampling (3)</b> 14:6,8,9 <b>saw (2)</b> 23:5,6 <b>saying (1)</b> 30:17 <b>school (4)</b> 21:7,9,21;22:2 <b>schools (1)</b> 22:6 <b>scientific (2)</b> 17:19,22 <b>scrolling (1)</b> 15:15 <b>sealants (1)</b> 16:12 <b>Second (9)</b> 3:14;4:13;5:4;6:20; 13:13;15:16;25:11; 26:10;32:13 <b>secondary (1)</b> 19:1 <b>seem (1)</b> 23:20 <b>selected (2)</b> 15:1;22:9 <b>selecting (1)</b> 15:12 <b>seminars (1)</b> 25:1 <b>service (3)</b> 20:22;21:19;27:7 <b>servicing (1)</b> 27:4 <b>sessions (1)</b> 25:8 <b>set (4)</b> 17:14,16,21,22 <b>several (1)</b> 7:1 <b>show (4)</b> 9:2,6;31:15,16 <b>showing (1)</b> 24:15 <b>shown (1)</b> 22:3 <b>shows (1)</b> 8:20 <b>side (2)</b> 11:4;23:15 <b>significant (1)</b> 6:14 <b>signify (4)</b> 3:17;4:19;26:16;	32:16 <b>similar (1)</b> 22:7 <b>site (15)</b> 6:16;8:19;11:8,10; 13:1,7;14:8,22,23; 19:19,19;22:10;27:17; 28:16,22 <b>sites (6)</b> 8:20,22;9:3,6;12:19; 13:22 <b>site's (1)</b> 13:8 <b>sitting (1)</b> 28:2 <b>six (1)</b> 9:2 <b>six-tenths (1)</b> 21:16 <b>slag (1)</b> 6:6 <b>sledgehammer (1)</b> 31:4 <b>slide (2)</b> 8:20;13:13 <b>small (1)</b> 28:6 <b>soil (2)</b> 17:17;19:23 <b>solely (1)</b> 18:3 <b>solid (2)</b> 5:23;6:6 <b>sometimes (1)</b> 5:13 <b>sort (2)</b> 27:5;29:19 <b>source (1)</b> 19:5 <b>sources (2)</b> 19:1;20:7 <b>southeastern (1)</b> 22:12 <b>speak (3)</b> 26:23;30:6,9 <b>spill (2)</b> 6:16,20 <b>spills (1)</b> 28:10 <b>stability (1)</b> 16:8 <b>stable (2)</b> 15:23;16:1 <b>standard (1)</b> 17:14 <b>standards (8)</b> 15:5;17:17,21,21; 18:1,8,8;20:4 <b>standpoint (1)</b> 23:16 <b>state (14)</b> 7:16,19,22;8:13; 9:12,20;13:10,18;21:5,
<b>Q</b>				
<b>qualify (1)</b> 9:13 <b>quality (2)</b> 17:17;29:8 <b>quite (1)</b> 30:4 <b>quorum (1)</b> 26:2 <b>quote (2)</b> 8:3,4				
<b>R</b>				
<b>rather (2)</b> 11:6;25:12 <b>reaction (1)</b> 6:7 <b>really (3)</b> 24:5;27:12,16 <b>reason (1)</b> 11:19 <b>receive (1)</b> 13:7 <b>received (2)</b> 9:9,16 <b>Recently (2)</b> 22:3;27:16 <b>recognition (1)</b> 22:9 <b>record (1)</b> 7:6 <b>recreational (1)</b> 28:11 <b>recycling (1)</b> 10:1 <b>red (1)</b> 9:2 <b>reduced (2)</b> 10:6;17:7 <b>Reduction (2)</b> 19:5;20:2				

