

NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION

Minutes of November 5, 2015 Meeting

The North Carolina Environmental Management Commission met on Thursday, November 5, 2015 in the main floor hearing room in the Archdale Building, Raleigh, NC. Commissioners present were:

Gerard Carroll, Chairman
David Anderson
Charlie Carter
Tommy Craven
Charles Elam
E.O. Ferrell
Kevin Martin
Bill Puette
Larry Raymond
Steven J. Rowlan
Bob Rubin
John D. Solomon
Steve Tedder
Julie Wilsey

Commissioner Smith was absent from this meeting.

Commission Counsel Jennie Hauser was also present.

I. Preliminary Matters

The meeting was called to order at 9:05 a.m. with Chairman Carroll presiding. He provided the notice required by N.C.G.S. §138A-15(e). No conflicts of interest or appearances of conflicts of interests were identified at this time.

Commissioner Solomon stated he would need to recuse himself from the item concerning the IBT.

The Chair welcomed **Commissioner David Anderson** back after his long absence due to a severe accident.

Commissioner Anderson thanked the Chairman and the Commission and said he was willing and happy to serve in any way possible.

Chairman Carroll indicated that the Commission had a new Commission member Mr. Steve Rowlan from Charlotte, and welcomed him.

For the record, Chairman Carroll read from the State Ethics Commission letter regarding Commissioner Rowlan: “Our office is in receipt of Mr. Steven J. Rowlan’s 2015 Statement of Economic Interest as a prospective appointee to the Environmental Management Commission. We have reviewed it for actual and potential conflicts of interest pursuant to Chapter 138A of the North Carolina General Statute also known as the State Government Ethics Act. We did not find an actual conflict of interest. We found potential for a conflict of interest. The potential conflict identified does not prohibit service on this entity.”

II. Approval of Minutes

The Chair asked for approval of the minutes from the Commission meeting on September 10, 2015. Those minutes had been published and distributed for review.

Commissioner Tedder made a motion to approve the minutes and Dr. Raymond seconded the motion. The motion carried unanimously.

Agenda Item: 15-39 Election of Vice-Chairman

Vice Chairman Martin's term having expired, it was necessary to elect a new Vice Chair for the Commission. **Commissioner Tedder** nominated Commissioner Martin, and moved to close nominations. **Commissioner Raymond** seconded.

No discussion, and Commissioner Martin was reelected Vice Chair unanimously.

Agenda Item: 15-40 Request for Approval of Recommendation Regarding Mercury Compliance Plans

Steve Schliesser presented this item, the purpose of which is to address two state-only mercury rule provisions defined in 15A NCAC 02D .2511(b) and (c), which deal with mercury control plans. Both Duke and Progress Energy were required to submit mercury control plans, which they did. DEQ is recommending EMC find that the 02D .2511(b) requirements are met, and approve the utilities' mercury control plans associated with .2511(c).

Chairman Carroll solicited questions or comments and asked for a motion.

Commissioner Carter moved to approve the Director's request, which was approved by his committee back at its September meeting. Commissioner Solomon seconded. This motion also included the finding that the 02D .2511(b) requirements are met. The motion was approved by unanimous vote.

Agenda Item: 15-41 Request for Approval of S.L. 2013-413 (H74) Periodic Review of Rules Report for 15A NCAC Subchapters 02D and 02Q for Submission to Rules Review Commission

Joelle Burleson presented this item. She presented a review of the rules review process for the rules in 02D and 02Q. Most rules were deemed to be necessary with substantive public interest. Four were deemed necessary without public interest, and twenty seven were deemed unnecessary. These latter were all in 02D. Ms. Burleson asked for the EMC's approval of DEQ's report, and to forward it to the Rules Review Commission by November 15.

Commissioner Carter moved to receive the report, agree with the Director's recommendation, and go forward with this report to the RRC. Commissioner Ferrell seconded. There was no discussion and the motion passed unanimously.

Agenda Item: 15-42 Request for Waiver of 30-day Rule and Approval to Proceed to Public Hearing on Proposed 15A NCAC 02D .2700, Standards of Performance for Existing Electric Utility Generating Units under Clean Air Act Section 111(d), and Approval of Fiscal Note

Chairman Carroll noted this item came to the Air Quality Committee the prior day. Normally this would appear on EMC's agenda at its next meeting in January, but DEQ requested approval of the so called 30 day rule waiver.

Chief Deputy Secretary John Evans explained the reason for the 30 day waiver.

Chief Deputy Secretary John Evans - "It is my privilege and my pleasure to present to you today. We presented to the AQC yesterday. The Department's response to the federal clean power plan is referred to as the primary plan moving forward. I think you'll find that the primary plan continues this administration's effort to move toward a cleaner energy future. It also continues this administration's efforts to keep affordable energy

prices which I'm sure we all know are fundamental for developing good paying jobs and as a weapon against poverty. So I think we've been very successful and I'm very proud of my staff for having developed this rule that you see today. One of the important things that we're asking today is a 30 day waiver. It is necessary to meet the EPA's imposed deadline to submit a plan. The deadline is September of 2016 and therefore we need the 30 day waiver in order to meet that deadline. Many times EPA imposes rules on states with deadlines that are not achievable because they do not recognize the deliberate rulemaking process within the states. This was one of those instances. The only way to meet the EPA's imposed deadline is to obtain a 30 day waiver and I would note that based on conversations yesterday at the AQC, I'm sure some of the Commission members on the AQC will share that it became clear that the 30 day waiver does not affect in any way the ability of the public to comment. It in no way shortens the public comment period. I think that's important. We want the public to look at this rule. We want their input. The 30 day waiver is merely necessary as a procedural matter in order for us to meet the EPA deadline. We wanted to make you aware of that for your consideration. I would also note that we briefed this Commission in September about our plan, our primary plan. At that time some Commission members while I believe supported the primary plan because it makes sense for North Carolina expressed some concern about not having a backup plan in case the primary plan is not successful. We went back and we met after hearing your concerns. We met with many special interest groups, industry groups and they again also, in large part supported the primary plan that you'll see here today. But they also expressed a similar concern about having a backup plan. We have announced the fact that North Carolina will, in fact begin development of a backup plan. "That backup plan will be effectively modeled after the federal plan. Again, we think the federal plan has a number of legal problems. Nevertheless we understand that we have to have a backup plan and under the leadership of Sheila Holman, our Director of the Division of Air Quality, I'm quite confident she'll be doing an excellent job developing a backup plan. That backup plan will begin development just as soon as this process is completed. We hope that perhaps in February or March when the EMC hopefully approves our primary plan, we will develop it over a year or a year and a half and have it ready to go through rulemaking and any statutory changes by September 2018. It will be fully available in the event we need that plan. We think it's a common sense approach. We've got a primary plan that we think makes sense for North Carolina and a backup plan if we need that plan. But again the key to all of this, at least for now is a 30 day waiver, and we would like to see that granted so we can get this in front of the public and they can have opportunity to see what we have in that plan."

Commissioner Tedder commented he was disappointed EMC has been forced into the position of approving a 30 day waiver, rather than having the opportunity to follow its normal process. He complimented

Staff for its work pulling this rule together on short notice, and indicated he would not vote, either for or against, the 30 day waiver.

Commissioner Carter commented that in his opinion if there were blame to be assigned for the thirty day waiver need, it should go to the EPA for their delay in publishing their final proposal, which made it impossible for North Carolina to respond using its regular procedures.

Commissioner Raymond asked whether by asking for an extension we would waive the right to judicial review.

