

Spokane River DO TMDL Implementation – Advisory Committee Meeting
May 6, 2011 Minutes

Committee Members or Alternates at the Table:

In Attendance: Dale Arnold, Brian Crossley, Rick Eichstaedt, Sid Fredrickson, Doug Krapas, Bud Leber, David Moss, Dan Redline, Ken Windram, Speed Fitzhugh, Bruce Rawls, Galen Buterbaugh, Don Martin, Steve Llewellyn, Terry Werner, Brian Nickel

Observers: Paul Klatt, Sarah Hubbard-Gray, Meghan Lunney, Tom Agnew, Jim Ross, April Smith, Rick Noll, Keith Johnson, Scott Fields, Lee Mellish, Mike Neher

On Phone: Ted Knight, Dave Dilks, Joel Massmann, Laurie Mann, Kris Holm

Spokane River Forum Staff: Andy Dunau, Tonilee Hanson.

Ecology TMDL Staff: Dave Moore, Kelly Susewind, Jim Bellatty, Grant Pfeiffer, Pat Hallinan, Melissa Gildersleeve, Jani Gilbert

Welcome and Introductions: Andy Dunau welcomed participants to the meeting, each of whom introduced themselves.

All meeting materials, including those referenced in these minutes can be found on-line at <http://www.spokaneriver.net/?p=4777>

9 – 9:15

Updates / announcements

- Meeting minutes for February 24, 2011 can be found at <http://www.spokaneriver.net/?p=3890>
- River location ratios: Tony Whiley is working on this. He's currently waiting on final model inputs for each discharger.
- Responsiveness summary for trading framework is posted at <http://www.spokaneriver.net/?p=4777>. The PDF can be accessed directly at <http://www.ecy.wa.gov/biblio/1110027.html>. Melissa Gildersleeve expressed appreciation for the feedback that has been received to date.

Goals for this meeting:

Andy Dunau summarized the goals for today.

- To get clarity on the permit schedule. Where are we at with the permits? When are permits expected to be released? How is Ecology expecting to use information discussed in the subcommittee meetings for Alternate Seasonal Limits and BAP / Ortho-P?
- To understand what the moving parts are, the permit comment period, and how the short-term consequences differ among dischargers.
- Identify the tool set for immediate and long term implementation to meet TMDL waste load allocations. Permits are the next step not the end game.

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9:15 – 10:15

Permit Timeframe Handout

Dave Moore reviewed the Permit Timeframe handout. It is taken from the detailed DO TMDL Activities Schedule to show a simplified four month schedule.

- Kaiser, Liberty Lake and City of Spokane June 1st - final permits issued.
- IEP
 - June 1 - July 1 public comment period. Assuming IEP draft permit is modified for Ortho-P or Alternate Seasonal Limits
 - July 15th IEP final permit
- Spokane County
 - June 1 – August 1 public comment period.
 - August 1 – Sept 30 (after IEP permit is final) response and revision
 - October 1 - Spokane County permit issued

Given the permit time frames, all sampling and model validation work needs to be done before 6/1.

Kelly Susewind asked Brian Nickel to talk about the **Idaho permit timeline**:

Brian Nickel indicated that exact timelines were hard to pinpoint. A best case scenario would be to develop draft permits by July 2011. It is necessary to act on them within a 60 day time frame. Brian had just today been shown the modeling from SRSP. It will still require ensuring that Idaho limits meet WA requirements. Other factors include accounting for Idaho anti-degradation implementation methods proceedings, and outcome of settlement discussions between EPA and ID on TMDL. The hope is to issue draft permits by late summer with final permits by January 2012.

10:15 – 11:15

Alternate Seasonal Limits Sub Committee Update, April 14th

- Dave Moore, Sarah Hubbard-Gray and David Dilks (on phone)

Dave Moore stated that Ecology had planned on presenting an alternate seasonal limits proposal at the April 14 subcommittee meeting. Just prior to that meeting a report from LimnoTech was introduced in which LimnoTech had run a seasonal model from February to October that included all dischargers. It appeared that the LimnoTech model satisfied TMDL needs.

At the April 14th sub committee meeting, Ecology agreed to validate the LimnoTech results. When it became clear that not all dischargers wanted the alternate seasonal scenario the validation process was tabled until a new SRSP proposal could be heard.

