

# Norlite, LLC

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Kate Kornak  
Environmental Analyst, Division of Environmental Permits  
NYS DEC – Region 4  
1130 North Westcott Road  
Schenectady, New York 12306

July 3, 2017

Re: Norlite, LLC –DEC#4-0103-16/20-0 SPDES#NY-000 4880– Permit Modification Request – WWTP Hydrogen Peroxide

Dear Ms. Kornak:

Norlite, LLC (Norlite) is submitting this letter in response to a request for additional information to determine if the proposed reconfiguration of the treatment system to use 50% hydrogen peroxide in place of chlorine bleach (sodium hypochlorite) requires the submission of an Approvable Engineering Report and necessitate a permit modification. The response will address the following seven items from the May 26, 2017 letter requesting additional information.

1. Identify the current concentrations of pollutants that may be affected;

**Tradebe's Response:** The current location of the sodium hypochlorite addition is after all the treatment equipment. Replacing the current oxidant with hydrogen peroxide will eliminate the chlorine residual and leave the concentration of other pollutants unchanged. Hydrogen sulfide odor will also be impacted.

2. Explain how hydrogen peroxide will constitute "equivalent or superior treatment" as outlined in 6 NYCRR 750-2.10 (h);

**Tradebe's Response:** Hydrogen peroxide has a 29% higher oxidation potential than chlorine and is more efficient at destroying odor causing compounds. The concentration of hydrogen peroxide is higher than commercially available with sodium hypochlorite. This allows the Operator the flexibility in dosage while maintaining the equivalent or superior odor reduction without a chlorine residual odor.

3. Describe potential byproducts or increases in concentrations of other pollutants.

**Tradebe's Response:** No increase to concentration to other pollutants and, the by-products of hydrogen peroxide decomposition are oxygen and water.



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4. Specify which SPDES parameters will be subject to increased monitoring;

**Tradebe's Response:** The SPDES parameters that will be subject to increased monitoring during the study are chlorine residual, oxidation reduction potential (ORP), dissolved oxygen (DO), and hydrogen sulfide.

5. Identify which intermediate sampling points and parameters may be tested;

**Tradebe's Response:** Norlite will be testing ORP readings just after the dosing (006 effluent) and upstream at 06C at higher frequencies. The sample points will also be observed for odor and if present will be tested for hydrogen sulfide. The information will be documented.

6. Predetermine the metrics that will be used to define a successful study;

**Tradebe's Response:** Maintenance of ORP level, no or lower chlorine residual, hydrogen sulfide reduction, and the use of hydrogen peroxide within a predicted volumetric range are the predetermined metrics of the success of the interim study.

7. Provide confirmation that the study has a high probability of success and will not adversely affect the community (e.g. odors).

**Tradebe's Response:** Hydrogen peroxide is a widely used industrial oxidizer that is used to treat hydrogen sulfide, mercaptans, amines, and other pollutants without leaving harmful by-products upon decomposition. A bench study using Norlite effluent tank material subjected to dosaging from hydrogen peroxide and sodium hypochlorite produced similar results in the maintenance of ORP and the reduction of odor. Hydrogen peroxide required half the volume of active ingredient compared with sodium hypochlorite.

Should you have any questions regarding this letter, please contact me at (518) 235-0401 or email at: [Prince.Knight@Tradebe.com](mailto:Prince.Knight@Tradebe.com).

Sincerely,

Prince M. Knight III  
Laboratory, Environmental and Compliance Manager

Ecc: Carrie Smith – NYS DEC  
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Darrell Monk – Norlite  
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