Chief Deputy Secretary Evans responded: 'What I think I will do is I'll just follow the path if the 30 day waiver is not granted and then we miss the September 2016 deadline. At that point if no plan is submitted then EPA will impose their federal plan directly. I think that is probably the worst solution and worst possible outcome. The only other alternative we would have is to ask the EPA for an extension until September of 2018. While that may seem reasonable, if you look at the details it is in fact not very reasonable. To get the extension you have to effectively commit to the full EPA plan, the plan that the Department believes and 35 states believe is based on an erroneous interpretation and should be addressed by the courts first. Again, it would force us to commit to that. More importantly when we talk about judicial review, if we waited until September of 2018 or ask for the extension until then, our SIP plan, the rule that this body develops and submits to the EPA would be submitted to them at that time, and they'd have a year, till 2019 to review it. If it is challenged at that point it goes before Circuit Court of Appeals in 2019, 2020 timeframe. That's the first time perhaps a judge will look at their plan and determine whether it is in fact legal. I only have to go back to a presentation five minutes ago where the Clean Air Act, the mercury rule which was promulgated by the EPA in 2012 and took about 40 months to obtain judicial review. By that time billions of dollars were spent, some necessary probably and some perhaps not so. But I think it is unreasonable to ask our citizens to commit billions of dollars on a rule that may or may not be legal. That's why I say we don't lose and I want to clarify what I said yesterday. We do not lose judicial review. It is delayed to a point that is in fact perhaps not valuable at all. Because by 2020 we will have had to make the investments in billions of dollars on a rule that may not be legal. So again I hope that clarifies what happens if the 30 day waiver and my statement about judicial review.'

Commissioner Tedder commented that he agreed with Commissioner Carter regarding EPA's delay in this matter.

Commissioner Carter commented that in his view, the EMC does not possess the legal authority to implement EPA's blocks two and three, something he hoped the State Legislature would address.

Chairman Carroll asked Director Holman to clarify whether the thirty day waiver would in any way impact the rules approval process, including the opportunity for public comment. She replied that it would not affect the normal process, but would enable the rules to get before the Rules Review Commission earlier than normal, and at least 25 in advance of the start of the next legislative session, as required for legislative review.

Commissioner Carter reiterated the same thought - that the waiver would only expedite the process of getting this matter in front of the public.

Chairman Carroll then asked for a show of hands to approve the thirty day waiver. Ten voted in favor of the motion and one opposed. The motion carried and the motion was approved. The discussion then moved to the substance of the issue, the actual rules that are being proposed.

Sushma Masemore presented for DEQ- 'I am here to provide a technical basis for the rules that are in front of you for your consideration. These rules were developed in a very short timeframe with an excellent team. We believe these rules are based on sound scientific principles and accepted engineering principles and practices. I will try to make this particular presentation as concise as possible. The rules are titled the standards of performance for existing electric generating units under the Clean Air Act Section 111(d). The presentation covers four main topics. The first one is just the background on the content of the Clean Air Act Section 111(d). I will highlight specific portions within the statute and its associated regulations that provide the means for which we are presenting these proposed rules. I will briefly summarize the USEPA clean power plan requirements for our state but will not spend any time in comparing and contrasting between what's in front of you versus the full federal plan requirement. Most of my time will be spent on the technical approach followed to develop our 2016 primary plan. I will walk through key provisions within the .2700 rules and what they mean in terms of specific requirements for the effective electric generating units. Section 111(d) of the Clean Air Act affects new sources for certain pollutants that are not regulated in any other parts of the Clean Air Act. The EPA is in charge of specifying the standard of performance for those new sources. 111(d) is actually quite unique in that it is the state based program that allows the state to come up with a state specific plan that meets the needs and requirements of its own affected sources. It's carried out in three main steps. First, EPA establishes the emissions guidelines that quantify the best system of an emission reduction for these existing sources for the covered pollutant. The

best system of emission reduction or BSER is based on an adequately demonstrated technology. It allows the state to consider the cost for secondary environmental impacts in any energy impacts associated with those technologies. "The state then designs a plan that establishes a standard of performance and it provides for the implementation and associated enforcement compliance for those affecters easy use. That plan must first be reviewed and approved by EPA before it can be implemented. The statute is pretty clear in terms of what a state plan must contain. First it must establish a standard of performance but it must also consider a variety of factors.

I will talk about most of the technical factors in a few minutes. But it does allow the state to look at the remaining useful life for source in determining whether any requirements would be imposed on that source. If the state fails to submit a satisfactory plan EPA has the authority to implement its own plan. In terms of the clean power plan that particular plan EPA is calling the federal plan. If the state opposes or does not adequately enforce that plan then the EPA also has the authority to enforce its plan. "When establishing the standard performance a key definition must be considered. The standard of performance represents the degree of emission reduction or emission limitation achievable to the application of BSER while taking into consideration the cost, any non-air quality health and environmental impact and energy requirements. It must be based on demonstrated and adequately demonstrated technologies. The term emission limitation is also important to understand in interpreting the proposed rules. Section 302(k) of the Clean Air Act says that the emission limits are achieved through the operation and maintenance of a source to assure that continuous emission reductions are carried out. But it can be done through the exchange of technology or equipment or work practice or operational standards. In regards to the standard of performance being applied on a unit specific basis the Department's 111(d) principles document that's dated January 2014, this particular aspect is discussed on page 10-11 where we go into an explanation of why the 111(d) standard must be applied on a unit specific basis on a site specific analysis consideration. That specifically prohibits doing that outside the fence line approach to establish these emission guidelines. "Through forty years of regulatory actions related to Clean Air Act Section 111(d), EPA has proposed and finalized emission guidelines for four pollutants and five different source categories. The kind of pollutants that they have regulated are different than what you've heard of. They vary from flourides to nonmethyne organic compounds for a landfill gas. Carbon dioxide is unique and that is the first time it's being regulated under Clean Air Act Section 111(d). But in each of these actions EPA has followed a series of general principles to determine the BSER. These general principles form the foundation behind what is achievable and what is feasible in a source in a given state. The first principle that's followed is, what is the degree of emission reduction that can be achieved based on a demonstrated control technology? The second principle is how technically feasible is that technology or a work practice standard by considering the site specific characteristics of that source. The third principle allows you to take a look at secondary impacts in terms of water pollution

increase or decrease, waste disposal needs and any impact to ambient air concentrations or air quality and any energy consumption needs in addition to what would be considered normal. Finally, most importantly the principle allows the cost of applying that control technology to be evaluated. Again, in each of these emission guidelines that EPA has determined that the emission point is located within the fence line and therefore, these technology options are valid and applied to the sources or the stack where the emission points within that fence line. The clean power plan was signed by the EPA administrator on August 3, 2015. It is called the carbon pollution emission guidelines for stationary sources consistent electric utility generating units. It was published on October 23, 2015 and its effective date is December 22, 2015. It is now codified in Subpart UUUU of 40 CFR Part 60 and there's a link there that will provide you with additional information if you are interested.

In summary the purpose of the power plan is to require each and every state to submit a plan that reduces carbon dioxide emissions in terms of the rate of emission or the mass emissions of CO₂ from certain effective electric generating units and most of these electric generating units are coal and oil fired steam fired into the turbine generators as well as natural gas combined cycle. It does not include the simple cycle combustion turbines. It requires the CO₂ reductions relative to the 2012 baseline. In developing its guidelines EPA applied this BSER that I talked about earlier and they determined that BSER is a variety of options for the EGUs. In the plan itself, EPA says that BSER is based on the execution of several building blocks, three in particular. The building block 1 applies to inside the fence line which is really the primary focus of the primary 2016 state plan and the rules that we're proposing to you. EPA also allowed building block 2, building block 3 under the federal Clean Power Plan. In those two last building blocks you can dispatch natural gas at a higher capacity rate and reduce the generation from coal or include other renewable energy resources to offset the generation from coal fired power plants. This map shows the facilities that are affected in our state. It's a total of 17 facilities the natural gas combined cycle facilities are shown in green and there's a total of eight and nine coal fired facilities are shown in red. Collectively 56 electric generating units or EGUs are affected by the clean power plan. Before I get started into a how we went about executing this approach, I wanted to provide a quick background on how carbon dioxide emissions can be reduced at an existing source. There really are no add on control technologies like you have heard for other pollutants. The best means of reducing CO₂ is used less fuel and using less fuel is equated into efficiency of a power plan. If a power plan can be operated more efficiently you would use less fuel and a high efficient power plan means a lower heat rate of that power plan. Heat rate is defined as the energy in divide by energy out or the heat content of the fuel in the coal that's burned based on higher heating value divided by the 1 mg watt hour electric energy does produce. When we talk about HRI we're talking about an incremental changes and heat rate improvement as a result of small to large changes that a power plant operator can make

