

## **Revising Oregon's Industrial Stormwater General Permits Advisory Committee Meeting Notes**

**Meeting:** Meeting 11 - Monitoring  
**Date:** September 15, 2010  
**Location:** DEQ Headquarters, Portland

**Attendees: Committee:**

- Neil Alongi-Maul Foster & Alongi, Inc.
- Michael Campbell-Stoel Rives LLP on behalf of Oregon Industrial Stormwater Group
- Rick Fischl-Clean Water Services on behalf of OR Association of Clean Water Agencies
- Jeff Navarro for Doug Pennington-ATI Wah Chang on behalf of Oregon Metals Industry Council
- Calvin Noling-StormwaterRx
- Michael Pronold-City of Portland, Bureau of Environmental Services
- Mark Riskedahl-Northwest Environmental Defense Center
- Dorothy Sperry-Port of Portland
- Eric Strecker-GeoSyntec
- Russell Strader-Boise Cascade
- Jay Waldron-Glenwood Auto Parts

**DEQ:** Jenine Camilleri, Paula Calvert, Erich Brandstetter, Rodney Weick and Annette Liebe; Philip Micha-DEQ summer intern, PSU graduate student

**Chair:** Commissioner Ken Williamson

**Water Quality Based Benchmarks, Dilution:** Paula Calvert presented issues concerning use of dilution approaches in modeling scenarios that will be used to determine new metals benchmarks. A dilution study conducted by DEQ shows that dilution rates of 5 and greater are representative of 80% of evaluated facilities. Certain committee members were interested in including dilution as either a stochastic variable or evaluating an additional dilution constant of 10. In response, Erich Brandstetter evaluated the requirements for modeling using the suggested dilution approaches. The additional time required to model using these approaches, in addition to the dilution constant of 5, will result in DEQ not meeting the permit issuance date specified in the revised settlement agreement.

The committee members provided the following comments:

- Russell Strader sought confirmation that DEQ feels it will not be worth an additional two months to model using a stochastic dilution variable. Jenine Camilleri responded that the additional time will result in DEQ not meeting the permit issuance date specified in the revised settlement agreement.
- Mark Riskedahl stated that given prior use of a dilution rate of 5, anything higher may constitute a violation of Clean Water Act's prohibition on antibacksliding. He referred to a scenario in which a different permit would be needed for facilities with lower dilution rates if the benchmarks are based on a dilution higher than 5.
- Annette Liebe commented that the dilution study supports continued use of 5 because the study shows that 80% of evaluated facilities have dilution rates of at least 5. She also stated

that, as a matter of policy, DEQ is comfortable in continuing to use 5 for the general permit and if a site is interested in a higher dilution, the site has the option to apply for an individual permit.

- Mark Riskedahl inquired where are the 20% of sites corresponding to less than 5 dilution. Commissioner Williamson responded that the sites are likely large facilities located on small streams in rural areas.
- Eric Strecker asked if the dilution model is a spreadsheet model. Erich Brandstetter confirmed that it is. Eric Strecker also asked if the model can be shared with the committee. Annette Liebe replied that it will be public record and can be shared.

**Additional Pollutants:** Paula Calvert presented information in support of requiring additional metals (cadmium, chromium, and nickel) and PAH monitoring by all facilities and additional mercury and PCB monitoring by Sector N, scrap recycling and waste recycling facilities. A literature review conducted by Philip Micha, DEQ intern, indicated that industrial facilities should monitor the additional metals. Discussions with Kevin Masterson, DEQ toxics coordinator, resulted in suggested PAH monitoring. The purpose of the monitoring is to assess whether or not benchmarks for these pollutants should be included in the next iteration of the permit. The monitoring data will also be used to evaluate whether or not copper, lead and zinc are appropriate indicator pollutants.

The committee members provided the following comments:

