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Healthy People. Healthy Communities.

June 20, 2021

Toby Hobson
New-Indy Catawba LLC
PO Box 7
Catawba, SC 29704

Re: June 15, 2021 New-Indy Catawba Mill Corrective Action Plan

Dear Mr. Hobson,

Attached please find the Department's response to the New-Indy Catawba Mill Corrective Action Plan submitted on June 15, 2021. Please address all comments and submit a final approvable CAP within five calendar days.

Sincerely,

Renee G. Shealy, Chief
Bureau of Environmental Health Services

DHEC Comments to New-Indy Corrective Action Plan (CAP)
June 20, 2021

General

- Please ensure that any required permits or approvals are obtained before implementing any activity under the CAP.
- Please provide status and updates of the actions taken under the CAP in the weekly update.
- New-Indy has requested and received approval for several pilot projects related to the wastewater treatment process. Please include all requests for these type projects and their associated approvals as an attachment to the CAP. Please describe each pilot project in more detail to include how New Indy will measure the success of each of the projects, the cumulative effect of the projects, and how long it is anticipated the projects will last. Note the request to use ferric chloride ($FeCl_3$) is not currently mentioned. Please include this request and its associated approval in the CAP. Additionally please provide details as to the project to add calcium nitrate to the ASB since a request for this project was not previously requested and approved. Please also see the related comments below in the Section 7 responses.
- The CAP makes many references to solids/fiber/sludge, etc. and how it is being handled or needs to be handled. Please clearly describe how New-Indy intends to manage the solids/fiber/sludge, from removal from the wastewater treatment plant (ASB, Equalization (EQ) Basin, etc.) to its disposal (including location) and the timeframe for completion of each activity. The description must address the following:

  The CAP describes removal of sludge from the aeration stabilization basin (ASB) as part of ongoing maintenance to achieve proper aeration and mixing of wastewater in the ASB. The CAP also briefly mentions removal of sludge from the Equalization Basin. Sludge removed from the ASB and Equalization Basin is being transferred to Sludge Lagoon 4. These sludge removal processes appear to be part of ongoing operation and maintenance activities and are not fully inconsistent with the Voluntary Cleanup Oversight Contract (VCOC). However, the continued use of Sludge Lagoon 4 for ongoing routine disposal of sludge seems to be preventing timely achievement of the major objective of the Oversight Contract to consolidate dioxin containing sludge in Sludge Lagoon 4 (and potentially other locations), and to close the area(s) of consolidated sludge in the manner of a Class Three Landfill. Please describe how New-Indy intends to ensure compliance with the oversight contract while still providing the necessary sludge removal as part of the overall efforts to address operation and maintenance, hydrogen sulfide (H2S) and odor issues.

  Sludge Lagoon 4 currently holds a significant amount of sludge and the CAP identifies that sludge removed from the ASB and Equalization Basin will be placed in Sludge Lagoon 4. What is New-Indy's long term plan for Sludge Lagoon 4? Does New-Indy intend to remove this sludge from Lagoon 4 at some point in the future and place it in a permitted landfill for permanent disposal or is the intent to leave this sludge in Lagoon 4 for permanent

disposal? What other disposal options has New Indy evaluated for the sludge from the ASB and Equalization Basin?

Has New Indy performed a structural evaluation of the berm for Sludge Lagoon 4 on the river side to determine whether it can adequately contain the quantity of material currently placed in the lagoon and planned in the future for the lagoon? Please provide details regarding this evaluation.

What is the estimate on the amount of solids that need to be removed for the entire WWTP to operate effectively to ensure that excess H2S and other pollutants are not created and released into the atmosphere.

The onsite landfill is permitted to take various liquor sludges, and it was stated the landfill could be covered daily. This coverage could set up anerobic conditions which can produce H2S. Please discuss the need to conduct a landfill gas study to determine whether it is producing excess H2S.

- The CAP mentions air dispersion modeling done in March 2021. Please provide a copy of those results.
- The CAP mentions that an odor measurement drone was being used. Please provide the results of the measurements taken.
- Please add planned SO2 emissions testing.
- The summary states that increasing the capacity of the stripper is being evaluated. Later in the document, there is a reference to consultation with a contractor and a repair made to the trim reflux condenser to increase stripper capacity. If the stripper capacity was already increased, by how much was it increased?
- High terpene levels have been noted in one of the foul condensates samples. Please comment on the evaluation of the turpentine recovery system and if it is a source of some of the organics in the ASB.
- How is the black liquor being managed to ensure that the crude soap that is generated is properly processed and not adding to the solids issue in the wastewater treatment plant (WWTP)?