on site as a result of technology improvements, swapping out equipment or just changing what they do normally to improve the efficiency of that power plant. There was a report in 2015 that was published in 2015 by the Energy Information Administration, mainly in response to this clean power plan that looked at how efficient are the coal fired power plants in the country. The report ranked state averages in the range of 9,700 to 11,500 BTUA kilowatt hours. The state with the lowest heat rate or the highest efficient fleet was North Carolina. That's the 9,700 BTU per kilowatt hour. This means that as a state we are 16% more efficient than the least efficient set of fleet in a given state. This also means that as a state because we're efficient the margin of improvement that's available to include heat rate at our power plants is smaller and in some ways, de minimis. So as you go through this analysis you will see that we do a site by site analysis, the improvement opportunity available is small. In developing its building block 1 analysis which EPA used to determine the ultimate goal for the state to meet, we'd assume that all the power plants in the eastern interconnection would be able to achieve a 4.3% reduction in heat rate. Our analysis shows and we have said from Day one that our efficient fleet cannot manage such a high reduction in heat rate. That is one of the reasons for the requiring and doing a unit by unit site specific analysis. This is not a one size fits all. The second approach in our proposal is the term "inside the fence line". When EPA developed its own BSER for the effective units it changed the definition of the word system in the Best System Emission Reduction. They defined the term system as the network of integrated electrical grids that include the generating units. That includes coal fired units, gas fired units and any generating units that are supplying electricity to a grid, and it also includes the transmission and distribution components that deliver the electricity. So this expansive definition of system is really what's going to be in front of a Judge to decide whether that is allowed under the 111(d). Nevertheless, our plan follows two basic principles: 111(d) requires a unit specific basis and it must be done inside a fence line. In order to achieve CO₂ reductions, we must achieve a heat rate improvement at that specific EGU. That's the background and basically what we did we grouped each of the affected EGUs into three categories. All natural gas combined cycle affected EGUs were defined to require just operating those units in a combined cycle mode to ensure that the heat recovery steam generators were always operating during normal operating conditions using natural gas as the primary fuel. This BSER determination is consistent with what EPA said in its own rule that the amount of HRI improvements for MGCC would be so minimal that it wouldn't warrant a significant consideration. That leaves the coal fired units. We have as you all know at least two plants that are currently either under a consent decree or under a legislative requirement to be closed or replaced with natural gas combined cycle units. For these soon to be retired coal fired units we have applied a determination that BSER is no additional control based on the remaining useful life. That leaves the remaining nine coal fired power plants and affected EGUs. Here we followed a site specific analysis using the guiding principles. I'll walk through quickly the seven guiding principles, the questions we asked.

First we asked is the technology adequately demonstrated or is the work practice adequately demonstrated to warrant requirement at a plant. Can it achieve a heat rate improvement to reduce measurable CO₂ emission reductions? Also, since we already have well-controlled power plants with SERs, FGDs and ESPs and bathhouses, are there going to be any negative impacts to our existing investment in those air pollution controls that could be caused as a result of trying to control the CO₂ through operations. Then we looked at the technical feasibility of applying those technologies at the power plant considering the site specific nature and operating characteristics. We also looked at the secondary impacts in terms of energy consumption and water and waste generation. Finally recognizing that heat rate improvement is a complex process and it takes a power plant years to figure how to best and efficiently operate their system, we took the advice we received from the affected EGUs and we came up with some guiding principles related to good engineering judgement and sound science. First of all we accepted that heat rate improvement will degrade with time due to normal wear and tear. Many of these technologies are installed in high pressure, high temperature conditions and that is part of the way these systems work. The second acceptance is that heat rate will be varying at different load conditions that power plant will be operating. A plant that's operating at high load or full load capacity factor will have a different performance with these technologies vs. technology options that are more efficient at lower load operations. Recognizing that a combination of measures would achieve a less heat rate improvement, then when you look at it at individually and sum them up because there is an overlap in some of these heat rate improvement opportunities. Finally we looked at the cost and emission reduction potential of these measures. EPA defined for building block 1 that a cost of less than \$23 per ton of CO₂ is considered reasonable and appropriate balance between cost and the amount of reductions. We will use this rule of thumb to screen out those options that were below less than \$23 per ton. There are a total of 17 adequately demonstrated technologies that we evaluated. Of these 17 four were immediately removed and eliminated from consideration. The first one is shown here in red at the bottom. Its cold sliding pressure operation called SPO. SPOs are mainly employed and most efficient in lower capacity utilization conditions. Those units that we have under those conditions are mainly our sub critical design coal fired ETUs. We were told that use of this measure for those units would cause reliability issues and unstable operations. Therefore we just removed them from consideration. They were also not considered for the super critical design operations which are higher capacity factor, more utilized ETUs, because the margin of improvement there is smaller. We removed any of the measures that would have a negative impact to the actual reduction of criteria air pollutant that we're trying to manage under our other programs. That leaves the rest of 13 potential BSER measures for the affective EGUs. This chart here shows the six out of the 13 that ended up in our rules. Ms. Masemore described what six BSER measures meant in terms of a power plant: "The first one is called air heater reduction. The main purpose is to increase the temperature of the pre-

combustion air and that allows the combustion efficiency to be improved. This measure basically requires replacing older worn out seals with higher performance new technology based seals. It reduces the leakage between that combustion air stream and the exhaust gas stream, and improves the heat transfer between those two media. The next group of measures relates to fans that are used as motor power for the combustion air and exhaust air. The forced draft fans shown on the bottom left and the induced draft fan shown on the top consists of fixing replacing fixed speed fans with variable frequency drives. This can increase or decrease the fan speed on an as needed basis rather than just setting it on one level but it allows you to vary the speed at different operating conditions. We do know that almost half of our power plants are now cycling as intermediate operations. This particular capability allows you to operate those plants more efficiently. The third measure is called CRR and this basically deals with replacing or retrofitting components of a condenser. Condensers are used to cool the steam back into liquid so it can recycle or recirculate it back to the boiler. This measure requires repairing or replacing components or the entire system as needed to improve heat transfer. The more complex measure is called intelligent sootblowers. Sootblowers are located throughout the furnace and the boiler system. They use high pressure steam to remove ash and slide deposits that may have accumulated on the furnace walls and other heat transfer surfaces. Instead of having these high pressure steam be activated at certain time intervals the intelligence portion allows the system to be activated on an as needed when the deposits are built up rather than predetermined times. Since there are so many of these sootblowers and you'll using high pressure steam it takes a lot of energy. When you just use it when you need it, it allows the efficient reduction of energy to do that as well as improving boiler efficiency to manage that particular component. The combustion optimization system consists of basically maximizing and creating high performance combustion efficiency by looking at the pollution that's created or the emissions that are created and balancing the best combustion profile to achieve the lowest air pollution levels. With the use of modern computer technology and software systems, there is an ability to develop a mathematical model called neural network that uses previous historical data for an ETU as to how it operates under different conditions, and real time data that our monitors sensors throughout the system to adjust as needed. That entire monitoring and controlling is called combustion optimization with neural network or CO. The last measure that we looked at is a plant wide control in loss reduction. This is basically looking at a full plan feasibility of what additional measure can be taken in addition to whatever is happening within the plant to optimize the operation of that entire electric generating unit."

Ms. Masemore then ran through an example showing how this all worked for the Roxboro plant.

Ms. Masemore concluded that four out of the nine electric generating units will be required to implement at the BSER measure. There will be a total of 10 units that are affected and they will be required to put in 23 measures. The heat rate improvement by unit varies between a low of 26 to a high of 80 BTUs per kilowatt hour. This equates to about a .4 % reduction in CO₂ emissions or heat rate improvement relative to 2012 baseline, at a cumulative capital investment about \$52 million. The net annual cost savings is estimated to be \$1million.