Dave described the validation process that will be used as follows:

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1. Determine if model was run correctly (Portland State)
2. Determine if the model meets equivalency for DO using the set of rules developed by EPA and Ecology. The rules were provided after the 4/14 meeting and can be found at <http://www.spokaneriver.net/wp-content/uploads/2011/04/Draft-Test-for-equivalence1.pdf>

Kelly Susewind clarified that the April 6, 2010 LimnoTech model was run with all dischargers included. Given that not all dischargers want the alternate seasonal limits, the Limnotech run is not going into the permits. He then described the scenarios Ecology was currently considering:

1. Limits would be issued exactly as they currently appear in the TMDL
2. ID discharger would use the model run by LimnoTech for the dispute settlement with TRP at 50 ppb Feb. – Oct. However, using this limit Idaho got close but was not quite equivalent.

An alternative option was then presented by David Dilks on behalf of SRSP.

1. Variables for ID dischargers would remain unchanged from April 6 model run, which used variables ID requested as part of dispute resolution. The April 6 run had ID narrowly failing the WA TMDL limits.
2. Spokane County variables were changed as follows: total phosphorus is increased to a seasonal average of 50 ug/L but with a proposed offset of increasing rigorous CBOD treatment by one month (February). This decrease in CBOD is “equivalent” to the effect that lower total phosphorus would have on dissolved oxygen. This model run narrowly passes the equivalency tests with a little bit to spare and no effect on Avista responsibility.

Questions were raised and discussed regarding the Spokane County proposal:

- Ecology’s interpretation was that if Spokane County ran P at a seasonal limit of 50 for March – Oct. it was a waste load allocation different than the TMDL and therefore a TMDL change may require an amendment which would not happen in the first round of permits. Table 5 provided waste load allocations for BOD, ammonia and P. In a scenario where you allow a change to 50 you have exceeded the TMDL load.
- Spokane County and others argued that the TMDL is intended to improve dissolved oxygen levels and not just about phosphorus. Using “equivalency,” there is no change to the goal the TMDL is addressing. In this proposal, P can be increased because CBOD is further restricted. If CBOD was not important it would not be included in the TMDL. The County interpreted equivalency as a tool that everyone could use to reach the desired DO levels. Further, equivalency appeared in the NPDES and the facilities plan submitted in May of 2010. There is also language in the TMDL supporting equivalency in the Managed Implementation Plan. Does the TMDL have to be amended any time there is an equivalency?
- Ecology agreed that the concept of pollutant equivalency had been discussed and is in the TMDL. Whether it can be supported based on enabling language in the TMDL for this permit round needs to be determined through consultation with the Attorney General’s office.

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- Does a trade need a TMDL amendment? Is there guidance about whether a trade or equivalency triggers a TMDL amendment? Is equivalency among the constituents at a similar status with alternate seasonal limits or BAP?
- Rick E. asked for clarification of the ammonia limit and how much it would increase in this proposal. DD: The ammonia would increase in March & Oct. and BOD decreases in waste load allocation Feb. – Oct.
- Brian Nickel made a distinction between WA and ID. ID doesn't need a TMDL to use equivalency as a component of their proposal because there is no TMDL in ID. ID limits assume that pollution will be decreased and any scenario is acceptable. This may not be popular but legally there is a difference. ID just has to meet WA standards and can use any of the tools available. However, if Spokane County is not in the ID bubble then ID does not meet the limit. ID needs to have a record to show what is required of WA sources and then show thru a model run that ID can meet WA standards. ID needs to have an official record basis of WA dischargers in order to reflect the assumptions in the ID permits. If WA sources are excluded then ID just narrowly fails the WA limit. It is narrow, maybe only hundredths of a mg.
- ID was asked if the model were run at 48 for the County, could ID use a number of 48 and meet the limit. Brian Nickel was not going to try to make that kind of an estimate without meeting with the ID dischargers to see what would be possible. David Dilks reminded everyone that the model is not precise and there is no way to predict in advance if 48 could make the limit. Minor changes may not reliably get you there.
- AD summarized the situation for ID: In short term there are two model runs that get ID meeting the WA limit. One requires all WA dischargers to participate in the extended Feb – October seasonal limits, which will not occur. The second model includes only Spokane County from WA and uses ammonia, BOD and P equivalency to achieve TMDL goal. This approach may require a TMDL amendment. Until WA AG's office consults with Ecology, it's not known whether this proposal can be used.
- DM & KS: Clarified that new permits require Spokane County (unlike other WA dischargers) to meet the limits immediately. As such, AG office opinion has immediate impact on county and their draft permit situation.
- The County was asked if a limit of 42 is achievable with technology being installed. They do not feel they can hit 42. Bruce Rawls explained, "We are reasonably confident that we can meet 50. If your permit limit is 50 you can't be at 50 to meet the limit you have to be at a margin of safety below it. If the limit is 42 then you have to be somewhere near 36."
- Dave Moore asked if the County would be interested in being with ID at an alternate seasonal limit of 50 without tweaks to CBOD or ammonia. Bruce Rawls said no.
- Dale A: The TMDL said it was a 50 seasonal limit. Under the delta plan to achieve 42 the discharger has the ability to work within their system to exchange ammonia, NPS and water reuse. The number in TMDL was a number that we would cooperatively achieve. Dale expressed concern that the TMDL is being used to write a permit. A permit is different than the TMDL. I am not convinced we can turn our plant on and meet the magic # of 42. We have other ways to get to the 42. If you don't meet P you have other tools to meet the TMDL. We took 3 parameters to achieve the DO level in Lake Spokane.