14:27;8,14;28:14; 29:22 <b>stated (1)</b> 23:12 <b>statement (5)</b> 27:12,13,17;29:5; 30:16 <b>states (2)</b> 10:19;22:12 <b>statute (1)</b> 21:3 <b>step (1)</b> 13:1 <b>steps (3)</b> 7:14;12:2;14:4 <b>still (4)</b> 23:18;24:6;26:2; 29:1 <b>striving (1)</b> 29:4 <b>strong (1)</b> 15:23 <b>struggled (1)</b> 30:7 <b>studies (2)</b> 19:20;20:1 <b>stuff (1)</b> 32:8 <b>subject (1)</b> 9:7 <b>subjected (2)</b> 6:7;7:2 <b>submission (1)</b> 14:5 <b>submits (1)</b> 12:21 <b>submitted (1)</b> 8:1 <b>submitting (1)</b> 12:4 <b>subsequently (1)</b> 7:2 <b>substances (4)</b> 5:9;15:20,21;18:2 <b>substantial (1)</b> 30:20 <b>successful (1)</b> 21:15 <b>suggest (1)</b> 31:22 <b>suing (1)</b> 30:14 <b>sulphur (1)</b> 6:8 <b>sure (1)</b> 25:14 <b>surface (9)</b> 8:22;9:3,6;11:2,17; 19:22;23:10,19;24:7 <b>susceptible (1)</b> 24:7 <b>system (2)</b> 19:14;20:7	<b>systems (5)</b> 18:13,15,20,21; 20:16  <b>T</b>  <b>talking (1)</b> 27:21 <b>technical (2)</b> 12:8,14 <b>technically (1)</b> 12:22 <b>technologies (1)</b> 19:12 <b>temperature (1)</b> 16:12 <b>Tennessee (3)</b> 6:16;28:22,23 <b>test (1)</b> 21:6 <b>tested (5)</b> 21:16,17,21;22:3,6 <b>testing (6)</b> 13:20,21;18:12; 20:12;21:12;22:7 <b>tests (1)</b> 7:6 <b>Thanks (2)</b> 24:9,15 <b>third (2)</b> 20:9;25:12 <b>thought (2)</b> 23:7,8 <b>three (4)</b> 5:7;8:23;9:4;21:11 <b>threshold (1)</b> 17:8 <b>throughout (1)</b> 15:18 <b>timely (1)</b> 19:10 <b>today (1)</b> 28:15 <b>Today's (5)</b> 5:6,12;15:17;20:11; 22:13 <b>Tom (1)</b> 4:1 <b>top (2)</b> 15:13;32:7 <b>topic (1)</b> 5:15 <b>total (1)</b> 9:14 <b>Toxic (1)</b> 18:2 <b>toxicity (3)</b> 17:20;18:5;19:23 <b>traffic (3)</b> 11:7,13,14 <b>trillion (3)</b> 17:5,6,9 <b>truck (3)</b>	11:7,12,13 <b>trying (1)</b> 30:12 <b>TSCA (2)</b> 18:2,3 <b>turn (3)</b> 16:2;22:22;23:1 <b>TVA (1)</b> 6:16 <b>two (7)</b> 8:14;9:1,6,10,21; 16:23;21:11  <b>U</b>  <b>under (6)</b> 8:23;9:21,22;13:16; 18:1,3 <b>undertaken (2)</b> 18:9;21:1 <b>Undertaking (2)</b> 19:19,23 <b>underway (3)</b> 12:10;15:8;20:13 <b>unimpacted (2)</b> 14:7,9 <b>unintentional (1)</b> 31:1 <b>units (4)</b> 9:1,10,14;13:20 <b>university (1)</b> 29:14 <b>unlined (11)</b> 5:17;8:15;9:20;10:1, 10,13,14,18;31:9,23; 32:5 <b>unpermitted (1)</b> 13:16 <b>up (3)</b> 5:22;22:11;25:8 <b>update (2)</b> 20:12;22:4 <b>updated (2)</b> 15:9;20:3 <b>Upon (4)</b> 7:9;14:8,23;17:22 <b>upstream (1)</b> 28:3 <b>use (1)</b> 12:17 <b>used (3)</b> 14:1;16:6,13 <b>useful (1)</b> 16:9 <b>usefulness (1)</b> 16:16 <b>utilities (2)</b> 6:2;7:6 <b>utility (4)</b> 12:3,7,21;14:21  <b>V</b>	<b>valiantly (1)</b> 30:8 <b>Valley (1)</b> 28:22 <b>versus (1)</b> 11:18 <b>VICE-CHAIR (3)</b> 3:13;4:10;26:9 <b>vicinity (1)</b> 19:21 <b>video (1)</b> 15:10 <b>view (1)</b> 21:21 <b>violated (1)</b> 28:14 <b>Virginia (1)</b> 10:16 <b>Voltaire (1)</b> 31:19 <b>vulnerable (1)</b> 21:10  <b>W</b>  <b>Walters (9)</b> 4:1;22:18;23:1,7,15; 24:5,15;25:20;31:10 <b>waste (1)</b> 12:18 <b>Waste/Remediation (1)</b> 15:14 <b>wastewater (1)</b> 19:16 <b>water (24)</b> 5:10;11:3;17:3,16, 16,23;18:7,12,14,16, 21;19:22;20:12,15,15, 17;21:4,6;22:2,5; 23:10,19;24:7;29:7 <b>waterbodies (3)</b> 11:2,17;28:3 <b>waters (1)</b> 28:11 <b>way (1)</b> 31:12 <b>weather (1)</b> 27:4 <b>webpage (1)</b> 21:23 <b>website (3)</b> 7:9;15:12;21:22 <b>welcome (1)</b> 5:4 <b>What's (1)</b> 21:22 <b>Whereas (1)</b> 24:2 <b>WHEREUPON (1)</b> 3:1 <b>within (2)</b> 7:9;9:20 <b>Without (1)</b>	17:21 <b>written (1)</b> 3:12  <b>Y</b>  <b>year (5)</b> 3:23;5:6;12:11; 28:19;29:1 <b>years (2)</b> 12:18;20:21 <b>yellow (1)</b> 9:9 <b>you-all (1)</b> 27:5  <b>1</b>  <b>10th (1)</b> 25:9 <b>11:07 (1)</b> 3:2 <b>11:47 (1)</b> 33:1 <b>11th (1)</b> 25:10 <b>12th (1)</b> 25:9 <b>13th (1)</b> 3:4 <b>14th (5)</b> 25:8,9,15,21,23 <b>16 (1)</b> 9:14 <b>18th (1)</b> 3:8 <b>1940s (1)</b> 16:7  <b>2</b>  <b>200 (1)</b> 17:5 <b>2000s (2)</b> 16:14,17 <b>2008 (1)</b> 6:17 <b>2009 (2)</b> 16:22;19:7 <b>2010 (1)</b> 6:19 <b>2012 (1)</b> 19:7 <b>2014 (1)</b> 6:22 <b>2015 (2)</b> 7:1,5 <b>2016 (2)</b> 17:7;21:4 <b>2018 (5)</b> 7:8,20;8:1;12:6; 28:18 <b>2019 (2)</b>
---	---	---	--	--