DEQ is proposing five rules. The first one deals with the purpose and applicability. It defines NC effective EGUs identically to how defined in the federal Clean Power Plan. In the 2702 rules the definitions are provided for the effective EGUs and BSER measures. 2703 is titled the standards of performance requirements for carbon dioxide. This is where the meat of particular BSER measures reside. 2704 rule just ensures that the requirements are incorporated into the facilities Title V permit. Finally the 2705 rules are intended to keep a written record or onsite record that they met the requirements of the rule. The need for moving forward and getting out to the public quickly is to allow the 25 day period needed to enable legislative review in April. This does not shorten any of the public comment process, so the comment period would start on November 5. Would have the standard 60-day public comment period and it would go through January 15.

Commissioner Carter commented that the public comment period would actually begin November 16. There followed a number of questions and answers by and among the commissioners and Ms, Masemore.

Chairman Carroll commented that DEQ is not planning to meet EPA's goal, because it feels the proposed plan is beyond EPA's legal authority, but nevertheless, if DEQ is proven ultimately to be wrong, that these rules would still be necessary and desirable in any case. So there's no reason not to approve these rules.

Director Holman agreed with this observation.

Chairman Carroll – So some would argue that this is not obviously going to get us where we have to go but on the other hand, even if we had the components to a plan we would still want this component as it is formulated here. Is that correct?

Director Holman – I believe so. But again you always have the option to make changes as we develop the complete backup plan. I think just in terms of how the full clean power plan was laid out and how the targets were calculated, heat rate improvement would seem to be a component of a full and complete power plan.

Commissioner Tedder – When they disapprove this plan does the state not have a year or something to address that this group will see?

Director Holman – I believe so. It's in the proposed federal plan which is out for comment right now and unfortunately, I have not spent very much time on that yet trying to get to today. But typically, yes we would have twelve months to respond to a disapproval.

Commissioner Carter – I want to get back to your questions about and the answer about the 4.3% that EPA calculated. Did EPA actually do the kind of the calculations that the Division has done or did they simply pick a number, in this case 4.3%. What is that number actually based on?

Sushma Masemore – It was based on the proposal which was a little more rigorous. But in the final rule they basically did a mathematical statistical analysis of the historical data and they basically did a multiple varied analysis of all the different factors over the years from I think, 2000 to 2012. When they accounted for capacity levels ambient temperature conditions and a variety of variables they came up with this statistical improvement level of 4.3%.

Commissioner Carter – Is that analysis based strictly on North Carolina units?

Sushma Masemore – No. This is based on throughout the whole country. They also separated by interconnections so the 4.3% is for the eastern interconnection.

Commissioner Carter – What you've got Mr. Chairman is sort of like a hodgepodge of a number that EPA generated out of some hocus pocus modeling that didn't even apply to North Carolina or might have only applied to North Carolina. The 4.3 is just a made up number. One other thing I want to point out too. Under 111(d) one of the d is very specific that the state in establishing a plan under 111(d) is to look very closely at cost and use of life on some of the units. IH is the only one that's done anything remotely like the kind of analysis that needed to be done to figure out what would be an appropriate level of heat rate improvement here.

Chairman Carroll – Speaking of cost I was just wondering about that. You used a number of \$23 is the cost per ton of carbon for your analysis. Didn't I see somewhere that the EPA has a higher number that they developed for that, like \$48 a ton?

Director Holman – The \$23 per ton is in one of EPA's technical support documents for the Clean Power Plan and that is looking at what reasonable costs are for heat rate improvements. Separately they have developed the social cost of carbon. The \$48 may be for 2030. I think the social cost of carbon in 2020 may be about \$40 per ton. But we thought that the \$23 per ton was more analogous to what we were doing. That is looking at heat rate improvements at that specific facility.

Dr. Raymond – The focus of your analysis has been on electric generating units but I wonder in the process of analyzing totality of energy availability what your projection would be for nuclear, solar and wind in North Carolina.

Director Holman – I think that's something we will be taking up as we begin work on the backup plan. Today I am sorry I can't comment on that, Dr. Raymond.

Commissioner Tedder inquired about who would be legally representing EMC in this matter.

General Counsel Sam Hayes responded that he is currently special counsel appointed by the Governor representing the Department and the federal suit on 111(d).

Commissioner Carter made a motion that EMC send the package forward to public notice with the language change already noted which is the deletion of the final sentence again rule 15A NCAC 02D .2701(f), as well as the fiscal note accompanying it.

Commissioner Ferrell seconded the motion. The vote was unanimous and the motion passed.

The Chair thanked Ms. Masemore for her presentation and the analysis, and all the work that was done. It was very well done, very comprehensive, and very helpful to understanding what EMC is doing and where it is going with this.

Agenda Item: AG15-43 Request for Confirmation of Appointments for Members to the Water Pollution Control System Operators Certification Commission for Technical Changes

Steve Reid presented on behalf of the Water Pollution Control System Operators Certification Commission to request approval of two appointments to that Commission. The Department of Environmental Quality Secretary Donald Van der Vaart recently appointed Mr. Dennis Baxley and Mrs. Marchell Adams-David to fill vacancies on the Commission for the seats of managers of NC municipalities of less than 10,000 population and greater than 10,000 population respectively.

Commissioner Martin made a motion to approve as recommended. **Commissioner Tedder** seconded the motion.

Chairman Carroll asked for discussion. No discussion and the motion passed.

Agenda Item: 15-44 Request for Approval of an Interbasin Transfer Certificate for Kerr Regional Water System (Quasi-Judicial)

The Chair asked Counsel to advise on legal obligations, which she did.

Commissioner Solomon – recused himself from this matter.

Jessica Godreau, Section Chief of the Public Water Supply Section in the Division of Water Resources in the Department of Environmental Quality, presented. She served as the hearing officer for the proposed interbasin transfer for the Kerr Lake Regional Water System. Kerr Lake Regional Water System has requested an interbasin transfer certificate to transfer water from the Roanoke Basin to the Tar River Fishing Creek and the Neuse River basins. They currently have a grandfather transfer amount of 10 MGD and are requesting a transfer of 14.2 MGD which would be an increase of 4.2 MGD. The majority would be going to the Tar but also water would go to the Fishing Creek and to the Neuse basin. Ms. Godreau presented the rationale for the transfer, including its necessity and reasonableness. All IBT requirements, including environmental, are met. Therefore, the Division of Water Resources requested the Environmental Management Commission issue the final determination and grant the requested IBT certificate as presented to the Kerr Lake Regional Water System.

Commissioner Craven commented that the September Water Allocation Committee heard the staff presentation on the hearing officer's report, and by split vote decided to delay discussion and action to allow additional time to review the hearing officer's report. At yesterday's meeting they heard the same refresher presentation that was shared with you today. After discussion the WAC voted unanimously to recommend approval to the full EMC.

Commissioner Craven then moved to grant the IBT request by Kerr Lake Regional Water System: The members of the Commission have reviewed and considered the complete record which included the hearing officer's report, the applicant's petition for interbasin transfer certificate, the environmental assessment including public comments and the findings of no significant impact.

Based on the record and as required by General Statute 143-215.22L, I move that the Commission approve the EA and FONSI, and adopt the findings of fact that's presented in the hearing officer's report, and based on these findings of fact the Commission find and conclude that (1) the benefits of the proposed increase in the transfer outweigh the detriments, (2) the detriments have been mitigated to the maximum degree possible, (3) the amount of the transfer does not exceed the amount of the projected shortfall under the applicant's water plan and (4) there are no reasonable alternatives to the proposed transfer. Based on the record the findings of fact and the hearing officer's report and the findings in conclusions of the Commission, I move that the Commission grant the request of Kerr Lake Regional Water Systems to transfer water from the Roanoke River Basin to the Tar River Basin, Fishing Creek river basin and the Neuse River Basin. The permitted transfer amount shall not exceed a maximum of 10.7 MGD from the Roanoke River Basin to the Tar River Basin. 1.7 MGD from the Roanoke River Basin to the Fishing Creek River Basin and 1.8 MGD from the Roanoke River Basin to the Neuse River Basin. Calculated as a daily average of a calendar month basis the certificate is subject to the condition as presented in the hearing officer's report.