Specific

Section 3.8.1 Condensate Collection and Treatment System

- It is stated that the foul condensate steam stripper returned to service in May 2020. Please clarify whether this should be May 2021.
- With the steam stripper returned to service, how much foul condensate still discharges directly to the ASB? Please provide an updated wastewater process flow diagram showing the foul condensates flow path. Additionally, please provide a graphic of the daily production rates and amount of foul condensate generated. For each day, please separate the foul condensate into the amount that went to the stripper and the amount that was hard piped to the ASB since the steam stripper was placed back online.

- Is the type and concentration of constituents/contaminants/pollutants in the foul condensate stream that is piped to the WTS consistent on a daily basis? Are parameters, such as temperature and pH consistent as well? Please provide details on the stream contents, consistency, etc.

Section 3.8.2 Wastewater Treatment System

- This section states that the hard pipe to the ASB was reconfigured by increasing the diameter below the liquid surface near the entrance of the ASB. When was this hard pipe originally installed? Please provide details as to why the foul condensate is sent to the ASB instead of the EQ Basin as was referenced in previously submitted documentation.

Section 4.4 Ambient Air Monitors

- Please provide the specific locations, parameters monitored, timing of the installation and period of operation and the hourly average measurements of the air monitors referenced in 4.4. If monitors were moved, please state the reasons why and where they are now located. Please provide a detailed evaluation of the data collected. The daily average concentrations provided in Appendix C do not provide adequate characterization of the range and variability of concentrations over time and between sites and the relationship monitored concentrations to local wind conditions. Please provide hourly wind speed and direction to better characterize wind direction. In addition, it is not clear if the wind data provided in the Appendix D is comparable between that collected at the top of the kraft pulp mill and reported in the 'Initial onsite locations' table and that collected at any or all of the current fenceline stations and if the kraft pulp mill meteorological station continues to be operated.

Section 6. Corrective Action Plan – Condition 6

- Our records indicate that the total reduced sulfur (TRS) continuous emissions monitors (CEMs) mentioned in Section 6 are used for excess emission monitoring and not compliance demonstration purposes with the emission limits. Please clarify when testing is used to demonstrate compliance versus CEMs.

Section 7.Wastewater Treatment Improvements

- Please provide a detailed flow diagram for the wastewater treatment system.
- Please address the following: multiple schematic drawings (2014, 2017 and 2019) indicate the foul condensate was to discharge at the EQ basin. This information included the daily flow volume to discharge into the basin. Currently, it is in the influent of the ASB.
- The CAP states "The clarifier allows solids to settle to the bottom and be removed and clarified water to overflow to either a settling pond or directly to ASB." What part of the

WTS is a settling pond ? Additionally, there are several references to treated wastewater flowing to holding ponds-please clarify.

- What has caused the Holding Pond 1 to off-gas H2S? Please provide all water related sample results taken in Holding Pond 1 and from the discharge point to the river. If not already conducted, please analyze representative samples from Holding Pond 1 and the discharge to the river for sulfides, sulfates and sulfites and submit the results to the Department by June 25, 2021.
- With the aerators now in place in the holding pond, the flow path through the pond is evident. Flow appears to travel near the eastern and southern banks of the pond, leaving a portion of the pond that appears to be stagnant rather than moving through and out of the pond. How has this be addressed to get full movement through the pond?
- Given this design of the WTS and long-term O&M, please evaluate the appropriate treatment option for the foul condensate, to include minimizing H2S formation (i.e stripper treatment vs hard pipe to WWTP).

<u>Section 7.2.1 Operational Issues that may be Causing or Contributing to Odor and Elevated Levels of Hydrogen Sulfide</u>

- This section states, "On June 9, 2021, the facility installed a flexible cover, blower and carbon filtration system to capture emissions from the post-aeration basin and treat the off gasses through a carbon filtration system to reduce the H2S." Please provide details regarding the long term plans for this system and how New Indy will determine how adequately it has performed. Include any parameters being monitored and at what frequency and range that determine proper performance.
- Section 7.2.1 states, "The second source of H2S is the formation of H2S by sulfate reducing bacteria in unaerated or poorly aerated areas in the ASB or holding pond." Section 7.2.2, which discusses the design of the ASB, states that the bottom portion of the ASB is "anoxic conditions, which are by design out of reach of the aeration and mixing energy from the surface aerators." It appears the design of the facility contributes to H2S formation, even if it is operated properly. How will the facility manage these emissions long-term once the system is restored to proper operation? Does the NPDES permit and application show ASB design as anoxic?

