To: DeMeo, Sharon M.[Demeo.Sharon@epa.gov]
Cc: Stein, Mark[Stein.Mark@epa.gov]; Webster, David[Webster.David@epa.gov]; King, John Paul[king.john@epa.gov]
From: Houlihan, Damien
Sent: Thur 3/20/2014 1:12:45 PM
Subject: RE: IWC Best of Webinars: ZLD March 27, 2014

I'm interested but will be out of the office. Thanks.

From: DeMeo, Sharon M.
Sent: Wednesday, March 19, 2014 10:39 AM
To: Houlihan, Damien
Cc: Stein, Mark; Webster, David; King, John Paul
Subject: FW: IWC Best of Webinars: ZLD March 27, 2014

Hi,

If there is any interest in seeing this presentation, I could see about getting a room. Let me know.

From: Stephanie Mueller [mailto:s.mueller@eswp.com]
Sent: Wednesday, March 19, 2014 10:01 AM
Subject: IWC Best of Webinars: ZLD March 27, 2014

Join us **Thursday, March 27 at 12 Noon EST**

for the first best of the IWC Webinar: Best of ZLD with Patricia, Roy and Sara

Free to attend and worth 1 PDH!

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The Thermal ZLD Experience for FGD Wastewater at PSNH's Merrimack Station by Patricia Scroggin, PE & Richard Roy

Public Services of New Hampshire's Merrimack Station (PSNH) installed a Wet Flue Gas Desulfurization system designed to remove mercury to meet state law requirements. PSNH received notice from EPA that they would not receive an NPDES permit modification in time to support their scrubber installation and startup schedule and that the new final NPDES permit would also not be issued promptly. PSNH had anticipated this risk and proceeded with engineering, procurement, construction and commissioning of a thermal Zero Liquid Discharge System (ZLD) consisting of an evaporator and crystallizers to treat their wet scrubber blowdown stream. The system was unique in that it allowed for both partial and full ZLD operation. This paper will discuss the timeline of events from project identification through commissioning. Lessons learned during commissioning will be presented and discussed.

ZLD Systems: Variations in Design Due to Raw Water Chemistries, Space, and Cost Considerations for Recent Combined Cycle Power Plants By Sara Titus, P.E.

Bechtel is the EPC contractor for multiple, combined cycle power projects which utilize Zero Liquid Discharge (ZLD) technology to treat the blowdown from plant cooling towers. Each ZLD system poses unique design challenges and is configured with site- specific constraints due to varying raw water chemistries, space, and cost considerations.

This paper discusses how the ZLD systems fit into the overall plant water management schemes, the evolution of the ZLD system design from the time of scoping of the systems until the start of construction. Additionally, the paper discusses criteria established for evaluating ZLD systems, as well as design considerations including, brine handling and waste minimization challenges associated with the limited footprints of the evaporation ponds.

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Future webinars:

Frac Water	Produced Water	SAGD	OTSG	FGD
April 17, 2014 - 12-1 pm EST	May *TBD* - 12-1 pm EST	June 19, 2014 - 12-1 pm EST	July *TBD* - 12-1 pm EST	August 21, 2014 - 12-1 pm EST
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