Commissioner Tedder seconded the motion.

There was no further discussion and the motion passed unanimously.

Agenda Item: 15-45 Request for Approval of Hearing Officer's Report and Adoption of Temporary Rules 15A NCAC 13A .0102, 0103 and .0106

Chairman Carroll asked why are we doing temporary rules and then we have to go right behind and request permanent rulemaking?

Julie Woosley replied that the temporary rules will allow those rules to be in place more quickly and allow the regulated community to take advantage of them.

Julie Woosley, the Hazard Waste Section Chief of the Division of Waste Management, spoke. She presented the hearing officer's report for the adoption of temporary rules for the definition of solid waste. There was one comment, from a Mr. Todd Blake, the Environmental Compliance Manager for Safety Clean of North Carolina, who said, "I support the adoption of this rule". That was the only comment received either in person or by writing for this public hearing about the temporary adoption of the definition of solid waste rule. The Department requested approval of the hearing officer's report and adoption of temporary rules 15A NCAC 13A .0102, .0103 and .0106.

Commissioner Martin thanked **Dr. Rubin** for serving as hearing officer.

Commissioner Martin moved to adopt the hearing officer's report and recommendations, therefore adopting the temporary rule as proposed. **Dr. Raymond** seconded.

No discussion and the motion carried.

Agenda Item 15-46 Request for Approval to Proceed to Public Comment and Hearing for Permanent Rulemaking for Solid Waste Rules 15A NCAC 13A .0102, .0103 and .0106 and Approval of Fiscal Note

Julie Woosley presented a request of approval of the permanent rules for the definition of solid waste. A fiscal not has not yet been prepared. We would be asking to adopt them exactly the same way that we're adopting the temporary rules. The temporary rules continue on a current schedule and will be adopted in December of this year. Our permanent rulemaking if we move forward today will allow a permanent option of the rules in about July of next year. I do want to mention that the fiscal note that was on the website was indicated that was a draft. That is true. We are still undergoing final approval by OAH. We do have that final fiscal note report now. If anyone's interested I have copies available. Let me just mention there are two main

changes the draft report that you saw. Those changes have to do with a different interpretation of EPA's 2014 regulatory impact analysis report. That was an estimate by EPA of the impacts to the state and to the regulated community. If you look at the number of regulated facilities in North Carolina; we account for about 3% of the federal facilities. However, because this rule is one that is an optional adoption by facilities, more business decisions they would make and then changes they would have to make to have to handle waste as hazardous secondary materials rather than hazardous waste. Due to that we didn't feel that a straight 3% calculation from their estimates was appropriate. But we did put that updated information in the report. In that 3% that estimated savings to the regulated community for North Carolina. If you did assume just a straight 3%, that was about 1.5 million dollars savings to our regulated community here in North Carolina. We do not feel that's exactly accurate but that does give a ballpark figure. The second change to the fiscal note had to do with the area that talked about the cost to the hazardous waste section. Previously we had estimated information that the lost revenue and decreased facility oversight would about cancel each other out, about half in FTE each. Based on reviews again of the EPA report and of what we expect to happen here in North Carolina, we did adjust those numbers somewhat based on feedback that we received from OAH. The new information that we have, show that the cost to the section could be as high as 1.2 FTE and the decrease would be about half in FTE. Additionally we would expect and this did not change about a \$178,000 decrease in hazardous waste generator and tonnage fees. But again remember several parts of this ruling, things that are optional for business to adopt so those estimates we believe are more top end of what we expect rather than what will actually happen automatically. We also don't expect those changes to take place immediately, again because in order for those exemptions to take place, in this instance we have to make a choice of change being held up the things that were handled and then apply to get those exemptions. So there would be a longer time. Those would not go into place as soon as the rule's adopted in December. Are there any additional questions about the fiscal report or permanent rulemaking?

Commissioner Martin – I've got a question for Counsel. At this point we don't have to approve the fiscal note. Is that correct before we send it hearing or we do?

Counsel Jennie Hauser – Well normally you at least approve sending it out for public input, but we will take a final approval when we adopt the rule. I think that's the better practice because oftentimes the fiscal notes are in flux when you send out for public comment.

Commissioner Martin – The reason I ask I have no problem with it but because it has been revised just before the Commissioners, I don't know if they've had adequate time.

Counsel Jennie Hauser – That’s kind of a different question whether or not you want to move forward without having reviewed the fiscal note. I think you guys can decide whether that was a reason for delay but for purposes of whether or not you can send it out, you can send it out. But there will have to be some fiscal note or fiscal analysis attached.

Commissioner Martin moved to proceed to public hearing and permanent rulemaking for the solid waste rules as proposed, .0102, .0103 and .0106. His motion does not include an approval of the fiscal note by the Commission at this time and anticipates addressing that issue when it comes back after hearing.

Commissioner Tedder seconded the motion.

No discussion and the motion passed unanimously.

Agenda Item: 15-47 Request for Approval to Proceed to Public Comment and Hearing for Rulemaking for Amendments of General Rule 15A NCAC 13A .0101 (b) and (f) and Approval of Economic Impact Analysis

Julie Woosley presented. This rule adoption is required by EPA. It was discovered during a regular EPA rules review of North Carolina rules. The rule replaces language that previously specified when the Department of Environmental Quality in North Carolina and other state terms would replace references to EPA federal and other federal terms in regulations since North Carolina has a designated Hazardous Waste Program. This language is being replaced with a blanket statement to say that state terms replace federal terms except where they referred to a federal program and another similar reason that it should not change. This will prevent having to update those on a regular basis. What was in place was not up to date. The economic impact analysis is for both this agenda item and the next, and there’s no anticipated economic impact for this rule change. The Department requested approval to proceed to public comment and hearing for rulemaking for amendment of General Rule 15A NCAC 13A .0101 (b) and (f) and approval of the economic Impact Analysis.

Commissioner Martin moved that the EMC approve proceeding to public comment and hearing on rulemaking for proposed amendments to the General Rule 15A NCAC 13A .0101 (b) and (f) as proposed by staff. **Commissioner Ferrell** seconded the motion.

There was no discussion and the motion passed unanimously.

Agenda Item: 15-48 Request for Approval to Proceed to Public Comment and Hearing for Rulemaking for Hazardous Waste Management System and Electronic Manifest Rules 15A NCAC 13A .0107 and .0108 and Approval of Economic Impact Analysis

Julie Woosley presented. The economic impact analysis was the same as for the previous one. It covers both. EPA published new rules related to a national electronic manifest system in February 2014. The rules are estimated to save 300,000 to 700,000 hours per year in manifest systems and \$75 million per year for both states and industry. It is also anticipated to improve data quality and timeliness and to increase transparency. EPA expects the system to go live in 2018. This rule adoption is required by EPA. The new rules covers such items as usable electronic manifest, weekly equivalents of electronic to paper manifest, criteria for electronic signatures, special provisions for when electronic manifest is unavailable when the system is unavailable and system user fees. There is no anticipated economic impact from this rule change. The Department requested approval to proceed to public comment and hearing for rulemaking for hazardous waste management system and electronic manifest rules 15A NCAC 13A .0107 and .0108 and approval of the economic impact analysis.

Commissioner Martin moved that the Environmental Management Commission approve proceeding to public hearing and comment on rulemaking for proposed amendment to electronic manifest rules 15A NCAC 13A .0107 and .0108. **Commissioner Ferrell** seconded the motion.

There was no discussion and the motion passed unanimously.

