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AS 19-2 Emerald Performance Products

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As we have heard from Emerald representatives, the facility faces unique challenges. They are unique because no other company in the U.S. produces the finished products that they market. This should be remembered when deciding how we go forward because Emerald has played both sides of this fence by arguing that they utilize Best Degree of Treatment (BDT) in providing biological treatment but then state that the compounds they produce are resistant to biological degradation. How can this be considered BDT for these types of compounds? They say that facilities regulated by the Organic Chemical, Plastics and Synthetic Fiber (OCPSF) Federal Regulations stipulate biological treatment to be BDT. I doubt that facility was considered when developing the OCPSF regulations. We have learned from testimony that MBT, at a concentration of 3 PPM, is inhibitory to nitrification. We have also learned that they say ~~no~~ tertiary nitrification would not be possible because MBT levels in the secondary clarifiers effluent is above 3 ppm. We also learned that Chemical Oxygen Demand (COD) levels in this treated effluent ranged from 300 to 600 mg/l. We don't know the composition of chemicals that exhibit this COD level or what kind of data base Emerald has to say that this is actual historical data or just a snap shot in a small window of time. We do know that they do not violate listed

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OCPSF regulated organic chemical compounds. So we must surmise that the COD exhibiting compounds are not OCPSF regulated and are resistant to biological degradation. Emerald also stated that from September of 2019 until now they have ammonia levels below 3ppm. I have checked with IEPA and the last toxicity test they have received from Emerald was November of 2017. A request to submit the permit required data was made 3 weeks ago but has not been supplied or even an attempt to respond to the request. My guess is that the required information would still show high toxicity results, not because of ammonia but because of high TDS levels and what is exhibiting high COD levels. I would like to know if this stream segment is impaired and further downstream segments are on the 303D list of impaired waters, and if so, if the cause of impairment is unknown. My biggest fear is that we are creating another Love Canal situation by allowing biological resistant chemicals to be discharged in high concentrations because only ammonia has been identified as the toxicant in the Discharge.

I was encouraged to hear that Emerald had embarked on looking at process changes that led to reductions MBT and subsequently reductions in Ammonia from September of 2019 forward. This is the first and so far the only time that the facility has done anything on their own without

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Agency prompting. However, I'm still fearful because of the tone at the hearing that very little will be done in regard to the toxic nature of their discharge. When identifying that they have performed studies of treating wastes with Granular Activated Carbon (GAC), hydrogen peroxide (H_2O_2), tertiary nitrifications and other treatment and pretreatment options, they don't provide details of how these tests were performed. Whether they be bench scale, sidestream or other types of studies and the extent that these studies were performed. They only provide conclusion without evidence that these and other treatment or pretreatment options would fail or be economically unreasonable. All these options were requested to be examined by the Agency because Emerald has always said nothing else can be done and did nothing on their own without Agency prompting. Emerald would also have you believe that Agency personnel has no expertise in treating their waste water and that only their consultants and employees would be capable of understanding what could and could not be done. That could be partially true because the facility has not come forward with identifying anything about their production process, raw materials, intermediate products, final products and byproducts. I have a degree in Chemical Engineering and I would hopefully think this would be sufficient to be employed by Emerald. I have never heard of any special classes that needed to be taken

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by Emerald. None were offered at U of I or any other college that I know

Finally, Emerald would like an adjusted standard with no expiration date. I believe that not having an expiration date would allow Emerald to revert back to their do nothing attitude. I believe that Emerald should be required to evaluate and re-evaluate their ^{manufacturing} processes and treatment and potential pretreatment processes until the discharge is no longer toxic except for toxicity related to Total Dissolved Solids (TDS). Emerald has proposed Ammonia standards that are based upon highest production levels. I believe tiered standards should be considered for different production levels. I also believe that some type of COD standard should be imposed so that the discharge into the Environment of these biological oxidant chemical compounds would be dramatically reduced or better yet eliminated.

Respectively

Richard E. Finnes