

Olson, Kirby, NMENV

From: Blankenship, Bill <bblankenship@lanl.gov>
Sent: Wednesday, August 10, 2016 1:19 PM
To: Olson, Kirby, NMENV
Subject: RE: question on SERF spray evaporators

Kirby –

Yes, the water composition is the same for all basins.

I am not sure of their plans, but think I heard they would have 1 evaporator in each basin initially. But, in the application I wanted to give them flexibility in case 1 basin is more of an issue and they need to have more than 1 for a time.

Bill

From: Olson, Kirby, NMENV [mailto:Kirby.Olson@state.nm.us]
Sent: Wednesday, August 10, 2016 1:10 PM
To: Blankenship, Bill
Subject: RE: question on SERF spray evaporators

Hi Bill,

Thanks for your quick answer. I have an additional question: is the water composition in all the SERF basins essentially the same? In other words, does the same water flow into each of basins so that we don't need to track the amount of time the evaporators are in each basin in order to determine the HAP emissions?

Thanks,

Kirby

From: Blankenship, Bill [mailto:bblankenship@lanl.gov]
Sent: Wednesday, August 10, 2016 9:33 AM
To: Olson, Kirby, NMENV <Kirby.Olson@state.nm.us>
Subject: RE: question on SERF spray evaporators

Hi Kirby –

No, this would not alter the droplet distribution. As I learned going through this, for this type of evaporator the only influence on droplet distribution is water pump rate. The higher the pump rate, the smaller water droplets are formed = smaller particulate formed. That is the primary reason the other sprayer with its higher pump rate had higher percentages of PM10 and PM30. For this application, the droplet distribution is based on the rated maximum pump rate, so I would say the water droplet distribution is conservative for estimating potential PM30, PM10, or PM2.5.

I could see altering the plume height/direction having some influence on evaporation rate, but on annual basis not a significant impact. The evaporator is programmed to shut down below 38 degrees temperature or high wind speeds, the idea is to maximize evaporation.

Bill

From: Olson, Kirby, NMENV [<mailto:Kirby.Olson@state.nm.us>]

Sent: Wednesday, August 10, 2016 8:57 AM

To: Blankenship, Bill

Subject: question on SERF spray evaporators

Hi Bill,

I'm drafting the Title V minor mod for the SERF evaporative sprayers. The cover letter mentioned that the plume height and direction from the sprayers can be varied to adjust the water droplet drift. Does changing the plume height/direction alter the water droplet distribution that was used to calculate the particulate emissions?

Regards,

Kirby

Kirby Olson, Ph.D.

Major Permit Specialist

Air Quality Bureau

New Mexico Environment Department

525 Camino de los Marquez, Suite 1

Santa Fe, NM 87505

Phone: (505) 476-4322

Fax: (505) 476-4375

This email is intended to serve as general guidance and is in no way a formal statement of Department policy. Unique operating conditions may result in different determinations and may require a site specific analysis to accurately determine requirements and applicability.