Agenda Item: 15-49 Request for Approval of Hearing Officer's Report and Fiscal Note and Adoption of 15A NCAC 02L Section .0500 Rules for Risk-Based Assessment and Corrective Action for Non-UST Petroleum Releases

Karen Frohm, Regional Supervisor from Winston-Salem Regional office, UST Section and Corrective Action Branch, presented. The public hearing was held on August 26 at 2:00 p.m. at the Green Square building. The fiscal note was approved by the Office of State Budget and Management on July 8, 2015. At

the completion of the public hearing and the 30 day public comment period, two comments was received in favor of the proposed rule and two recommended changes to the text were also received. The changes to the text include a reference to .0504, at least part of the .0504 to all of the .0504 for clarification purposes. One sentence in section .0504 was modified to two sentences for clarification purposes. In summary based on the comments received the Department recommended that the proposed rule be adopted by the EMC and the Department requested approval of the hearing officer's report and the fiscal note.

Commissioner Martin commented to remind everyone that this was brought about by a member of the regulated public who brought a petition for rulemaking which doesn't happen a lot. It's kind of proof that the system works. It may be cumbersome and it may be slow but you can get there if you make the effort. Mr. Taylor made the effort and Art definitely spent a lot of time helping him along the way and Commissioner Martin expressed his appreciation for all the effort that staff put into this. Basically what it boils down to is we're now going to treat petroleum spills the same regardless of where they came from which is just common sense. The groundwater and the soil doesn't know where that petroleum comes from, or cares, and the environment that's adversely affected by it doesn't either. This was a great process.

Commissioner Martin then moved that the Commission approve the hearing officer's report and adopt the rule with the proposed changes that were made as a result of the hearing, and approve the fiscal note as well.

Commissioner Tedder seconded the motion.

No discussion and the motion passed unanimously.

Commissioner Tedder commented, and requested that if possible powerpoint or other graphic information be made available to help all understand the material better.

Agenda Item: 15-50 Request for Adoption of Modifications to Respond to RRC Staff Request for "Technical Changes" to 15A NCAC 02B .0227 Reclassification of a Portion of the Cape Fear River in New Hanover and Brunswick Counties to Class SC Sw with a Water Quality Management Plan

Elizabeth Kountis presented and passed out a handout. At the September 2015 EMC meeting the EMC approved the proposed amendments reflecting the reclassification of a portion of the Cape Fear River in New Hanover and Brunswick Counties to Class SC Sw with a water quality management plan. This rulemaking involved proposed amendments to 15A of NCAC 02B .0227 and .0311. DWR then submitted the EMC approved rule amendments to the Rules Review Commission, or RRC, for its approval. Subsequently, RRC legal staff sent the Division a formal written request for technical changes to 02B .0227 but not 02B .0311. As a result the Division responded to the request and subsequently e-mailed technical change requests to 02B .0227 from RRC legal staff, which ultimately led to a revised version of the rule that addressed all the concerns of RRC legal staff. EMC legal counsel reviewed the responses from the Division and stated that the revisions should be presented to the EMC for approval. Ms. Kountis explained the technical changes.

Counsel Jennie Hauser explained why this request was before the EMC. Basically, because the RRC request was quite substantial, and should have EMC review and approval.

Commissioner Tedder moved that EMC approve the staff recommendation and go out for public comment, then back to EMC.

Dr. Raymond seconded the motion.

No discussion and the motion passed unanimously.

Agenda Item: 15-51 Review and Request Approval to Proceed for Public Comment for the 2015 Draft Coastal Habitat Protection Plan and the Source Document

Ann Deaton with the Division of Marine Fisheries presented a request to approve taking the draft Coastal Habitat Protection Plan out for public comment. She first presented a background briefing on the CHPP. This is the third plan.

Commissioner Tedder questioned the readability of the plan, and also some verbiage that seems to recommend prohibiting new wastewater discharges. He questioned whether this document was in fact ready for public review and comment.

Commissioner Elam commended the staff for its work putting this report together and moved the Commission approve the CHPP update to go to public hearing.

Commissioner Anderson seconded the motion.

Commissioner Martin noted that the motion did not include making the change that **Commissioner Tedder** had just mentioned. After some discussion, **Commissioner Elam** agreed to add that proviso to his motion, and **Commissioner Anderson** agreed. The motion was so modified. There was some additional Q and A between **Commissioner Solomon** and Ms. Deaton regarding dredging, and **Commissioner Raymond** commented on the value he found in Ms. Deaton's presentation, which he thought very instructive.

Chairman Carroll, hearing no further discussion, called the question and the motion passed unanimously.

III. Information Items

Information Item: 15-03 Staff Report on Study of Surface Water Quality in Agricultural Watersheds Associated with Concentrated Animal Feeding Operations

John Huisman, North Carolina Division of Water Resources, Nonpoint Source Planning Branch presented this item on the annual agricultural progress reports on the Neuse and the Tar-Pam River basins on behalf of the Basin Oversight Committees and those respective basins. The Neuse and Tar-Pam basins lie beside each other reaching from the upper Piedmont down to the coast. These two river basins are very similar in size, soil types, precipitation and the crops that are grown. They are also similar in the fact that both estuaries in these basins are impaired for chlorophyll-a, which is an indicator of high nutrient and inputs to those estuaries, nitrogen and phosphorus. As such the nutrient management strategy put in place for both the Neuse and Tar-Pam river basins addressing both point sources, and nonpoint sources including stormwater, agriculture and buffer requirements, the goals for these strategies are a 30% reduction in nitrogen in both the Neuse and the Tar-Pam, and an added requirement of no increase in phosphorus and the Tar-Pam. The effective date for the Neuse rules were back in 1998 and the Tar-Pam the rules went back to 2001. The

agriculture rules are implemented through this collective compliance approach requiring agriculture as a whole to achieve those reductions. It isn't requirements for individual farmers, but calculations are done at county and basin level. A Basin Oversight Committee and local advisory committees were formed to help agriculture implement those requirements. The four ways agriculture achieves the reductions is through implementing Best Management Practices, reducing amount of fertilizer they apply, changing from crops that require a lot of nitrogen to crops that require less nitrogen and conversion of cropland either to conservation practices like grass and trees, or conversion to the development. That's the amount of cropland that goes out of the agricultural universe. How to calculate the nitrogen loss reductions? When we talk about agriculture progress we estimate it using a tool called the nitrogen loss estimation worksheet that estimates the amount of nitrogen being lost from agriculture management unit on a county basin. This tool looks at measuring loss from cropland agriculture, compares it to a baseline number, the baseline for the Tar-Pam is 1991, for the Neuse it is 1991-95. So we have a baseline nitrogen loss number for that county and then you run the tool again for the current crop year and look at the difference in the amount of nitrogen that's being lost from that county from agriculture. It's not a loading to surface water number. These are estimates on the county scale. Essentially the NLEW, the nitrogen loss reduction estimates that's generated for the Neuse basin for both 2013 and 2014 for comparison, it's broken out by the seventeen counties. It is all relative to that 30% reduction goal. The basin as a whole for agriculture is achieving a 46% reduction in nitrogen compared to a 37% reduction back in 2013. There are a few counties that aren't doing as well as others including Pamlico, Lenore and Jones Counties. That's because those counties have not seen a lot of cropland loss since the baseline years. The Division of Soil and Water Conservation and the Basin Oversight Committee will be working with the local advisory committees in those counties to make sure they increase their focus on implementing nutrient use in BMPs to make sure they keep up to speed with the rest of the counties. Similarly, in the Tar-Pam similar results for the 2013 and 2014 on how the counties are doing reducing nitrogen. The Tar-Pam ag community is as a whole estimates a 51% reduction in nitrogen loss from agriculture compared to a 41% reduction in 2013. Both the Neuse and Tar-Pam are exceeding their 30% reduction goal for nitrogen. In addition to a nitrogen reduction requirement the Tar-Pam has the added phosphorus reduction requirement. Essentially they're required to maintain their phosphorus loss levels at baseline levels. No increase in phosphorus loss. Because phosphorus behaves differently in the environment we don't have a quantitative tool like we do for nitrogen. We have to take a qualitative approach that was developed through a Joint Technical Committee and that methodology was approved by the EMC in 2005. That qualitative approach looks at nine qualitative indicators that assess the amount of risk that you're looking at in terms of losing phosphorus. We do a baseline comparison to the

current crop year. This table shows those nine parameters that are looked at. Essentially it looks at how many acres of cropland are there in the basin and how many acres of nine different conservation practices, how many buffers there are, different BMPs like work control structures and scavenger crops, how much animal waste P's being generated and the soil test P median numbers. We have numbers for the baseline year 91. The current crop year and look at what other numbers are increasing and decreasing and assigning a negative or positive risk to that factor.

