

## Activated Sludge Process Update

1 message

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Mon, Apr 13, 2026 at 12:34 PM

To: Michele Smith <michele.smith@dnr.iowa.gov>

Cc: Deron Muehring <Dmuehrin@cityofdubuque.org>, Justin Licht <Jlicht@cityofdubuque.org>

Good afternoon, Michele,

Following up on our conversation this past Friday, I wanted to provide an update on actions we have taken to improve performance of the activated sludge process.

### Monitoring and Process Control

- Since bringing Train B back into service on March 13, 2026, we have been monitoring dissolved oxygen (DO) in individual cells within each train. This has helped us better understand conditions within the basins and make more targeted adjustments.
- Prior to that, Train B was pumped down to the headworks to help manage solids and simplify operations.

### Mixers and Maintenance

- Earlier this year, we had seven mixers out of service (2 in Train A, 4 in Train C, and 1 in Train B).
- The following mixers have been repaired and returned to service:
  - A2: out of service from 9/26/25, in service from 3/10/26
  - A3: out of service from 10/2/25, in service from 3/10/26
  - C3: out of service from 2/2/26, in service from 3/9/26
  - C8: out of service from 11/8/25, in service from 3/11/26
- The following mixers remain out of service:
  - B9: out of service since 10/23/25
  - C5: out of service (failure occurred between Dec 2024 and June 2025; SCADA data gap due to server replacement)
  - C9: out of service
- Mixers B9, C5, and C9 are waiting on replacement drive shafts (estimated lead time ~8 weeks).

### Access Improvements

- The access road to the east of the basins has been completed. This allows us to bring in a crane and remove mixers for maintenance, which should help reduce repair time going forward.

### Process Performance

- We have conducted oxygen uptake rate (OUR) testing and have seen improvement since bringing Train B back into service on March 13.

### Scum/Grease Observations

- During DO monitoring, we observed heavy grease/scum buildup on the dissolved oxygen probe.
- It appears that some, but not all, treatment cells/stages have a layer of scum on the surface that may be limiting oxygen transfer.
- The scum gets trapped in the cells by the concrete baffles.
- Removing it requires either pumping down a train or pulling a mixer and vacuuming the material off the surface.

We will continue to monitor conditions and make adjustments as needed. Let me know if you have any questions or would like additional information.

Thank you,

Willie



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