

DRAFT MEETING MINUTES
SENATE BILL 325 RULEMAKING COMMITTEE
Tuesday, November 15th 2016
2:00pm to 4:00pm
Metcalf Building
1520 E. Sixth Ave, Helena, MT 59620

PRESENT

Committee Members Present:

Tim Burton
Adam Haight
Art Hayes (Phone)
Tammy Johnson
Peggy Trenk

Montana Department of Environmental Quality Staff Members Present:

Kirstin Bowers
Myla Kelly
Adam McMahon
Melissa Schaar
Pete Schade
Melissa Sjolund
Timmie Smart
Amy Steinmetz
Mike Suplee

Members of the Public:

Bill Buxton – HDR in Missoula
Melissa McGinnis – HDR in Missoula
Tonya Fish (EPA-Phone)

Ms. Myla Kelly called the meeting to order at 2:04 pm. The meeting commenced with introductions followed by a re-cap of the October 18th meeting. Ms. Kelly reminded the group about the anti-backsliding questions that were answered and how it interplays with the rulemaking and the reliance on Montana's nondegradation rule. The public participation requirements when going through the performance based method were also discussed. Ms. Kelly said that Ms. Fish spoke with EPA headquarters to help clarify the requirements and learned that when the performance based methodology is used there is a public hearing at the time of adoption of implementation. Ms. Kelly explained that at this point EPA only has an oversight role, not an approval role and the public participation role can be spelled out by DEQ in the guidance document, it can be general, and can also be tied to other clean water act programs. There is nothing set in stone on EPA's end. Ms. Fish added that they also identified TMDL development as another place to piggyback onto other public notices. Ms. Fish also said that the EPA thinks the Alaska Language Rule itself says you have to make available the individual applications of the methodology, which includes data and calculations. It also stipulates that you have to maintain a publicly available list of the state by state decisions, which are the additional guidelines within the rule itself.

Ms. Kelly continued with recapping the last meeting, where the bulk of the meeting was spent on developing a performance based method for parameters seen on the Montana landscape that are high due to non-anthropogenic conditions. Those parameters are EC-SAR, arsenic, iron, aluminum and the consensus of the group was to develop a methodology for arsenic. No one had any changes to the minutes and they will be posted on the website.

Ms. Kelly moved onto the next topic of how nondegradation was going to fit into the rulemaking process with the issue of anti-backsliding. Ms. Kelly thought it'd be a good idea to go over what Montana's nondegradation rules are. Ms. Amy Steinmetz started her presentation by reminding the group that two meetings ago Wade Steere asked about anti-backsliding. His concern was with EPA's anti-backsliding regulations, and the limits would be raised and what does that mean for permits. Ms. Steinmetz reminded the group of Lisa Kusnierz' explanation of exceptions to anti-backsliding rules and one of those is if we have water quality standards that are updated. Ms. Steinmetz read one sentence from the document:

A limitation based on water quality standards may only be relaxed where the action is consistent with the state's non degradation policy.

Ms. Johnson asked what this would look like, which sparked Ms. Steinmetz's slideshow to show some pieces of nondegradation and how it might work for site specific criteria based on natural.

Ms. Steinmetz started with EPA's terminology which is slightly different than DEQ. EPA has anti-degradation with a 3-tiered system. MT DEQ calls it nondegradation and also has the 3-tiered system but it's not called that in the rules. Ms. Steinmetz explained DEQ's equivalence and how nondegradation applies to waters in Montana based on where a waterbody falls into one of these categories:

1. Outstanding resource waters
2. High quality waters
3. All state waters

Outstanding Resource Waters (1)

- Highest level of protection through nondegradation
- Equivalent to EPA's "tier 3" waters
- Water bodies entirely within the boundary of a national park or wilderness area, OR
- Water bodies designated by the BER and approved by the legislature as outstanding resource waters
- Degradation not allowed

High quality waters (2)

- Middle level of protection
- Equivalent to EPA's "tier 2" waters
- Water bodies with assimilative capacity- Ms. Steinmetz explained this as having the capacity to receive wastewaters or toxic materials without harmful effects and damage to anyone or anything consuming the water including aquatic life, humans or animals. i.e. the water quality is better than the water quality criterion necessary to protect designated beneficial uses.
- Montana uses a parameter-by-parameter approach- Ms. Steinmetz said that some parameters may have impairments tied to them, while others are high quality.
- For high quality waters, new or increased sources of pollution must undergo a nonsignificance review.