As you see eight of the nine factors are negative risk so we estimate based on these results that there's no risk of increase phosphorus loss in the Tar-Pam relative to the baseline. The Division of Soil and Water Conservation has secured funding for updating the NLEW software that is used for nitrogen estimations and that will be done in the winter of 2016. The Basin Oversight Committee that helped implement these rules will continue to meet and incorporate new research and data to update the tools and BMP efficiency numbers.

The Division of Water Resources is following up on a request that was made back in July during the Tar-Pam basin plan presentation to follow with the Department of Agriculture and the Poultry Federation to get a better handle on the number of poultry operations and where the waste is being applied in these basins. Funding for staff is critical for the implementation of these rules. Over the years the amount of funding that was available for the technicians that collected all this data over this large geographical area dwindled down to the point where we essentially have one person working with the Division of Soil and Water Conservation that works with all those counties to collect this data to provide to the BOC to generate these reports.

Commissioner Rowlan – If I understood you correctly you said the baseline was established. Was that established by measuring the baseline?

John Huisman – The rules went into effect years after the baseline so the tools were used. You had to collect historical information and run it in the NLEW tool and come up with an estimate of nitrogen loss for the baseline no matter how many crops were being grown back then, historical application rates for the fertilizer and documentation on what BMPs were in place. So the same process was used for that year as we use in the current year. But there was some estimation being done about what was being grown back then.

Commissioner Rowlan – At any point are you actually measuring your nitrogen in your stream vs what was then and what is now? Sounds like it's all theoretical.

John Huisman – The numbers are estimations of just nitrogen loss. They aren't loading numbers to stream. That's accurate. It's just an estimation of nitrogen loss from agriculture for a one time period compared to the current time periods. We don't have instream monitoring specifically for agriculture to measure the reductions.

Commissioner Rowlan – So the overall effect on the stream really has never been measured.

John Huisman – Well there's the monitoring that goes on that's reported on in the basin plans for the entire Neuse and Tar-Pam basin and the estuary is monitoring about whether or not we're seeing the reductions. What we've concluded in the most recent basin plans is at the estuary where this management strategies are focused, although we've seen implementation reductions from agriculture and point sources in stormwater from the implementation accounting side, the estuary we have not seen any reduction in loading at this time in the estuaries themselves.

Commissioner Rowlan – In other words you're not getting correlation between what you're seeing and what's actually in what you're trying to impact.

John Huisman – Right. There are things we identify in the base plan to look into and figure out what the lag time factor is, what sources might not be addressed in the management strategy and whether there are legacy issues.

Commissioner Solomon – You call it a qualitative model but I'm not so sure if you never qualified against them, it may be a numeric model. But it's really a qualitative model when you.....it's not calibrated.

John Huisman – It's essentially an spreadsheet model that uses the best available information that we have for that sector. Whereas the phosphorus, it really is purely qualitative just looking at increases and decreases and risks.

Commissioner Solomon – I went back through because you talked about Lenore County yesterday and I looked at percentages. It's always suspicious when I see just numbers of percentages. So I went back to the spreadsheet and looked at it. You said Lenore but I think you look at Lenore of the 20 years and it has only dropped from 4.1 million lbs. to 3.1 million. So it's 25% if you go back to that table. You pick on Jones, Lenore and Pamlico on page A-6 of your report. You pull out Jones, Lenore and Pamlico as the lowest percentage increases since 2014 to baseline. But I go back and look at the hard numbers on Jones and Jones had 1.1 million lbs. of reduction last year between 2013 and 2014. Lenore started off with 4.1 million lbs. in the baseline year and 2013 they stayed flat until 4.2 million. That would support your thing with Lenore. Then last year Lenore dropped 1.1 million lbs. which was almost 25% of the net reduction between 2013 and 2014. So something magnificently happened in Lenore County last year. What was that?

John Huisman – Basically that was an increase focus on what was going on Lenore after the reporting last year. A letter was sent to them about their lack of progress and needing to implement more BMPs. The Division of Soil and Water worked with the LAC. Sometimes when there's a little bit more focus on the counties and they go back and look at the records they realized that several acres may have been added in previous years that didn't belong there or acres of done out of production that weren't caught in a previous reporting year, so things kind of get caught up where there might be acres included in previously Lenore reports that no longer belong in NLEW software. It was basically a correction that was needed about what was actually happening in Lenore.

Commissioner Solomon – That would question over the whole dataset from year to year because those wild swings would suggest that people can go back and pencil in numbers that aren't being monitored. I'm not saying you're penciling them in but you're not capturing the significant stuff year to year if you've got one. Clearly in your report you had Lenore, Wilson and Greene contributed for a 61% of your total last year those three counties. So your progress was made in Lenore itself is one you've got on your list of people that needs help. But somehow they corrected it a million lbs. in one year.

John Huisman – Soil and Water has been working with the LACs Development like protocols to make sure everybody's reporting information in a similar fashion so oversights like this are missed so acreage don't continue in the future. This happens from time to time where something isn't caught in the previous year reporting, and there's a correction made in the future. So you see those bigger jumps but it's not systematic.

Commissioner Solomon – Have you guys taken these numbers and compared them? How old is that agreement, 20 years? The ag agreement about how we measure nitrogen.

John Huisman – The NLEW is about 15 years now but it has been updated since then. The tool is approved but it has been systematically updated through the years.

Commissioner Solomon – Again you're not measuring anything like the NPDES programs or like some MS 4 programs are measuring.

John Huisman – There is definitely more uncertainty with these numbers. These are estimations. It's not end of pipe water quality monitoring like with the wastewater treatment plants.

Commissioner Solomon – As a staff and I'm just trying to understand the numbers and what you're doing. Because you say you need more people but is there a correlation back to these swings in these numbers in this model to the actual stream quality for water quality. I know some of the basin associations have done some work and they think certain watersheds are impacted. Are we really going back and looking at these numbers county by county to say these areas match because if you look for resources, that's one of the ways you justify the resources because we're attacking the problem. Have you looked at Lenore County since it is on your troubled list? Does that match up where the streams are impaired?

John Huisman – Not necessarily haven't looked at that county. I know with the basin plan process where we identified researched needs and data needs in the Neuse and Tar. There has been an increased focus on looking at water quality monitoring data and trying to look at smaller watersheds that are primarily agriculture in nature to see if we can find a correlation between the numbers that we're reporting in terms of overall reductions in some to see if instream numbers match that as well. That was a request that came back when we presented the Neuse basin plan. We're beginning to focus on things like that where we try to look at smaller watersheds. We just don't focus exclusively on the estuary to make that connection that you're talking about.

Commissioner Solomon – In your report it's page A-11 on cropping shifts. In the second paragraph you say that the price of cotton and soy beans remain high to the main farmers. Who decided not to plant corn may have rotated either of those crops. Then you say very infinitely these factors contributed to the increased nitrogen loss reduction percentages and the basin as a whole. I'm just wondering if you have a million in that sentence and then you draw the conclusion that did make that happen. I look at your data and I say maybe it's total crop loss is contributing as much as crop rotation, especially. I don't know what happens in Lenore County.

John Huisman – Crop loss and crop rotation are definitely the biggest factors. From year to year we haven't seen a ton of crop loss. Relatively at the baseline you see like over a 100,000 acres of cropland loss. We have a lot of discussions in the BOC about what is going on with agriculture, where are things going back when the ethynol phrase is kind of hitting big. We saw a lot more corn production. It does seem to be that as corn and cotton production go down for economic reasons, we've seen other crops go up in acres. For the Neuse as a whole soybeans went up since last year to this year. I think that's a connection that we're trying to make there. We saw less cotton but more soy beans and soybeans use less nitrogen than the cotton does.