**Cadmium, chromium, and nickel monitoring by all facilities**

- Michal Pronold asked about the data on expanded metals parameters that were gathered under previous DEQ sector-based industrial permits. Jenine Camilleri responded that the data was lost, which was a factor in the litigation.
- Neil Alongi stated that there is literature showing that if controlling for copper, lead, and zinc that other metals are also being controlled so why monitor the additional metals? Philip Micha responded that no information in the literature review suggested the contrary but high concentrations of the six metals were found in stormwater from industrial land uses. Philip Micha added that it was difficult to identify certain industries that were indicative of specific pollutants and that Michael Stenstrom's study took a more inclusive approach to evaluating the monitoring data.
- Eric Strecker stated that the Stenstrom study showed that grab sampling is not useful in identifying trends among industry types.
- Eric Strecker asked how many facilities have treatment in place compared to those that use source control. He emphasized that if facilities are treating runoff for the three currently monitored metals, they may be controlling the other metals, however, how many facilities actually have treatment? Eric Strecker added that source control for a metal does not necessarily translate into control for other metals.
- Calvin Noling commented that he has observed aluminum and iron in industrial runoff more frequently than cadmium, chromium, and nickel. Philip Micha responded that in his discussion with Michael Stenstrom, the three currently monitored metals and the three additional metals are the top six he suggested for monitoring although Stenstrom did see aluminum and iron to a lesser degree. Commissioner Williamson, Eric Strecker, and Russell Strader added that aluminum and iron are often associated with background conditions.
- Calvin Noling asked what the basis is for considering these three metals. He suggested that half the facilities monitor a set of three additional metals and the other half of facilities monitor a set of three different metals thereby acquiring data on twice as many additional parameters. Eric Strecker and Neil Alongi inquired if toxicity of the additional metals and the

extent of their 303(d) listings were considered. Jenine Camilleri responded that there are very few listings for these pollutants.

- Rick Fischl commented that the additional metals would be found at sites with metal finishing activities more so than at other sites. Paula Calvert commented that the NURP study identified copper, lead and zinc as metals found in the highest concentrations in urban runoff which is largely due to vehicle transportation. Paula Calvert added that these metals may not be the highest concentration metals from industrial sites. She also commented that research conducted by Stenstrom is the primary support for monitoring these additional metals. Michael Campbell stated that these additional metals would not intuitively apply to all facilities. He added that it seems like a lot of additional cost for data that may raise more questions. Paula Calvert responded that the scope of the presence of these additional pollutants is unknown but two years of monitoring data may provide some answers.
- Annette Liebe followed up committee comments by stating that DEQ has not presented a compelling reason to require monitoring these additional metals. Philip Micha stressed that data used in Stenstrom's study shows that industrial land use has the highest median concentrations of cadmium, chromium, lead and nickel, while highways have the highest copper and zinc. Philip Micha added that the metals may not be attributable to specific industries based on the data evaluated in the literature but they are broadly linked to industrial land use. Commissioner Williamson posed the following questions: 1. Are these three extra metals distributed across industries? 2. Are the metals present in concentrations that would be considered significant?
- Eric Strecker inquired if it would be adequate to conduct sampling twice instead of eight times over 2 years. Russell Strader added that if benchmarks are based on water quality standards, why would a lot of sampling be needed? Eric Strecker commented that the data could be used to identify which parameters may need benchmarks. Commissioner Williamson asked about the additional cost. Paula Calvert responded that the cost would be an additional \$45-\$60 per storm event, per outfall.
- Eric Strecker asked if DEQ considered monitoring dissolved metals instead of total metals or allowing that option because dissolved concentrations can indicate a problem which is not associated with sediment. Paula Calvert responded that DEQ has not considered requesting or accepting dissolved metals monitoring.

#### **Monitoring PAHs by all facilities**

- Michael Campbell inquired if this is specific to industrial facilities or is it common in urban stormwater? He stated that the focus should be on those pollutants that may be from industrial sources. Michael Campbell also stated concern that Table 20 lists one very low water quality criteria for PAHs instead of separate criteria for each PAH. Paula Calvert responded that data for a suite of 16 PAHs can show whether the PAHs are an issue originating at the industrial site or a result of air deposition.
- Russell Strader and Michael Campbell asked if it is possible to identify only those PAHs which can be specified as an industrial stormwater concern. Kevin Masterson commented that general sources, which include urban stormwater, regional, and site specific, can be differentiated by examining the 16 PAHs.
- Michael Pronold and Neil Alongi commented that the data needs must be assessed to determine an appropriate monitoring frequency. Annette Liebe followed up by stating that if the purpose is to evaluate whether or not these pollutants are present, DEQ should identify the amount of data and number of sampling events for that purpose. Russell Strader suggested that not all sampling locations need to be monitored but that, for those facilities with multiple sampling locations, two locations could be monitored, one of which would serve as a baseline representing air deposition and the other location would be representative of a facility area with oil, grease and petroleum fuels. Neil Alongi stated that

it would be unfair for all facilities to monitor eight events if data from two events will provide enough data to evaluate whether or not benchmarks should be adopted for the pollutants. Neil Alongi also commented that eight samples from a facility could constitute a different intent regarding site characterization. Commissioner Williamson commented that a result of SB 737 is the collection of 2 annual wastewater samples for a similar purpose, to identify if the pollutants are present in concentrations of concern. Jenine Camilleri responded that stormwater is more variable. Commissioner Williamson stated that the SB 737 monitoring frequency could be a minimum relative to stormwater monitoring.

