

Cold ammonia removal webinar CEU submittal

Course title: **Cold Weather Lagoon Ammonia Removal**

Course location: **Online webinar**

Start date: **Wednesday, December 1, 1 pm CST**

End date: **Ongoing (on demand) through lagooniversity.com**

Total classroom hours: **1**

CEUs requested: **0.1**

[Explain how this course meets the professional growth criteria to operate and maintain a domestic wastewater treatment plant or to manage the operation and maintenance of a domestic wastewater treatment plant.]

Attendees will learn how using a simple and cost-effective way to better manage their lagoon system and improve treatment.

[How will attendance be monitored/verified?]

Attendance is verified through Go To Webinar, which maintains records of the time and duration of registrants' participation. On-demand webinar attendees (through lagooniversity.com) must also get a passing grade on a subject quiz to receive a certificate of completion.

[Course summary]

This 60 minute webinar presents an overview of the lagoon ammonia removal process and an evaluation of options to achieve compliance. Attendees will learn why lagoon ammonia is being regulated, the six key factors for nitrification, and the available technologies for lagoon ammonia removal, with case studies.

- **Why lagoon ammonia is being regulated**
- **The nitrification process**
- **6 key factors for nitrification: BOD, dissolved oxygen, pH, biomass, temperature, mixing**
- **Nitrification options: including mechanical plant replacement, modified discharge, in lagoon media, aerated rock filter, nitrification reactor**
- **Lagoon ammonia removal case studies**

[Course agenda with timeline: start and end times]

- 0:00 Introduction**
- 5:00 What is ammonia? Nitrogen Forms & Categories**
- 10:00 Why lagoon ammonia is regulated**
- 15:00 Nitrification basics; the 6 essential components of nitrification**
- 1. BOD**
 - 2. Aeration**
 - 3. pH & Alkalinity**
 - 4. Nitrifier Biomass**
 - 5. Temperature**
 - 6. Mixing**
- 30:00 Why lagoons fail to nitrify**
- 35:00 Review of nitrification options:**
- **Mechanical plant conversion**
 - **Discharge modification**
 - **Process solutions: In-lagoon media**
 - **Process solutions: aerated rock filter**
 - **Process solutions: cover & reactor**
 - **NitrOx process**
- 45:00 Lagoon ammonia case studies**
- 55:00 Q&A session**
- 1:00:00 End**

[Instructor bio]

Ben Shakman has been in the water and facilities business for the last 9 years and holds an MBA from the University of Illinois. His background includes high-purity, utility and wastewater experience at both Nalco and Evoqua. Prior to entering the water business, he spent over 26 years in the Army. Ben is a Regional Manager for Triplepoint Environmental and has presented on lagoon topics at conferences across the Midwest.