Commissioner Solomon – But it's not really a qualitative call. It's more of a speculation I guess. That's kind of bad for public policy to find out to have it tied down to a number, I guess.

Commissioner Tedder – Let's back up through the whole process because everybody was not around when these rules were adopted. We never went back and did what the rule said. I think we need to start back and look at the existing rules. Have we implemented the rule as the Commission approved that rule? I'm not sure we have. There are some missing pieces. We got to focus on the nonpoint sources and find out where the missing pieces are. I don't think we can blame it all on a legacy. I think we are missing some major components in these basins. We're going to have to get serious about it. I don't think it's getting at what the Commission intended when they approve these rules. So we'll take a little bit deeper dive into the rules and what's happened or have not happened at the January meeting. There has been some monitoring and I want the staff to address this because I was informed that the Lower Neuse Compliance Based Association has done some monitoring and they identified some hot streams.

Commissioner Rowlan – The question of modeling to me even going back to the first presentation on mercury. You saw that there was 3% of the deposition happening in North Carolina from North Carolina sources. I'm sure that's coming through a computer model, numeric model. But really has to happen in all of these if we're going to see progress toward the goal which is what the Commissioner was talking about here is we got to go out and get our feet muddy. I've got the data but I don't know if it's actually calibrating and showing up in the real world. If we want to go in a certain direction we have to get our feet dirty and get actual hard data to say that this matches what criteria is but we've got to change the model.

Chairman Carroll – I want to ask Commissioner Tedder a question. It seems to me that there's a possibility that we're not collecting data on all of the potential sources in this problem. Is that your opinion in this modeling?

Commissioner Tedder – I think we don't even know where the sources are because a huge component in that part of the world is animal operations. I don't mean swine. We don't even know where they are. They're not monitored. It's missing a component of the entire problem.

Chairman Carroll – Is that something that we could undertake?

Commissioner Tedder – I think that's something that we'd ask the staff to undertake.

Chairman Carroll – That's kind of the focus of your thinking right now, that there is a huge piece out there that the models aren't getting. We can measure all the progress in what we're modeling but we're not capturing maybe a big source of the problem. Right?

Commissioner Rowlan – I would say that it's true for more than just water quality. That's also true for air, deposition and just about everything you look at.

Commissioner Solomon – I do think that it is weakest here. This is 20 years old and you run this model for so long on a county wide basis.

Chairman Carroll – Obviously something is being missed.

Dr. Raymond – Our recent legislative activity has a history of air quality monitoring has reduced the number of sites that were measuring. Perhaps those sites that have been eliminated are now critical sites. But I would just point that out that it cost money to monitor and so we have to be selective. But the trend has been recently to reduce the amount of air quality monitoring.

John Huisman – I just wanted to point out we do recognize Commissioner Tedder, you are right. If the coalitions have worked with the department on doing additional monitoring in certain watersheds, they're going to help with analysis in the basin plan process, focus on areas where we weren't collecting data previously for smaller ag watersheds I think they're going to help inform the basin plan process moving forward. We certainly are following up on the recommendations that came out in July about following up and getting out a handle on where poultry operations are and looking at the ag's numbers and getting an idea of where the facilities are throughout the state. I think there are challenges that we're still looking into about the policies and legislature that prevent certain information being shared between different departments in the permitting so where those facilities are located. But then there's where the manure or the compost waste is being transported and land applied. Those are things that we're looking into. We certainly have that on our list.

By Committee Members

Chairman Charlie Carter – Most of what we did yesterday obviously was the Clean Power Plan. The one additional recent matter is the public hearing we held last evening at 6:00 in the Archdale Building on the streamlining rules for the air permitting exemptions that we move out in September. We had three speakers and more attendees at that and we're developing a good record for that process. That rule may or may not be back in January. I'm not sure yet. I will have to work with the staff on that to see when we can get the hearing officer's report. I just wanted to apologize to Commissioner Tedder for apparently misunderstanding his remarks earlier and responding in a way that was done inappropriately.

Chairman Craven – The Water Allocation Committee met yesterday and we dealt with the Kerr Lake IBT which the Commission carried through on it today. We voted unanimously regarding a request for approval to proceed with revisions rules which should be coming to the full EMC at the January meeting. We took as

an information item our interbasin transfer update and the one that we have currently in process is the Union County IBT, and it will likely be coming back to the Committee and to the full EMC late in 2016. We continued the presentations and discussions in our impediments and challenges of permitting water supplies. We have received tremendous information from various municipalities and water providers, and utility districts over the past 12 months. We're beginning to bring that into sort of a compilation and I think at this point what we're finding is that we've got a great accounting of the problems. We're pretty short on solutions at this point. We are going to spend the next couple of meetings focusing on potential solutions in hopes that we can come back to the EMC late spring or early summer with a full report of our work, and have recommendations for actions that this Commission can take to help the producers in this state come up with increased water supplies.

Chairman Martin – The Groundwater Committee met and we had one action item that's a request to proceed with the rules review related to well construction. Those will be coming forward to the full Commission. We approved those revisions that were necessitated by S. L. 2013-413. We also had an information item as a heads up regarding requirements for beneficial reuse of coal ash combustion by-products and that under the rule changes in accordance with S. L. 2014-122 the EMC will have to start the rulemaking process to deal with those issues and again it was an information item, so we will be hearing that in the future.

Chairman Tedder – We heard yesterday that has been heard here today.

By Directors

Director Culpepper provided a legislative update.

Director Davis provided a legislative update.

Director Holman provided a legislative update. Also reported three public hearings to be held in December on the Clean Power Plan.

Director Zimmerman provided a legislative update.

By Commission Members

Commissioner Solomon – Jordan Lake allocations. I understand from some of the stakeholders that has been delayed again as far as the allocation process. Is that correct?

Tom Fransen – We just had to delay it from one meeting so it will be a two month delay. With staff resources we are working through the report and wanted to make sure we had everything covered adequately. We ended up doing one extra month. We are working diligently to get the allocations done.

Commissioner Carter – I wanted to correct in my earlier comments because I forgot that I wanted to join Director Holman in thanking the DAQ staff for all of the extremely hard work and very excellent work they did on the Clean Power Plan proposal.

Commissioner Solomon made comments regarding the Nest regulation. **Commissioner Tedder** also made comments regarding this issue.

By Counsel Jennie Hauser

(Counsel passed around the November litigation updates.) In the City of Fayetteville vs the EMC case and that is your Cary Apex IBT challenge, the discovery process is discontinuing in that matter. There is nothing further to report but wanted to let you know that's kind of going along as normal for litigation. The Halle Turner vs EMC matter is the rulemaking petition that Chairman Hutson had acted on and they went to Superior Court for judicial review. Oral arguments are scheduled for next Friday and I will be appearing on behalf of the Commission and another attorney from our office, Scott Konkan who works with the Air program which was the subject of this rulemaking. He will also be with me. We will be dividing that argument. I'll be speaking to the procedural matters and Scott will be speaking to the technical matters. If you look at the very bottom of the page we've added a new case since you last met. That's the City of Lenore vs DENR DWR and the Environmental Management Commission. This is a Special Order on Consent against the City of Lenore for violations of a wastewater consent order. The consent orders contain stipulated penalties and the Director issued an order for payment of those stipulated penalties. They have filed a contested case. Since you have by rule delegated those Special Orders on Consent in most of these situations to the Director, you're not

directly involved in what was done. What will happen, you are a named party to the case and so I wanted to make you aware that this had been filed. I am working on the case and with me two of the attorneys that are assigned to the Division of Water Resources, the three of us working on this case on your behalf, so you are well represented. If there are developments in that, we will bring them to your attention.

By Chairman

We have a Civil Penalties Group I meeting and Commissioner Julie Wilsey will chair that meeting for us. Does anyone else have anything that they want to add to or say?

With no further business before the Commission, the Chairman adjourned the meeting at 1:00 p.m.

Approved this day _____ of December, 2015

Gerard P. Carroll, Chairman of the EMC

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