3:8;19:9 <b>2020 (4)</b> 5:6;8:7;12:11;25:10				
<b>3</b>				
<b>30 (2)</b> 7:9;21:16 <b>31 (2)</b> 7:8;10:10 <b>35 (1)</b> 13:5 <b>35-day (1)</b> 13:2				
<b>4</b>				
<b>4 (1)</b> 22:11 <b>40 (1)</b> 12:18 <b>400 (1)</b> 17:5				
<b>5</b>				
<b>5,000 (1)</b> 16:7 <b>5,300 (1)</b> 21:15				
<b>7</b>				
<b>70 (1)</b> 17:9				
<b>9</b>				
<b>9th (1)</b> 25:9				

**Part B**

## **Attachment Index**

**Attachment 1 Agenda**

**Attachment 2 Order to adopt motion to accept nominations to committees as cited by Chair  
(Agenda Item 2)**

**Attachment 3 Director's Slides  
(Agenda Item 3)**

**Attachment 1**

AGENDA\*  
MEETING OF THE  
ALABAMA ENVIRONMENTAL MANAGEMENT COMMISSION

DATE: December 13, 2019

TIME: 11:00 a.m.

LOCATION: Alabama Department of Environmental Management (ADEM) Building  
Alabama Room (Main Conference Room)  
1400 Coliseum Boulevard  
Montgomery, Alabama 36110-2400

<u>ITEM</u>	<u>PAGE</u>
1. Consideration of minutes of meeting held on October 18, 2019**	2
2. Elections	2
3. Report from the ADEM Director	2
4. Report from the Commission Chair	2
5. Other business	2
6. Future business sessions	2
PUBLIC COMMENT PERIOD	2
Brief statements by members of the public registered to speak	2

\* The Agenda for this meeting will be available on the ADEM website, [www.adem.alabama.gov](http://www.adem.alabama.gov), under Environmental Management Commission.

