

**NORTH CAROLINA
ENVIRONMENTAL MANAGEMENT COMMISSION**

National Pollutant Discharge Elimination System (NPDES) Committee Minutes

November 17, 2021

The NPDES Committee occurred in the Ground Floor Hearing Room of the Archdale Building at 512 N. Salisbury St., Raleigh, NC. Commissioners, staff, and scheduled speakers attended in-person on Wednesday, November 17, 2021. **The NPDES Committee meeting audio and presentations** were broadcast via the state web conferencing link posted on the North Carolina Environmental Management Commission (EMC) website at:

<https://deq.nc.gov/about/divisions/water-resources/water-resources-commissions/environmental-management-commission>

The meeting was called to order at 1:00 p.m. with Chair Deerhake presiding. She provided the notice required by N.C.G.S. § 138A-15(e).

NPDES COMMITTEE MEMBERS IN ATTENDANCE	
Marion Deerhake (NPDES Chair)	John McAdams
Patricia Harris (Vice-Chair)	Maggie Monast
Charles Carter	Robin W. Smith (EMC Chair), Ex-Officio

EMC MEMBERS & COUNSEL IN ATTENDANCE	
Dr. Suzanne Lazorick, EMC Vice-Chair	Mr. Phillip Reynolds, Counsel
David Anderson	

OTHERS IN ATTENDANCE	
Julie Grzyb, DWR Deputy Director	Lois Thomas
Danny Smith, DWR Director	

I. Preliminary Matters

1. Call to Order

The meeting was called to order at 1:00 p.m. with Chair Deerhake presiding. She took a voice roll call of the members in attendance and confirmed a quorum existed.

Chair Deerhake read the State Government Ethics Act - G.S. 163A-159(e) "Conflicts of Interest" notice. No Committee members responded that they had a conflict of interest with any action or information item on the meeting agenda. There were no conflicts of interest.

2. Approval of minutes from September 9, 2020 (attached). **Chair Deerhake** indicated that there were a few corrections to be made. She stated that Mr. Chernikov's title should be Dr. Chernikov. One other correction was to change proposes which should be proposed on the last

page of the minutes. **Commissioner Harris** made a motion to approve the minutes as corrected. **Commissioner McAdams** seconded the motion and the motion passed.

3. A decision was made to approve the minutes at the next NPDES committee meeting in January 2022.

Action Item

1. Request that the Color Variance Applicable to Blue Ridge Paper Products, LLC be Terminated

Chair Deerhake recognized EMC Counsel Phillip Reynolds to explain the purpose of the meeting and the variance review process.

EMC Counsel reminded the Commission that this was a quasi-judicial matter. EMC Counsel Reynolds explained that the decision coming before the NPDES Committee was regarding the color variance and not the associated permit.

Chair Deerhake reminded the members that the day's topic focused only on the color variance. She said the EMC delegated to DWR decision-making authority for all other aspects of the NPDES permit renewal for the facility.

Ms. Kountis, DWR Classification, Standards, and Rules Review Branch, reviewed the definition and authorities for an NPDES variance. She also presented the history of the color variance for the Blue Ridge Paper Products, LLC, Canton facility which discharges treated wastewater effluent to the Pigeon River. She expressed the Division's reasoning to support terminating the facility's color variance. Ms. Kountis provided information on the public hearing held and provided comments received pertaining to the color variance's proposed termination. She also presented DWR's estimated rulemaking timeline associated with the proposed variance termination. Finally, Ms. Kountis conveyed the Hearing Officer Charles Carter's recommendation for the EMC NPDES Committee to terminate the color variance.

Chair Deerhake called for questions from the Committee members. Hearing none at that time, she proceeded with her own questions for staff. She asked who initiated the variance termination. Ms. Kountis said the permittee approached the Department, requesting removal of the variance.

Chair Deerhake asked whose idea was it to shift to a new color compliance determination method known as "ΔPlatinum-Cobalt Units" (ΔPCU). Ms. Kountis introduced staff member Dr. Chernikov to respond. Dr. Chernikov stated that in the early 1980s, the EPA interpreted the North Carolina narrative color standard as an instream standard of 50 PCUs. This number is based on the ability of the average observer to detect instream color. However, he said it is important to emphasize that the ability to detect color does not mean that the color is objectionable to the observer, which is the basis of the North Carolina standard (15A NCAC 02B .0211 (12)). Hence, DWR concluded the EPA interpretation of objectionable is overly conservative.

