

Lewes Board of Public Works
Contingency Committee Meeting Minutes
November 14, 2023
3:00pm

Committee Members

- Barbara Curtis, BPW Assistant Treasurer, chair
- Earl Webb, BPW Board Director- Absent
- Tim Ritzert, City Council Ex-Officio
- Mark Prouty, Committee Member- Absent
- Bob Heffernan, Committee Member
- Austin Calaman, BPW General manager
- Donna Colton, Committee Member
- Sumner Crosby, Committee Member
- Daphne Fuentevilla, Committee Member-Absent

Others Present

- Paula Dorn, Aqua Nereda

The meeting was called to order at 3:00pm.

Key Takeaways

- The purpose of the meeting was to discuss inquiries and concerns related to the wastewater treatment facility and gather information.
- The main topics of discussion included the use of Aqua Nereda technology, preliminary design for a SBR system, protecting drying beds from storm events, options for elevating buildings and tanks, access to the site, and waste disposal methods.
- The main issues discussed were the labor-intensive maintenance with current technology, vulnerability to salinity levels, cost-effectiveness, and vulnerabilities of drying beds to sea level rise.
- Open questions were raised about Aqua Nereda Aerobic Granule Sludge project scale, sludge management capacity, and lifespan (15-20years) and maintenance of the headworks project.
- Complaints were addressed and solved regarding water quality, reduction in chemical use, saline water handling, salt-related issues, and system viability by Aqua Nereda representative.

Current Workflow

- Discussed concerns over the Aqua Nereda presentation focusing on building new infrastructure instead of utilizing exiting infrastructure.
- Addressed concerns about meeting effluent requirements during the initial three months of granulation and reassured that the objectives can still be met with activated sludge.

- Suggested using an existing or new site for the startup.
- Discussed use of current membrane filters and addition of disc filters to improve water quality.
- Discussed the need for building clarifiers with a filter system.
- Discussed the Berlin wastewater treatment facility tour. Berlin uses SBR technology that avoids chemical use in treatment processing, specifically for phosphorus removal.
- Starting up a plant from scratch using the technology highlighted its resiliency and ability to achieve nitrification and phosphorus removal quickly.
- Depending on the quality of seed sludge selected for start up there could be the possibility of scum or foam development with digester sludge.
- Mentioned that flexibility exists with the food to microorganism ratio.
- Discussed implications for meeting effluent objectives and the need to adjust seeding concentration or implement flow diversion to avoid overwhelming the system.
- Emphasize the importance of understanding the seed sludge process and the time required for granulation.
- Reassured the team that they can still meet permit limits by using conventional activated sludge.
- If starting at full flow rate, they may consider supplementing with AGS seed if necessary.
- Emphasized that Aqua Nereda ensures compliance with the permit.
- Discussed how saline water needs slow bleeding to maintain low salt levels and prevent system damage.
- Raised concerns about system vulnerability to intrusions and high salinity's impact on the biological process.
- Discussed options for running current and future systems in parallel.
- The amount of seed sludge used would vary based on the location.
- Shared experience with streamlining operations and suggested that having in-house operations may be more cost-effective.
- Discussed splitting the system and relocating it to a new facility.

Positive Moment

- The cost-benefit analysis of avoiding chemical use in treatment processing was positive due to lower costs associated with chemical use.
- Paula Dorn mentioned that there is flexibility with the seed amount, suggesting that it could be increased.
- Paula Dorn mentioned that the Aqua Nereda plant saw nitrification resume in a couple of cycles and was hitting their full nitrification target again, which was a positive result.

Goals

- Highlighted goal: handle saline water effectively without compromising the biological treatment process.
- Improve water quality at the wastewater treatment facility by exploring technologies and approaches, such as filters and chemical use.

- Stated the goal of using a treatment system less vulnerable to salt intrusion than current activated sludge processes.

Concerns

- Concerns with sea level rise and the low elevation of the current drying beds.
- Raised concerns about system vulnerability to intrusions and high salinity levels' impact on biological processes.
- Discussed meeting effluent objectives and adjusting seeding concentration or implementing flow diversion to avoid overwhelming the system.
- Expressed concerns about maintaining the bug population in low or high flow situations.
- Concerns about water quality from the wastewater treatment facility when using the Aqua Nereda technology.
- A toxic dye manufacturer's input disrupted a wastewater treatment plant, emphasizing the need for careful input management. This incident exposed the sensitivity of the plant's bugs to salt, causing frustration over potential issues it can cause.
- Discussed challenges in the fear of unknown technology.
- Discussed concerns about changing management and the preference for hiring in-house staff.
- Expressed the need for analysis and proving the value and benefits of any investment. Uncertain if board will approve management changes and allocate funds for further studies and engineering.

Action Items

- Gather capacity and power information for the existing plant to assess feasibility of integrating new technology.

Respectfully Submitted
Sharon Sexton
Executive Assistant