\*\* The Minutes for this meeting will be available on the ADEM website under Environmental Management Commission.

1. CONSIDERATION OF MINUTES OF MEETING HELD ON OCTOBER 18, 2019

2. ELECTIONS

The Commission will elect Chairs and Members of the Commission's Personnel and Rulemaking Committees.

3. REPORT FROM THE ADEM DIRECTOR

4. REPORT FROM THE COMMISSION CHAIR

5. OTHER BUSINESS

6. FUTURE BUSINESS SESSIONS

PUBLIC COMMENT PERIOD

BRIEF STATEMENTS BY MEMBERS OF THE PUBLIC REGISTERED TO SPEAK

Members of the public that wish to make a brief statement at a Commission meeting may do so by first signing in on a register maintained by the Commission office prior to each regularly scheduled meeting. The register will close ten minutes prior to convening each meeting of the Commission. Following completion of all agenda items, the Commission Chair will call on members of the public wishing to make a statement in the order their names appear on the register. Speakers are encouraged to limit their statement to matters that directly relate to the Commission's functions. Speakers will be asked to observe a three minute time limit. While an effort will be made to hear all members of the public signed on the register, the Commission may place reasonable limitations on the number of speakers to be heard. (Guideline 11, Guidelines for Public Comment).

The Guidelines for Public Comment are used in the application of ADEM Administrative Code 335-2, Environmental Management Commission Regulations, Rule 335-2-3-.05, Agenda and Public Participation. The Guidelines for Public Comment serve to educate and inform the public as to how the Commission interprets and intends to apply the Rule. The revised Rule 335-2-3-.05 was effective October 7, 2016.

**Attachment 2**

BEFORE THE  
ENVIRONMENTAL MANAGEMENT COMMISSION  
OF THE  
ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

MOTION

Accept nominations to committees as cited by Chair

ORDER

This cause having come before the Environmental Management Commission pursuant to the above motion, and having considered the same, the Commission hereby ORDERS, ADJUDGES, and DECREES as follows:

1. That the above motion is hereby adopted; and
2. That a copy of the list of committees is attached and made a part hereof; and
3. That this action has been taken and this Order shall be deemed rendered effective

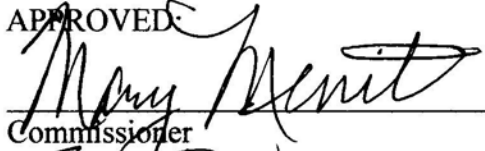
as of the date shown below.

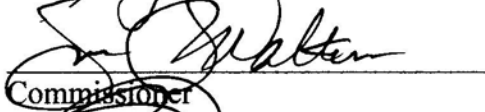


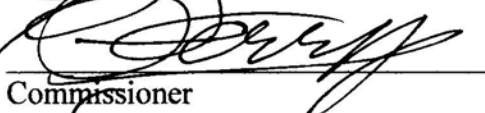
Environmental Management Commission Order  
Page 2

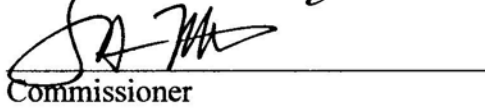
ISSUED this 13th day of December 2019.

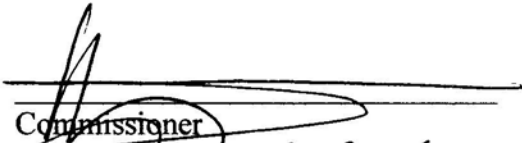
APPROVED:

  
Commissioner

  
Commissioner

  
Commissioner

  
Commissioner

  
Commissioner

  
Commissioner

  
Commissioner

DISAPPROVED:

\_\_\_\_\_  
Commissioner

\_\_\_\_\_  
Commissioner

\_\_\_\_\_  
Commissioner

**This is to certify that this Order is a true and accurate account of the actions taken by the Environmental Management Commission on this 13th day of December 2019.**