- Dorothy Sperry and Eric Strecker commented that MS4 data collected in the 1990s can be used as a reference which is not an industrial stormwater source for comparative purposes. Kathryn Van Natta stated that PAH data will be more useful with a reference point. She also posed the questions: What does it mean when PAHs are found in industrial stormwater? Are there any reference points that are not anthropogenically affected so that problems tied to industrial sources can be identified? Are the PAHs controllable? Eric Strecker commented that a data set associated with False Creek in Forest Park, which is about 95% open land use, can be used as a reference. Russell Strader stated that the data will also be more meaningful if facilities submit information on the contributing area of the sampled discharge, for example, are fuels or other petrogenic sources stored in the contributing area.

#### **Monitoring PCBs and mercury by Sector N facilities**

- Rick Fischl stated that there are common practices that address these pollutants, for example, mercury switches are removed prior to exposure. Rick Fischl also commented that some of the stored materials sit on dirt and gravel and may not have a conveyance to a point discharge thereby not requiring permit coverage. Jay Waldron commented that there is a mercury recovery switch program. He proposed that DEQ track which facilities are part of the waste recovery programs, or are certified in green practices, instead of requiring the facilities in the sector monitor the additional pollutants. Jenine Camilleri commented that DEQ will look into the potential for offering a monitoring waiver for proof of program participation that can be an incentive for facilities to enter waste recovery programs.
- Michael Pronold commented that auto recyclers correspond to SIC code 5015 whereas Sector N industries correspond to SIC code 5093.

#### **Monitoring frequency of additional pollutants**

- Eric Strecker commented that a screening approach to sampling once or twice a year would probably be adequate. Russell Strader added that sample collection should occur at a limited number of representative outfalls instead of all monitored outfalls.
- Dorothy Sperry said that DEQ needs to be clear regarding objectives. She also stressed being able to identify problems related to industrial stormwater. Rick Fischl expressed concern regarding whether there is technology to address a problem if it is identified.
- Jay Waldron asked if the purpose of the sector specific additional pollutant monitoring is to determine if those parameters will require benchmarks for those sectors. Annette Liebe and Jenine Camilleri confirmed that determining the need for benchmarks is a potential result of the data collection and analysis.
- Mark Riskedahl commented that the general tone of the discussion is - more is better, within reason. He added that there have been times when DEQ has lacked available data to support policy determinations.

**Overall Approach for Monitoring Requirements:** Jenine Camilleri presented the draft monitoring requirements for the new permits and overall monitoring approach. Many aspects of the requirements and approach were discussed during previous advisory committee meetings.

The committee members provided the following comments:

**Qualifying event**

- Calvin Noling stated the possibility that samples may not be collected on Mondays if the facility is to be aware of the 24-hour dry period preceding a storm event. Russell Strader commented that considering the different conditions and complexity in determining when a sample should be taken, facilities will have a difficult time identifying limited monitoring opportunities. Paula Calvert clarified that collecting three grabs over the first 12-hours of an event does not require the last grab occur during the 12<sup>th</sup> hour but that the three grabs must be collect sometime within the 12-hour period.
- Eric Strecker stated that a maximum amount of precipitation should be allowable during the "dry period." He gave the example of 0.10 inch of rainfall over the 24-hour period. Eric Strecker and Commissioner Williamson added that sites could install their own rain gauges to help identify qualifying events. Eric Strecker also suggested that facilities could form a collective storm tracking process which would reduce monitoring associated costs. Commissioner Williamson added that collective storm tracking would also improve the data set quality.
- Michael Pronold added that the complexity of identifying qualifying storm events will also affect DEQ agents in addition to the permitted facilities.
- Russell Strader provided a hypothetical sampling event in which a storm ends before the third of three grabs can be collected for a grab composite. He posed the question of whether or not the facility is to attempt to sample the next storm because they were unable to collect the three grabs.
- Eric Strecker commented that the permit should not exclude sampling over a period longer than 12 hours such as the case of flow-weighted sampling with many aliquots collected over the duration of a storm event which may be greater than 12 hours. Eric Strecker added that this monitoring method is occurring at some industrial sites in California due to liability issues.
- Calvin Noling asked when fall starts relative to the requirement that one sample be collected during the first fall storm event. Jenine Camilleri responded October 1.
- Michael Campbell commented that the guidance document must have enough detail, for example, definition of "business hours" and explanation of circumstances of whether or not taking a sample is "practicable". He added that too much detail should not be in the permit else it may prove restrictive for some facilities. Michael Campbell stated that facilities are trying to do the right thing but do not have guidance. Mark Riskedahl commented that facilities that should not be overlooked are those that do not put forth the effort or are abusing system. Jenine Camilleri commented that that facilities will provide more information in their plan including when discharge will be expected so that an aspect of "if practicable" can be assessed.

