



# ONLINE TRAINING/WEBINAR SPEAKER INFO, BIO & TOPIC ABSTRACT

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Please provide the following information and email to [support@nwmoa.com](mailto:support@nwmoa.com).

If you are presenting on multiple topics during this event, please fill out one form for each topic.

Name: Rika Lashley

Suffix:

Job Title: Environmental Engineer

(i.e.: Ph.D., P.E., Jr.)

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Checking this Box confirms that I agree to be videoed and recorded for the duration of the Online Training/Webinar.

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**1. Speaker Biography** (please provide one paragraph – 150 words or less)

Rika Lashley is a registered engineer with over 14 years of experience in environmental engineering following completion of a BS Environmental Engineering degree at the South Dakota School of Mines and Technology. Her involvement at the Butte-Silver Bow wastewater treatment plant started in 2010 as resident project representative and staff engineer for miscellaneous smaller upgrades that readied the plant for the “big one.” Rika designed the fine screening facility and bioreactors of the Butte plant and assisted in the design of other plant components. Other recent projects include design and construction of the Deer Lodge wastewater treatment plant, facility planning for the Missoula wastewater treatment plant, and involvement in planning and design services for several small communities in Montana, Wyoming, and South Dakota. Rika is an active member of WEF and AWWA and lives in Helena with her family.

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**2. Topic Title** (please provide the topic title for your presentation)

Design and Operation of the Butte-Silver Bow MBR

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**3. Topic Abstract** (please provide a minimum of 250 words for your presentation and describe how it relates to membrane technology)

Between 2006 to 2016 the Butte-Silver Bow wastewater treatment plant underwent a transformation from a simple BOD removal plant to a state-of-the-art nutrient removal facility using membrane bioreactor technology. This presentation summarizes the bioreactor and membrane basin design, process startup pains and operational challenges, and treatment performance since 2016. Highlights include process configuration for summer and non-summer operation, conquering foaming upsets, and nutrient removal successes of the first few seasons of operation of the MBR.



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**4. Polling Questions** (please provide up to 5 questions you might ask the audience, relative to your topic, which you would like to engage with them on. Questions are multiple choice. A right or wrong answer is not required. If you do provide a question with only 1 correct answer, please indicate which answer is correct.. Provide 3 answers to choose from.)

1. Q. Does your MBR perform biological nutrient removal?  
A 1 Yes  
A 2 No  
A 3 Biological nitrogen removal only
2. Q. What form of phosphorous removal does your MBR perform?  
A 1 Biological  
A 2 Chemical  
A 3 Combination of both
3. Q. Do you have metals limits?  
A 1 Yes  
A 2 No  
A 3
4. Q. Does your MBR help with metals removal?  
A 1 Yes  
A 2 No  
A 3 Not sure
5. Q. How often do you perform recovery cleans in your MBR basins?  
A 1 Quarterly or more frequent  
A 2 Twice per year  
A 3 Annually