<u>Section 7.2.2 Adequacy and appropriateness of waste treatment that is occurring in the Aerated Stabilization Basin</u>

- Please provide a summary of the process control data collected for the ASB since January 2021.
- The evaluation done by EBS uses Chemical Oxygen Demand (COD) as the parameter to gauge the removal efficiency of the ASB. Please discuss how COD relates to biological oxygen demand (BOD) in this situation.

Section 7.2.5 A study of the microbial population with regards to reducing the fiber/foam layer and providing biological degradation of BOD5

- In discussing the microbial population, the counts of specific organisms identified are generalized, such as "several" or "few." What baseline for a population count of the identified organisms that would indicate a healthy system is being used?

Section 7.3 Corrective Actions and Timeline

- **Please expand the rationales for each of the corrective actions to include specific targets the corrective actions are intended to reach, more detailed timelines, and the methods used to determine that targets have been achieved (e.g., sampling).**
- An O&M manual for the WTS needs to be developed to include, but not be limited to, overall and detailed process flow descriptions, all influent into the WTS and its characteristics, qualitative and quantitative conditions that represent a properly operated system, for each unit operation and as an overall system, qualitative and quantitative conditions that require corrective action; corrective actions to be taken and timeframes to complete corrective actions.
- The ASB had curtains to direct the flow of water within the basin. When were these removed and when will they be reinstalled?
- Some of the new additional treatment process is aiding with the wastewater water quality and odors associated with it. Because the NPDES permit requires an Odor Abatement Plan, please consolidate these treatment modifications and additions in one document as a part of the plan.

Section 7.3 Item 1: Removal of Floating Solids in the ASB

- Section 7.2, *Comprehensive Evaluation of Wastewater Treatment System,* describes issues in the Aerated Stabilization Basin (ASB) related to excess fiber loading into the ASB combined with production liquor losses. Additionally Item 1 identifies this as an action. Please fully describe the plan to identify what causes the excess fiber loading and production liquor losses and what will be done to prevent this from occurring in the future. Please provide an expeditious timeline for completion.
- With the upcoming removal of the floating solids in the ASB, what is the potential for a spike in H2S emissions from the ASB as the water surface is exposed?

Section 7.3 Item 2: Removal of Settled Solids in the ASB

- The CAP states that "sludge maintenance dredging is ongoing." What dredging schedule has the plant been utilizing since 2015? What is the current schedule and maintenance plan for sludge removal? How has the facility determined what is the appropriate "faster rate" of dredging and what is that rate?

Section 7.3 Item 3: Primary Clarifier Sludge Handling Improvements

- Long-term plan for primary clarifier sludge handling is the pressing and removing the sludge. Timeline was not specified.
- Long-term plan for primary clarifier sludge handling is reducing non waste water loads. How will this be accomplished? Timeline?
- For the non-wastewater loads that will no longer be sent to the primary clarifier, what are the plans to handle these materials?

Section 7.3 Item 4: Existing Aeration Repair

- This section states that supplemental oxygen will be provided "until aeration conditions improve in the ASB." Please describe the process and/or testing that will be conducted in order to determine that aeration conditions have improved sufficiently enough to remove the supplemental oxygen additions.
- Please describe your long- term operation & maintenance plan to assess how the aerators are functioning to provide for timely repair or replacement?
- Please provide the number of aerators operating in the weekly update.

Section 7.3 Item 6: ASB Biomass Monitoring: EBS Advanced Microscopic and Chemical Analysis

- New-Indy plans to conduct weekly sampling at the ASB to be able to assess function and react. Please specify the acceptable range for these parameters, along with justification on how these ranges were developed. What action(s) will be taken should data fall outside an acceptable range? Please address why is a weekly sample sufficient.
- Please provide a weekly status report to DHEC with this information to include data using the EBS New Indy – Catawba Wastewater Service Report in Appendix D as the template.