**Visual monitoring**

- Russell Strader asked how clarity is to be expressed. Jenine Camilleri responded that visual monitoring is to be used as an indicator that facilities' BMPs are functioning adequately. Calvin Noling suggested that a photo could be submitted of the sample used for visual inspection. Eric Strecker commented that there should be guidance concerning visual monitoring.
- Jenine Camilleri stated that not conducting visual monitoring can result in enforcement action. Rodney Weick commented that DEQ is not taking enforcement action on whether or

not a facility has cloudy discharge. He added that it is a violation of permit conditions if visual monitoring is not being done.

### **Sampling method**

- Russell Strader provided a hypothetical sampling event in which a storm ends before the third of three samples can be collected for a grab composite. He posed the question of whether or not the facility is to attempt to sample the next storm because they were unable to collect the three aliquots. Russell Strader also inquired how far apart the samples should be taken. Jenine Camilleri responded that there is no time interval. She added that DEQ just wants to promote use of composite sampling. Neil Alongi stated that guidance can include timing components.
- Eric Strecker commented that it should be stated in the guidance why a facility should want to conduct grab composite sampling instead of just taking individual grabs. Russell Strader asked if "if practicable" is a facility's choice. Jenine Camilleri responded that is not and that facilities must explain why a composite is not achievable.
- Calvin Noling asked if the waiver will apply to the additional pollutants such as cadmium, chromium, and nickel. Michael Pronold added that it would depend on the amount of data needed. Jenine Camilleri's response is that a waiver for these pollutants is being considered.
- Rick Fischl stated that an unstaffed site does not automatically qualify for "no exposure." Jay Waldron gave the example an area of his facility, which is no longer used for storing or processing salvaged materials, that qualifies for "no exposure." Russell Strader commented that facilities would use "no exposure" when they want to maintain the permit and are not required to monitor.
- Mark Riskedahl stated a scenario concerning a facility that deliberately submits a sample that is not representative of stormwater discharge but is from a less polluted source such as the receiving waterbody. He added that this type of behavior should not be incentivized because of the waiver issuance and suggests that there be some sort of check on facilities that qualify for the waiver to make sure this type of abuse does not occur. However, he acknowledged that there are cases in which a pollutant is not present and it does not make sense to continue monitoring the pollutant.

### **Corrective action (reference flowchart)**

- Michael Campbell asked what the PE is certifying and what the benchmarks mean. He stated, as an example, a copper benchmark of 10 – is this economically feasible? Jenine Camilleri responded that this approach will not be finalized until the benchmark work and the BMP effectiveness study have not been completed.
- Jay Waldron asked if action plans will no longer be required. Jenine Camilleri confirmed this. Rick Fischl commented that it does no good to work with facilities a year after an exceedance occurs. Rich Fischl questioned that if concentrations never meet benchmarks, where is the backbone? Annette Liebe commented that DEQ has the authority to move facilities onto an individual permit. Rick Fischl felt there could be changes to the agent program if nothing will happen as a consequence for facilities that continue to fail to meet benchmarks.
- Eric Strecker commented that DEQ should develop additional guidance geared to PEs, for example, stressing that suggested BMPs must treat pollutant of concern. Annette Liebe stated that the point of accountability is with the PE. Russell Strader stated that a PE would not risk his stamp, therefore the PE will be conservative by recommending a system which would be an overkill. Russell Strader also stated that requiring the facility to get an engineering plan should be postponed to give the facilities time to address the issue. Rick Fischl responded that the facilities have already had five years. Jenine Camilleri added that other facilities, which are not required to have a PE plan the first year, will have two years to

sample under the new permit. Neil Alongi stated that the PE plan should take into account what is economically reasonable.

**Follow-up Items:**

- Identify supplemental support for requiring additional metals monitoring by all facilities.
- Determine the amount of sampling facilities should conduct for additional pollutants based on monitoring goals.
- Evaluate approaches for establishing baseline of comparison for PAHs.
- Research possibility of mercury and PCB monitoring waiver for Sector N through proof of participation in waste recovery programs.