Message

From: Wirick, Holiday [wirick.holiday@epa.gov]
Sent: 11/17/2020 7:43:41 PM
Subject: Fw: SD's proposed WQS revisions - Draft ammonia changes and cyanobacteria criteria

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From: Sengco, Mario <Sengco.Mario@epa.gov>
Sent: Tuesday, November 17, 2020 5:31 AM
To: Wirick, Holiday <wirick.holiday@epa.gov>
Subject: RE: SD's proposed WQS revisions - Draft ammonia changes and cyanobacteria criteria

Great! I'll look at this today.

Ex. 5 Deliberative Process (DP)

Thanks,

Mario

From: Wirick, Holiday <wirick.holiday@epa.gov>
Sent: Monday, November 16, 2020 5:43 PM
To: Sengco, Mario <Sengco.Mario@epa.gov>
Subject: Fw: SD's proposed WQS revisions - Draft ammonia changes and cyanobacteria criteria

Hi Mario, thanks so very much for offering to look at SD's proposed WQS revisions for ammonia and cyanobacteria.

The ammonia criteria is in Appendix A on p. 33. **Ex. 5 Deliberative Process (DP)** SD made the changes we recommended last December, but I just want to run the equations by you to make sure.

Can you also please take a look at the ammonia criteria language in 74:51:01:48 (warmwater semipermanent fish life propagation waters) and 74:51:01:49 (warmwater marginal)? Thanks.

The cyanobacteria criteria are in 74:51:01:50 (immersion recreation) and 74:51:01:51 (limited contact recreation) on pp. 19 and 21. I just want to make sure the duration and frequency are o.k.

I'm so happy South Dakota is moving forward on ammonia and cyanobacteria.

I really appreciate your help!

Holly

From: Wirick, Holiday
Sent: Friday, December 13, 2019 3:44 PM
To: 'Patrick Snyder (patrick.snyder@state.sd.us)' <patrick.snyder@state.sd.us>
Subject: FW: Draft ammonia changes

Hi Patrick, yes, here are the comments on the proposed draft ammonia changes.

Thanks – and have a fun weekend!

Holly

From: Wirick, Holiday
Sent: Monday, April 8, 2019 11:43 AM
To: Snyder, Patrick <Patrick.Snyder@state.sd.us>
Subject: Re: Draft ammonia changes

Hi Patrick, sorry for the delay in replying, but I wanted to check in with the ammonia criteria experts at EPA's Office of Water to make sure the equations were correct and the two ammonia leads were on travel.

Equation 1 is fine. For equations 2 and 3, it looks like they're both missing open parentheses:

Equation 2:

$$\mathbf{0.7249*(((0.0114/(1+10^{7.204-pH}))+(1.6181/(1+10^{pH-7.204})))*MIN(51.93,23.12*10^{0.036*(20-T)})}$$

Equation 3:

$$\mathbf{0.8876*(((0.0278/(1+10^{7.688-pH}))+(1.1994/(1+10^{pH-7.688})))*(2.126*10^{0.028*(20-MAX(T,7)})})}$$

Thanks. Talk with you soon.

Holly

From: Wirick, Holiday
Sent: Friday, March 29, 2019 2:52 PM
To: Snyder, Patrick
Subject: RE: Draft ammonia changes

Thanks Patrick. Stay dry!

From: Snyder, Patrick <Patrick.Snyder@state.sd.us>
Sent: Friday, March 29, 2019 2:49 PM

To: Wirick, Holiday <wirick.holiday@epa.gov>
Subject: Draft ammonia changes

Holly,

Attached are our current ammonia (1999 update) in plain text followed by the 2013 ammonia criteria in **BOLD.**

If you have a bit of time, I would appreciate it if you would review and ensure I am replacing the appropriate equations for both acute criteria and the chronic criterion.

Things are a bit on the wet and flooding side here. I hope you are high and dry! Have a great weekend.

Patrick Snyder
Environmental Scientist IV
South Dakota Department of Environment and Natural Resources