All State Waters (3)

- Lowest level of protection
- Equivalent to EPA's "tier 1" waters
- Water bodies that are impaired
- Existing uses must be protected

Ms. Steinmetz explained that you don't have the assimilative capacity to protect in the waterbody, so you're looking at the existing uses, making sure the existing uses and the water quality criteria necessary to protect those uses are maintained.

Ms. Steinmetz summarized these slides:

Three "Tiers" for Nondegradation

Increasing levels of protection as we climb from the bottom tier to the top tier.

- Outstanding resource waters- no degradation allowed
- High quality waters- protect assimilative capacity, but with an application for authorization to degrade, degradation may be allowed
- All state waters- protect existing uses

Next, Ms. Steinmetz talked about why non-anthropogenic is so difficult; because those waterbodies are technically in their best shape and are meeting their uses naturally. These are high-quality waters, but if DEQ assigns site specific criteria correctly within the natural range of values that occur, there's not going to be assimilative capacity. Ms. Steinmetz said DEQ can't do a non-significance review on the high quality waters in the way that it's been written in rule because it relies on assimilative capacity.

Ms. Steinmetz said this is where DEQ runs into the question of how to do non-significance reviews on these water bodies. She said that Ms. Johnson pointed out this will be a different situation and will just be looking at protection of existing uses and meeting the water quality criteria. Ms. Steinmetz clarified that it's the rule structure that makes it so challenging to address nondegradation.

Mr. Burton asked if DEQ receives many requests for authorization to degrade. Ms. Steinmetz replied that this is all new territory and these waters would be treated as impaired because the criteria are well below the current water quality. Dr. Suplee added that DEQ rarely gets requests for authorization to degrade for any types of water, if ever.

Ms. Johnson asked if DEQ thinks that nondegradation needs to be tweaked for this type of approach. Ms. Steinmetz said DEQ is looking at what needs to be done with the rules and guidance to make it usable, that it's been really challenging. She said a lot of different programs use the nondegradation rules, which is part of the challenge; making sure if DEQ does updates to the nondegradation rules it includes all of the programs that use it.

Ms. Johnson went back to the example of the Yellowstone River and the non-anthropogenic arsenic, thinking that having an example makes it easier to understand. Ms. Melissa Schaar said she would explain this in her slideshow on Arsenic that she was presenting later in the meeting. Ms. Peggy Trenk asked if SB325 can be fully implemented without it being nondegradation. Dr. Suplee said it has to be dealt with. Ms. Trenk asked if it applies to the variance part, too. Ms. Steinmetz said since they wouldn't be changing a standard, DEQ wouldn't have to go back to the nondegradation rules. Ms. Johnson wondered if this was an "it depends" situation, to which Dr. Suplee said that they're not water quality standards, per se. He said this is for Part 2 and was not addressed in the guidance.

Ms. Kelly moved the discussion to Arsenic specifics that DEQ has been working on in the last month. The workgroup came to a consensus to put efforts toward developing a method for site-specific criteria for arsenic. Ms. Fish said that EPA has a very specific definition for performance based and it's a high bar and she would like to avoid conflicts down the road where EPA has a different definition than DEQ does. Ms. Fish thinks if you take "performance based" out of the draft language, you don't lose anything and you could call the method something more general like - site specific criteria method for non-anthropogenic sources. Ms. Fish said it's better to not define terms that EPA has already defined because the parameters that the workgroup is talking about could go down a lot of different paths and might not be able to get to the performance based level. Ms. Fish said to give the workgroup the flexibility within their rules to explore what the spectrum looks like. She thinks this is the best opportunity to get something approved by EPA.

Ms. Kelly wanted to explore what the path forward could be with arsenic. She said that DEQ has studied arsenic in the Missouri and Yellowstone River systems in the past 2 years, DEQ has a plethora of arsenic data on the Madison River and DEQ has also made the demonstration for natural arsenic loading and sources coming out of Yellowstone National Park. Ms. Kelly said DEQ's thoughts were to start with the Madison River where they have the most data and develop a method for demonstrating non-anthropogenic:

- What are the data needs?
- How do we select the criteria?
- How do we implement the criteria?