  
\_\_\_\_\_  
Samuel L. Miller, Chair  
Environmental Management Commission  
Certified this 13th day of December 2019

12/13/19

## Alabama Environmental Management Commission 2020 Committees

### Personnel Committee

Chair: Tom Walters

Members: Kevin McKinstry  
Ruby Perry

### Rulemaking Committee

Chair: Lanier Brown

Members: Jay Masingill  
Mary Merritt

**Attachment 3**



Alabama Department Of  
Environmental Management

## Coal Combustion Residuals (CCR)



Alabama Department Of  
Environmental Management

### What are Coal Combustion Residuals?

- Bottom ash
- Fly ash
- Boiler slag
- Flue gas desulfurization materials

**Characteristics of CCR**

- EPA determined CCR not hazardous.
- Hazardous constituents:
  - Lead
  - Arsenic
  - Cadmium
  - Barium
  - Lithium

**Significant Historical CCR Events**

- 2008 TVA Kingston, TN coal ash spill.
- 2010 Draft EPA CCR rule.
- 2014 Duke Energy Dan River, NC coal ash spill.
- 2015 "Final" EPA CCR rule later remanded for amendments.





## Alabama Department Of Environmental Management

### Significant Historical CCR Events

- CCR groundwater testing report complete by January 2018 and published by March 2018.
- February 2018 ADEM Enforcement action commenced.



## Alabama Department Of Environmental Management

### ADEM CCR rule

- April 2018 ADEM CCR rule adopted.
- Patterned after Federal CCR rule.
- June 2018 submitted to EPA for approval.
- EPA approval requires “at least as protective as the Federal CCR program”.



## Alabama Department Of Environmental Management

### ADEM CCR rule

- EPA CCR rule out for public comment early 2020.
- EPA action on ADEM CCR rule after CCR rules amended.
- CCR generators required to comply with both State and Federal rules.

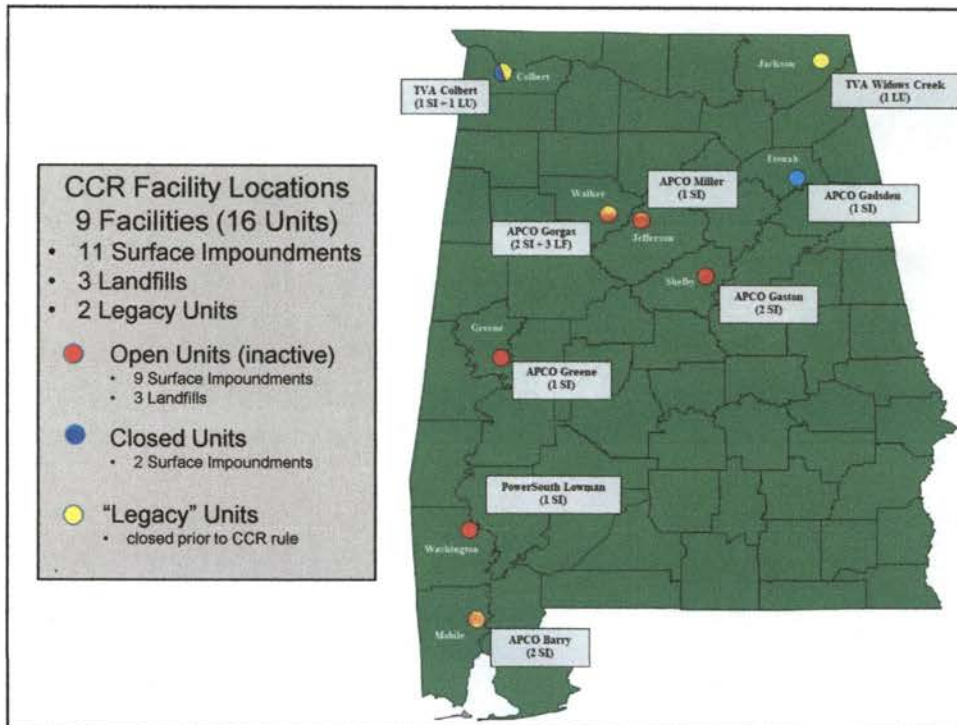


## Alabama Department Of Environmental Management

### Primary CCR Issues

- Closure of unlined impoundments.
- Remediation of groundwater caused by CCR.
- Closure and remediation to be addressed in ADEM environmental permit.





