

**Lee, Jeffrey K**

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**From:** James Niermann [JimN@rmtowill.com]  
**Sent:** Tuesday, September 12, 2017 8:27 AM  
**To:** Young, Raymond; Lee, Jeffrey K  
**Cc:** Pobuk, Jack  
**Subject:** RE: Sample clarifier tank covers to address DOT-Airport Comments and Odor Concerns  
Raymond,

The following are some of the reasons that covers are not being proposed.

**Cover vs No Cover**

1. Typically, secondary clarifiers and aeration basins are not covered at wastewater treatment plants. Covering the secondary clarifiers and aeration basins will be costly. Based on an engineering cost estimate in 2002, the cost to cover a clarifier was approximately \$1M per clarifier. The cost to cover the clarifier will be substantially higher today.
2. The clarifiers and aeration basins require the plant operator to collect samples daily in order to check if the process is operating properly. Covering the clarifiers and aeration basins will make the effort of collecting samples more difficult.
3. Daily visual checks of the water surface of the aeration basins and clarifiers allows the plant operator to detect any issues with the treatment process prior to upsets. Covering the aeration basins and clarifiers will hinder the operator's ability to do visual inspections that prevent secondary effluent from being in non-compliance.
4. Both aeration basins and clarifiers will have instrumentation for process control. The instruments require regular maintenance and calibration. Covering the aeration basins and clarifiers will make it more difficult for the operators to do their daily maintenance tasks.
5. There are total of 6 existing clarifiers (4 primary clarifiers, 2 secondary clarifiers) on site that are not covered now. There has not been any notification of a current issue with birds or glare with the clarifiers. Any new clarifiers without covers would not alter the existing condition.
6. Secondary Clarifiers and Aerations Basins are not typically a source of odor that would require them to be covered.

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**From:** Young, Raymond [mailto:rcsyong@honolulu.gov]  
**Sent:** Tuesday, September 12, 2017 8:20 AM  
**To:** Lee, Jeffrey K; James Niermann  
**Cc:** Pobuk, Jack  
**Subject:** Sample clarifier tank covers to address DOT-Airport Comments and Odor Concerns

Jim: Pls take a look at sample cover and ask ENV why not?

<http://ieccovers.com/industrial-cover-products-tank-covers/>

Raymond Young

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