Ms. Kelly continued with what DEQ plans to work toward:

1. Site-specific criteria
2. The method for calculating the site-specific criteria approved by EPA and the methodology used to get to the site specific criteria
3. A template for replicability for other parts of the state. Ms. Kelly said the method might change a little bit due to other anthropogenic sources.

Ms. Kelly added that this would follow the intent of part 1 of the statute and this is how DEQ envisions going forward.

Next, Ms. Schaar presented her slideshow on the Madison River: Overview of Proposed Arsenic Criteria Development and Preliminary Modeling Results. She started with some review:

Montana's Current Arsenic Standard

- Human health standard for surface water and groundwater – **10 ug/L**
- Aquatic life standards
 - Acute – 340 ug/L
 - Chronic – 150 ug/L
- Yellowstone, Madison and Missouri Rivers "use" designations – "*drinking water with conventional treatment*"

On Ms. Schaar's next slide, she pointed out the area of the Madison River and the areas in which DEQ is proposing to make changes to in their pilot project. Ms. Schaar mapped it all the way to Fort Peck and past Billings for the Yellowstone River. She said the Madison River is a great area to start with because there is a lot of data.

Ms. Schaar explained the proposed 3 segments for reclassification:

1. Yellowstone National Park to Hebgen Lake, 9.5 miles

2. Below Hebgen to Ennis Lake, 56 miles
3. Below Ennis Lake to Headwaters State Park, 41 miles

Ms. Schaar said the use change would be *drinking water with arsenic limited*, or something similar. She said the change would be done mainly for public perception and outreach so the public knows there is high arsenic.

The next slide showed preliminary results for model concentrations in these 3 segments.

1. Yellowstone National Park to Hebgen Lake at West Yellowstone Station- average concentration is 245 ug/L, exceeding the aquatic life standard for chronic.
2. Below Hebgen to Ennis Lake at Grayling Station- average concentration is 131 ug/L
3. Below Ennis Lake to Headwaters State Park at Below Ennis Lake Station- average concentration is 77 ug/L.

Ms. Schaar calls these preliminary results because the concentrations represent total arsenic that's in these rivers and the anthropogenic loads have not been teased out. She is still working on this but suspects they will be insignificant and not change the concentrations too much.

Mr. Pete Schade asked about exceeding the aquatic life numbers and wondered if these will be addressed similarly to drinking water, where there are modifiers and language added to address the use for both. Ms. Steinmetz said that the use actually exists, so the aquatic life has adapted to what's there. She said they wouldn't have to technically change the use because it exists, but would be good for public perception if DEQ is going to adjust the number so people understand it's a naturally arsenic limited waterbody; that the adjustment isn't to allow more pollutions.

Mr. Burton said there are a lot of fish there, and it's naturally occurring arsenic, so what DEQ is trying to accomplish is the definition of existing quality so that for any future requests to changes, you'll have your baseline. Ms. Schaar said that DEQ is also defining it as arsenic limited with conventional treatment and wondered if once you get to the point where you have over 200 ppb for drinking water, if it can be treated conventionally.

Next, Ms. Schaar explained the Mass Load Equation- the total of Arsenic Mass Loads, and how she takes out anthropogenic loads to come up with a non-anthropogenic condition in a river:

$$\sum \text{TAL} = \text{YNP} + \text{PSL} + \text{GW} + \text{Trib} + \text{RO}$$

$\sum \text{TAL}$ - Total Arsenic Load of a sampling location, based on flow rate and concentration at a specific time

YNP - Geothermal arsenic load from the Yellowstone Caldera,

@ the park boundary, $\sum \text{TAL} = \text{YNP}$ – the largest load in the Madison River.

PSL – Point source arsenic load, permitted discharge operations- more when you get toward Ennis.

GW – Groundwater arsenic load contribution- may or may not be anthropogenic

Trib – Surface water discharge into the main stems from the major tributaries - may or may not be anthropogenic

RO – Surface water runoff - may or may not be anthropogenic

When Ms. Schaar modeled this section, she only modeled the total arsenic load. She used 20 years of hydrologic daily data calibrated by using water quality data, which finds the best load for every day over those 20 years.