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- Ecology asked who was in or out as a basis for first set of permits. Now that you know the County is planning to increase BOD, ammonia will you all want to do the same?
- Joel M asked, “When you did the model run did you keep the decay rate the same?” David D, “Yes, we only changed the inputs.”
- KS: If the County is coming in at a lower flow then we may be able to work with the permit because you are not at full load. The TMDL is assuming the full load.
- Kelly responded to the Liberty Lake example (getting out of the river during the summer). If a discharger gets out of the river it reduces the TMDL. That is not an equivalency. But if they get out of the river and then exceed the TMDL at a later time that would be an amendment.
- BR: Why is IEP being allowed to use BAP?
- KS: In this permit IEP is not being allowed to use BAP. What’s under consideration is Ortho-P, which will be discussed in next agenda item.
- Speed F: Idaho being allowed an increase in flows from Post Falls. How is that being dealt with in the model? Kelly S: The model run does include a higher flow. They increased the mass load to attribute for a higher flow. Ecology doesn’t have authority in ID. If a higher flow meets equivalency Washington will not push back.
- Speed F: The new model run shows an additional load of 170 pounds of P in Long Lake (although total reduction is still dramatically lower), but it did not affect Table 7. So there is some “softness” in how the model accounts for effects of P in Long Lake.
- To help clarify use of equivalency, Joel Masseman sent the following text message to Rick E. This is a quote from the MIP section in the TMDL:

“The strategies described in this section, originally described in the Foundational Concepts, are focused solely on reducing phosphorus; however, they can also apply to ammonia and CBOD reductions. For example, reductions in ammonia may be used to offset equivalent loads of phosphorus as a target pursuit action.”

11:15 – 11:45 Ortho P path for IEP - Doug Krapas

BAP Sub Committee Update - Kelly Susewind

BAP sub committee minutes are available at <http://www.spokaneriver.net/?p=4618>

Kelly gave a brief update of the subcommittee discussion listing key questions remaining on the values reported by the UW study which need to be evaluated.

- All P is not equal. First Ortho-P is immediately available and drives algal growth. Second, P is available over time with a decay rate. And third P, is inert or unavailable.
- UW researchers expressed concerns about the variability of the data they received and specifically questioned whether or not the IEP samples demonstrated an inhibition of P based on the pulp and paper effluent rather than expressing low levels of BAP.
- IEP offered to provide UW with additional ortho-P data from the trident industrial application. They produced 20 samples which were collected over 2 years ago and all within a 4 day window. Ecology regarded all 20 to be four samples total and therefore not adequate for reliable analysis.
- Ecology then worked with IEP to come up with additional data and a data sampling procedures. The plan is to provide 14 daily samples with 4 in replicate and precision.

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The lab method and limits were based on QA-QC procedures. Questions to consider were, “How do you account for variability? How would we calculate the mean statistical data?”

- When the new IEP effluent samples are received, the plan is to run the model based on percent of Ortho-P sampled using full scale commercial system IEP is expected to employ. IEPs P wasteload allocation would be changed to 70 if results of sampled Ortho-P were supported in the model run.
- If ortho-P works it shortens the issue for who gets credit. Ecology assumes that if validated all dischargers would use ortho-P rather than BAP. Enabling language will allow dischargers to seek a permit modification once their full scale systems are in place and they can validate results.

Ken Windram asked where EPA sits on BAP and ortho-P. Brian Nickel drew a distinction between adjusting ortho-P variable for IEP vs. ID dischargers. IEP has a near to full scale facility to meet limits. In ID the best we could do is use pilot data. Regarding BAP, if you look at EPA guidance documents published in last 10-12 years, they all recommend using TP and TN to monitor and set criteria. This is because there are lots of things that act on P and N once it is discharged. BAP can't be tracked very well in the environment so for an individual permit it potentially has national implications. Brian would not be able to use BAP without running it up the chain. Ortho-P could be used once there was sufficient data.