During the last 30 years, Blue Ridge Paper has made significant improvements to the facility in order to reduce effluent color load and improve its overall environmental performance.

As a result, the annual average effluent color loading has been reduced from 380,000 lb/day in 1988 to 36,000 lb/day today.

In order to achieve this result, the mill has spent over \$526 million in expenditures on environmental process improvement since 1990. The mill upgrade included two changes that significantly improved the mill's environmental performance. The facility eliminated the use of elemental chlorine and implemented significant changes to both the pine and hardwood bleaching lines.

The first major change was the use of oxygen delignification. This process is utilized to separate the lignin from the fiber. This resulted in significant improvement in the mill's environmental performance. The second major change was the implementation of full-scale bleach filtrate recycle (BFR) on the pine bleach line and caustic extraction stage (E_o) filtrate recycle (~20%) on the hardwood bleach line. BFR removes color from the effluent. It was installed in 1998 at a capital cost of \$30 million.

According to the latest report of consultant Dr. Liebergott (issued on July 7, 2006) the mill is ranked # 1 in the world in regards to the BOD, COD, and color removal. Dr. Liebergott was originally hired in 2001 by the consortium of environmental groups to evaluate the facility for color reduction options. Dr. Liebergott also concluded, after evaluating data from 76 similar mills around the world, that Blue Ridge Paper Plant is ranked # 2 in the world in regards to the TSS and AOX (adsorbable organic halides) removal.

Biological studies conducted by the University of Tennessee in 2005 and 2012 concluded that the Pigeon River has a "balanced and indigenous fish community". These studies also found a diverse and healthy macroinvertebrate community in the Pigeon River. Separate scientific studies indicate that stream color concentrations below 100 color units have no effect on health of aquatic organisms (NCASI Special Report 9407, Human Perception and Biological Impacts of Kraft Mill Effluent Color, June 1994).

According to the information the Division received from the state of Tennessee, the River Run Walleye has returned to the Pigeon River. This is a very sensitive species that indicate high water quality. The Pigeon River has also become a trophy smallmouth bass fishery, and the number of rafters in Tennessee has increased from ~21,000 in 1995 to almost 150,000 in 2007.

The true color at the North Carolina/Tennessee line during the last 5 years (2014-2018) has averaged 21 color units, which is significantly below the value that was interpreted by EPA as the color water quality standard agreed upon by both states.

The true color at the Fiberville Bridge (0.4 miles below discharge) during the last 5 years (2014-2018) has averaged 41 color units, which indicates the long-term compliance with the EPA interpreted state color standard.

Review of the instream monitoring data for the period 2014-2018 indicates that this condition would be met most of the times with an exception of the significant drought conditions.

Therefore, DWR recommended that the NPDES permit's color condition require the facility to meet the monthly average $\Delta 50$ PCU (the difference between monthly average true color

upstream of the facility and the monthly average true color downstream of the facility wastewater discharge outfall at the Fiberville Bridge) when the flow in the Pigeon River is equal to or greater than monthly 30Q2 (2 year, 30-day low flow). By meeting this condition, DWR staff believe the facility will not contravene the State ambient color standard (15A NCAC 02B .0211(12)). The Δ PCU approach to compliance determination is proposed to eliminate potential influence of upstream turbidity and other color-contributing sources on color that is measured at the Fiberville Bridge monitor downstream of the facility's effluent discharge outfall.

When asked by **Chair Deerhake** to justify the change in compliance determination methods which are not equivalent and are designed to measure different outcomes (i.e., an instream measurement downstream of the facility that exceeds an objectionable color threshold vs. exceedance of a selected difference between downstream and upstream colors), Dr. Cherniov explained that it is DWR's position that changing to the Δ PCR method is supported by the additional following information:

- 1) The Bowater Hiwassee River Study (Prestrude and Laws, 1989) identified that color increases of 50 to 60 PCU were acceptable to observers. Since the background (upstream) color concentration for Blue Ridge Paper is 13 PCU, the downstream color concentration of 64 to 74 PCU should be acceptable to observers.
- 2) The recommendation from the Bowater Study was accepted by the State of Tennessee which established a color limit of 50 PCU above background for the Hiwassee River.
- 3) A similar study conducted by Dr. Prestrude for the State of Maine resulted in the color limit of 40 PCU above the source river's background.
- 4) Dr. Prestrude conducted color perception studies in both Tennessee and North Carolina waters (Pigeon River). Prestrude (July 1996) reported that the vast majority of people participating in the research projects considered water quality color in the receiving stream aesthetically acceptable in the 100-110 PCU color range.