- Inputs
 - Flow Data
 - Water Quality Data – TRC Arsenic
- Outputs
 - Daily Load (kg/Day) and Concentration ($\mu\text{g/L}$) estimates for the time period modeled
 - Calibration and modeling statistics for each site

Ms. Schaar next covered the assumptions of this model:

- A minimum of twelve concentration data points is needed to calibrate. Ms. Schaar has hundreds of data points for the Madison River and the 3 data stations.
- Modeling stations are existing USGS stations with years of daily hydrologic data
- Only Total Recoverable Arsenic is modeled
- The modeling results estimate a total arsenic load and concentration for a station. This result includes both anthropogenic and non-anthropogenic arsenic
- Anthropogenic arsenic inputs must be estimated separately and subtracted from the final results of the model

Ms. Schaar used the data to find the daily average per month. She found that during baseload conditions, the load coming out of the park is the same as the load past Ennis. There are not a lot of other inputs during that time of year, but more arsenic input during higher water times of the year.

Next, Ms. Schaar showed a graph of average monthly concentrations (slide 11) for each segment. The numbers vary seasonally when dealing with an undammed area closer to the park. Ms. Schaar said that DEQ could set standards just based off of this data. They could be seasonal standards, or even a monthly standard. Ms. Schaar gave an example of setting a standard just below Grayling Lake. The permit writers could then look at the monthly standard or a seasonal period and average it.

Ms. Schaar next showed the different Point Source Discharge Location:

- Trident Plant
- Three Forks Domestic Waste Water Treatment Plant
- Ennis Waste Water Treatment Plant
- Gardiner Waste Water Treatment Plant

Followed by An example of Anthropogenic Load: Point Source Dischargers (Please refer to slide 15 for the numbers)

Slide 16 and final slide maps the Madison River Tributaries. Ms. Schaar said these are potential sources for anthropogenic and non-anthropogenic sources of arsenic, but pretty insignificant. This concluded the slideshow.

Ms. Kelly pointed out that even if the point sources turn out to be an insignificant source of arsenic, the process for accounting that anthropogenic arsenic loading is critical to the process. Ms. Schaar agreed and said the process is the same on the Yellowstone River where you take out the point sources and again you won't see a huge significance with them.

Mr. Burton asked what the naturally occurring sources are on the Missouri River. Ms. Schaar said it's the same load coming from Yellowstone National Park. Then you hit the headwaters where the Gallatin, Jefferson and Madison join to form the Missouri River. Ms. Schaar said it's the same initial load but diluted and doesn't drop below 10 µg/L until Fort Peck.

Mr. Schade said you have your anthropogenic point source load and evaluation of the anthropogenic non-point source loads. He wondered how Ms. Schaar estimates the loads and sources. Ms. Schaar pointed out that's the whole problem. She's been working with some modelers to figure this out. They have been looking at GIS and land cover, if there is a mining source in the area, trying to figure out what the actual process will be. Mr. Schade said you could use a lot of reference conditions, but in this case you don't have that. Ms. Kelly said they could do a conservative approach and see what the numbers are and provide that range to make some decisions from.

Ms. Steinmetz then gave examples on the whiteboard of impaired, high quality, and non-anthropogenic.

High Quality	Impaired	Site Specific Condition based on Non-Anthropogenic
Criterion: 10 ppb	Criterion: 10 ppb	Criterion: 15 ppb
Current Water Quality: 4 ppb	Current Water Quality: 15 ppb	Current Water Quality: 15 ppb

In the High Quality box, Ms. Steinmetz said this scenario could be on the Yellowstone River, past Forsyth, where the arsenic level is 4 ppb this would be considered high quality water—there is assimilative capacity. She said there is assimilative capacity because there is room between the current water quality and the water quality criterion. Ms. Steinmetz explained that when DEQ does their non-significance review, because arsenic is the carcinogen, they are looking at the point source discharging into a waterbody making sure to not go above what's in the receiving water. In this scenario Ms. Steinmetz has the receiving water at 4, so if a discharge was 3.7, it would be non-significant. But, what if the discharger wants to discharge at 6? That's above the receiving water, so the discharger would have to figure out how to treat and how to get it below 4 or apply for an authorization to degrade.

Ms. Johnson said she understands but this process doesn't utilize anything in SB325. Ms. Steinmetz agreed, saying she was just giving a very simple example.

Ms. Steinmetz moved to an impaired water with the same criterion, but the water quality is at 15. The water is impaired so you don't have to do the non-significance review because DEQ protects existing uses. Ms. Steinmetz said in this situation we make sure that the water quality criterion is met under the current non-degradation rules.