## Alabama Department Of Environmental Management

### Closure

- Authority to require is ADEM CCR rule.
- Two approved closure methods:
  - Clean closure
  - Closure-in-place
- Both methods require dewatering before closure.



**Closure**

- Nationally 31% of CCR units to be Clean Closed.
- North Carolina and Virginia legislatively mandate Clean Closure

**Pros and Cons of Closure Methods**

- Clean Closure:
  - Pros:
    - Stop releases to groundwater
    - Away from surface water bodies
  - Cons:
    - Takes longer
    - Truck traffic
    - New siting issues

**Pros and Cons of Closure Methods**

- Closure-in-Place:
  - Pros:
    - Faster exposure control
    - Minimal truck traffic risk
  - Cons:
    - Possible continued contact with groundwater
    - Continued proximity to water bodies

**Permit (Closure) Approval Process**

- Utility submits permit application with proposed closure method – December 2018
- Review and revision to meet technical regulatory requirements – Midyear 2020
- Must be protective of human health and the environment and comply with Federal and State CCR rules.





## Alabama Department Of Environmental Management

### Permit (Closure) Approval Process

- ADEM will draft permit with closure plan.
- Public involvement:
  - ADEM public comment period of 35 days
  - ADEM public hearings following 35 days prior notice
- If permit application, including closure plan, meets legal requirements it will be approved and closure commenced.



## Alabama Department Of Environmental Management

### Remediation

- Required by enforcement action and CCR rule.
- Enforcement action enabled by Federal CCR requirement to test groundwater and publish.
- Remediation required for all releases regardless of closure method.



## Alabama Department Of Environmental Management

### Remediation Steps

- Submission & approval of sampling plans.
- Determine naturally occurring groundwater background element levels.
- Determine levels of contamination and boundary.



## Alabama Department Of Environmental Management

### Remediation Steps

- Assess and select corrective measures.
- Public meetings to review proposed remediation plans.
- Upon ADEM approval remediation commenced.
- Adjust implementation as needed to achieve cleanup standards.



## **Per and Poly Fluorinated Alkyl Substances (PFAS)**

### **PFAS Background and Concerns**

- Manmade family of chemicals since 1940s.
- At least 5000 chemicals.
- Very stable with useful properties.
- Until 2000s considered safe.
- Health impacts studies due to bioaccumulation.



## Alabama Department Of Environmental Management

### PFAS Background and Concerns

- High doses cause anomalies in lab animals.
- 2009 EPA Life time exposure health advisory.
- 2016 EPA Life time exposure health advisory threshold lowered.



## Alabama Department Of Environmental Management

### Regulation of PFAS

- No MCL, Water Quality, or Cleanup standards by EPA.
- EPA doing toxicity research to develop standards.
- Only regulation available is federally administered TSCA discharge restriction.





**ADEM PFAS Testing & Control Initiatives**

- Testing all public drinking water systems for PFAS.
- PFAS concentrations above EPA health advisory must be reported to customers.
- Identifying primary and secondary sources of PFAS in Alabama.



**ADEM PFAS Testing & Control Initiatives**

- Implementing PFAS Reduction Plan at manufacturer (primary source):
  - Initiated program in 2009; updated 2012 & 2019
  - Required reporting of all PFAS releases
  - BMP to control releases including GAC & RO
  - Complete assessment of disposal locations on site and off site



**Alabama Department Of  
Environmental Management**

### **ADEM PFAS Testing & Control Initiatives**

- Investigate presence of PFAS in surface water, groundwater, and soil
- Toxicity studies
- Ongoing enforcement action
- EPA comprehensive analysis of PFAS from interstate sources (secondary sources).



**Alabama Department Of  
Environmental Management**

### **Lead Testing in Schools**





**ADEM Lead Testing & Control Initiatives**

- 2016 test all public schools in Alabama.
- 2019 expanded to test Pre-K and daycares.
- 5,292 fixtures tested – 30 required action.
- Publicly reporting results.
- Federal update and recognition of Alabama.