Chair Deerhake responded that it appeared the request for terminating the variance based on the new and different approach to demonstrating compliance (i.e., Δ PCU) may be interpreted by some as not demonstrating a reduction of actual color downstream because the basis for the compliance determination was different. Dr. Chernikov explained that implementing compliance with NC Color Standard at the Fiberville Bridge (0.4 river miles downstream of the discharge) makes the permit more stringent because the original agreement with EPA and TN required compliance with the Color Standard at the state line (almost 39 river miles downstream of the discharge). In addition, the permit maintains Daily Maximum, Monthly Average, and Annual Average Color limits that have been developed by the EPA technology team, which consisted of EPA experts and independent experts. Furthermore, Fiberville bridge was chosen as a compliance point as the first downstream sampling location, which is a standard procedure for all Major NPDES permits, and this is the first time when the permit for this facility requires instream compliance with the water-quality based Color Standard. Previous permits only required compliance with the technology-based effluent Color Standards.

Chair Deerhake explained that she thought it was neither relevant nor appropriate to state in the Response to Comments that color levels in other parts of North Carolina exceeding 50 PCU

are acceptable to the public and support the acceptability of greater than 50 PCU in the Pigeon River. She explained that eastern North Carolina waters are not comparable to the Pigeon River because those rivers are distinctly different ecoregions with unique water chemistry. She added that the Hiwassee Basin – while in western NC – is also a distinctly different ecoregion and has a greater volume and flow rate than the small Pigeon River. She added her same reasoning could apply to waters in the State of Maine.

Chair Deerhake asked Dr. Chernikov if Blue Ridge Paper performed more than the one study of potential new color-reducing treatment technology described in the facility's 2015 annual color report included in the action item's records. She said the report showed only one new technology study which was rejected as infeasible. She added the 2015 report indicated the facility primarily adopted multiple best management practices and replaced/upgraded equipment. Dr. Chernikov said Blue Ridge has performed additional technology studies in other years and determined those were also infeasible or ineffective.

Chair Deerhake asked if U.S EPA Region 4 submitted any written comments on the proposed termination of the color variance. She said the Hearing Officer's report only referenced discussion with Region 4. Dr. Chernikov said Region 4 did not submit written comments.

Chair Deerhake stated that she believed reliance on the statewide aesthetics standard (15A NCAC 02B .0211(12) for color may not be appropriate, citing the lack of a definition in the standards for "aesthetics" and the standard's vagueness since the state contains extremely diverse river basins and ecoregions. She recommended that the EMC examine the state-level aesthetics standard to determine if it can be amended to increase its relevance to the state's many diverse basins and ecoregions.

Chair Deerhake added that the meaning of "objectionable" for the purpose of determining water color compliance is based on averaging monitored stream color data. In contrast, "objectionable" odor for air quality rules is based on real-time observations. She said this difference in the meaning and application of "objectionable" is another topic that the EMC may wish to examine.

Commissioner Carter stated that there was much argument that the color variance should not be eliminated, and that there was no legal basis for the variance to be extended.

Commissioner Carter made a motion, and EMC Counsel Reynolds recommended that the motion should include adoption of the Hearing Officer's Report. **Commissioner Carter** agreed. EMC Counsel Reynolds said that he understood **Commissioner Carter's** motion to be that **Commissioner Carter** moved that the committee "adopt the hearing officer's report and that the 2010 Color Variance from the narrative standard for color [15A NCAC 02B .0211 (12)] issued to Blue Ridge Paper Products, LLC (d/b/a Evergreen Packaging) on July 14, 2010 not be extended for another permit term and therefore terminated upon issuance of the NPDES permit renewal, as required in Paragraph (E) of the 2010 Color Variance."

Commissioner Harris seconded the motion. **Chair Deerhake** asked if there was any additional discussion. Hearing none, the Chair called for a vote, and the motion passed.

With no further business before the Commission, the **Chairman** adjourned the meeting at 2:30 p.m.

Approved this 12th day of January 2022.

Marion Deerhake, Chair
NPDES Committee

DRAFT