Ms. Steinmetz next moved to the situation under SB325 where if the water quality is 15 ppb, it's non-anthropogenic. She said for simplicity sake she will call 15 ppb the average arsenic concentration and we're looking at setting site-specific criteria, so 15 ppb is our criterion. Now we have a discharger who wants to discharge at 14. The discharger is not exceeding the water quality criterion, and there aren't anthropogenic influences. It's a high quality water but there is no assimilative capacity, so how do we do our non-significance review? Ms. Steinmetz said we can't, bringing us back to protecting existing uses and protecting the water quality criteria set to protect these uses. The rule structure isn't set up for this site specific condition based on non-anthropogenic situation, so the current non-degradation structure needs to be changed in order for the SB325 situation to fit.

Ms. Trenk went back to Amy's example, and the scenario where the methodology was adopted and 15 ppb is the non-anthropogenic number. Ms. Trenk asked if her permit number is lower than that number if it will be raised to it. She wondered if it would be an exception to anti-backsliding. Ms. Steinmetz said for the exception, you have to be in line with the state's nondegradation requirements. Dr. Suplee said that DEQ has identified this exception as a need that has to be written into the rules.

Ms. Kelly moved onto a discussion about the workgroups next steps and the Monday, December 12th meeting. Topics to discuss:

- Subtracting out the anthropogenic load
- Selecting criteria
- The process on the Rule Language for Part 1

Ms. Trenk asked if with Rule Language, will DEQ be working in the non-degradation as well. Dr. Suplee said he thinks they have to. He said there is a part of the non-degradation rules that are kind of chopped into pieces that deal with different types of parameters and there might be a place where a new one can be built specific to natural or non-anthropogenic based criteria that are to be adopted.

Ms. Johnson asked if there are other non-anthropogenic parameters coming out of Yellowstone that are elevated above water quality standards. Ms. Schaar said iron potentially and nutrients.

Mr. Adam Haight asked regarding non-degradation if it will just be rulemaking or if it will have to go into code and if there will be legislation this session. Dr. Suplee said DEQ would not have to go into code, that the BER has the authority to deal with water quality standards which includes nondegradation.

Ms. Johnson said that under the variance other things can come into play, whether it's classification, TMDL's and other things. She wondered if any of these things are planned in Part 1 on dealing with an elevated non-anthropogenic load. Dr. Suplee said permits and TMDL's are mirror images of one another and all assume that the standard is correct. In this case the standard isn't correct because it's naturally elevated, so they have to deal with the standard. These other groups will adjust to the new standard going forward.

Mr. Haight asked if nondegradation has to be tweaked in order to protect beneficial uses, if it will happen in the methodology of how we create the site-specific standard. Dr. Suplee thinks they'll write a nondegradation rule that doesn't point at specific locations, but an umbrella for all non-anthropogenically adopted criteria. Dr. Suplee explained that once they exist they will start populating the rules and the non-degradation section will apply to them. Ms. Steinmetz gave the example of how currently under the nondegradation rules under the nonsignificance piece, DEQ specifically addressed carcinogens and toxics and harmful parameters and areas. She said they may be able to add a section that says *for site specific criteria based on nonanthropogenic conditions, existing uses and water quality criteria necessary to meet those uses, must be met*. Ms. Steinmetz said this would apply to all those site-specific criteria based on non-anthropogenic conditions. Ms. Johnson said that we're still only talking about new or increased discharges. Ms. Steinmetz agreed, and said this language would not change that.

Ms. Johnson said that the existence of SB325 rulemaking would subject a discharger to nondegradation, nonsignificance review. Dr. Suplee said yes, if you have a standard that went from 10 to 50 for arsenic, the next time a permit reopens they're going to see the standard as 50 and it's no longer impaired, it will

be viewed from the nondegradation perspective. Dr. Suplee said that it's based on the natural condition. Ms. Johnson asked if you can limit the nondegradation review to nonsignificance for a specific parameter. Dr. Suplee confirmed that it would be specific to that one parameter.

Ms. Johnson asked what the town of Ennis's permit limit would be to discharge arsenic. Ms. Schaar said she didn't know, but if they have an arsenic limit it would be the criteria. She doesn't want to assume that they have an arsenic limit because Gardiner doesn't and they discharge way above the concentration of the river. Ms. Schaar said she will find out. Dr. Suplee said reasonable potential is the first step of all permits, so if you have a little discharge into a big river you often don't have reasonable potential.

The meeting adjourned at 3:20.

DRAFT