EPA and Ecology agreed that adjusting Ortho-P variable based on sampling is fully acceptable once full scale technology is implemented. Both also agreed that use of BAP requires further study and has many concerns that would need to be resolved.

Doug Krapas stated that BAP is well studied in the pulp and paper industry which is P deficient and adds P into its process. He summarized their current situation as follows:

- IEP tried feeding 10 times the chemicals and they were unable to get P down. They investigated 10 pilot systems and selected the Trident technology which processes 1m gal/day per unit. IEP will add 2 more Trident systems to treat the flow when they go to full scale.
- In response to Ecology's request for 14 days of additional effluent samples to be gathered subject to the specified procedure, IEP has been running the Trident system for a week and collecting data. IEP is encountering problems with the sampling and seeing numbers that don't make sense from a chemical analysis standpoint. IEP hired a credible lab and ran some samples as many as 28 times to fit in the test methods. They encountered an initial problem with the filtration test process and think they may be producing P from the test process. IEP will receive information from experts in the next day or so determining if there is problem with the test method. Something is not working because the Ortho-P numbers can't be higher than the total P.

Rick E. asked, “As you refine the collection method will you be in contact with Ecology so they won't get data that they can't accept?” Doug responded yes.

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IEP was asked to estimate when they could have 14 days of samples? IEP thought it could begin in the next day or two if system adjustments were successful.

Joel Massman expressed concerns about the sensitivity of the model and interest in collecting data using a different decay rate for the additional runs on new ortho-P data. Given a low decay rate it may not keep the necessary margin of safety. Kelly expressed confidence in the conservative rates used in the model and didn't feel that adjusting the decay rate would be necessary.

Establishing Next Steps for Permit Process

After extensive committee discussion, the following was agreed to in the following week:

- Ecology will consult with the AG's office and provide a determination if the SRSP alternative proposal that includes county can be used without triggering a TMDL amendment.
- IEP will make a determination if they wish to be included in an Alternate Seasonal Limits model run in time to meet issuance of permit time frame detailed earlier in meeting. SRSP and IEP would need to agree to run the alternate seasonal limit model with IEP included at a limit of 70. If 70 doesn't get to equivalency then a lower number may be required.
- Ecology agreed that if IEP Ortho-P could not be validated for inclusion in draft permit being considered, enabling language would allow for them (as well as other WA dischargers) to seek a permit modification at a later time when sampling data supports a change.
- Ecology will schedule a conference call to review AG and IEP decisions over the next week.

Kelly reminded everyone that there is no wiggle room in the timeline. The County is a new, big permit and 2 months of public comment are required by law. All dischargers need to be under a compliance schedule in order to issue the County permit. The Public has the right to weigh in on the County based on the permits being issued. If the Attorney General's opinion is a "no" for the County to use equivalency, then ID will need to come up with another option that does not affect issuance of WA permits.

Dan Redline wanted to assure a documentation trail that shows how the model is applied once a solution that works is figured out. Kelly replied that the ultimate documentation will be the permits and the fact sheets for the permits showing any changes.

The need for a public comment period for IEP's permit was discussed and is required for either the ortho-P or alternate seasonal limits changes. However, it can be a focused review limiting the scope of comment to just the specific change.

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11:45 – 11:55

Review of “Tools” Dave Moore

All tools will have enabling language in the permits.

- Ortho-P
- BAP – tool for future not a direct model input.
- Alternate Seasonal Limits
- Bubble Permits
- Stormwater / Trading
- Equivalency

Comments

- Under equivalency Ken Windram made the request to include options for adding DO directly into Lake Spokane. Dave and Kelly both expressed a commitment to this option as part of equivalency & trading.
- Andy asked if there were any other tools needed on the list.
- It was noted and acknowledged that trading is more than stormwater.
- Tom Agnew asked Ecology to consider how the model and TMDL, based on 2001 river conditions, could take into account the 2011 state of the river and improvements that have occurred over the past 10 years. How do real world changes such as the legislative effort to remove P from dishwasher liquid and fertilizers get incentivized for similar legislation in Idaho? We need quantification and recognition of positive changes that have happened.
- Ecology acknowledged that an accounting and monitoring system is needed to track and verify what’s happening. This is part of the TMDL implementation and will be given additional focus after permits are issued.

12:00 Adjourn