

APR 19 2007
WATER QUALITY PROGRAM



DEPARTMENT OF PUBLIC WORKS, OPERATIONS DIVISION

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Submitted to: industrialstormwatercomments@ecy.wa.gov
and in formal correspondence mailed at the date above.

From: The City of Bellingham Department of Public Works Operations Division
SIC Code Group 4952: Treatment works treating municipal wastewater

Dear Mr. LaSpina,

We appreciate the opportunity to submit our comments on the Department of Ecology's (DOE) draft Industrial Stormwater General Permit. We all value the work your agency performs to keep Washington's surface waters clean for all designated uses. We have been sampling and monitoring the stormwater at three locations at the City of Bellingham's Post Point Pollution Control Plant (permit #SO3-005561) under the current regulation since April 2003, and we are proud of the fact that we have a complete record of sampling representing each calendar quarter since that time. This effort has entailed 48 collected samples and over 250 individual analyses!

Our comments to the draft permit follow, and follow in the sequential order in the sections DOE specifically requests comments (S4, S5, and S8).

General:

It does not appear that DOE followed many of the recommendations of the *Evaluation of Washington's Industrial Stormwater General Permit* (aka 6415 for the Senate Bill which lead to its creation) of November 2006 (1). We would like to understand why DOE did not feel it necessary to follow those report recommendations, specifically ones that would lead to scientific defensibility of the course of actions the permittee would need to pursue.

The regulation takes a simplistic approach wherein all pollutant loading is assumed to be derived from the industrial processes at the permitted facility, and that this pollutant may be contained therein by simple means such as covering the process. In our experience (where all of our treatment processes that may affect stormwater have always been covered) the pollutant zinc did derive from portions of our facility, but it did not originate from the treatment of wastewater. We found zinc in our site stormwater originated from the galvanized downspouts and metal roofs in place that were ironically, covering those

industrial processes. To meet the benchmark, we found we needed to reroute roof drains to grassy areas.

With the tightening of benchmarks/action levels and the addition of copper at a level of 11.9 to 23.8 parts per billion, the DOE will need to be aware that exceedences of this benchmark/action level may be the result of activities off site of the permitted area (and subsequently outside the control of the permittee) or from contamination during the sampling itself. For example, copper may be entering the site from lots and roadways proximate to (but not on) the site. Also, pollutants can derive from sources in near vicinity sites carried to the permitted facility via wind or ambient conditions. Our site sits next to a shipyard, where sanding of marine vessels and power washing activities occur with great frequency. Similarly, a railway spans the western perimeter of our site and each morning, diesel trains idle their engines within 100 yards of our facility. This exhaust plume enters our site. Benchmarks at the level proposed in the draft regulation, will now be sufficient where exceedence may be influenced by activities occurring outside of the permittee's control. Benchmarks as proposed specifically for copper and zinc are at levels where offsite activities will impose an effect that is not related to the industrial processes. Finally, unless sampling via EPA Method 1669 occur by permittees, likely to not be versed in clean sampling techniques, there also exists the real possibility that exceedences will occur due to the way the sampling is conducted.

Finally, while we support the concept of adaptive management whole heartedly, the frequency of exceedence before being placed in a higher "level" in the tier system does not allow for actual adaptive management to occur. The time required to establish sources of pollution and successful remediation strategies is longer than that given in the draft regulation. Additionally the timeline for implementation of actions in each level is insufficient to meet the fund accounting timelines of for government budgeting. Our budget projections need to be made prior to May of the previous year. As you can understand, giving a permittee six months to a year to implement a capital BMP would not fit into typical governmental budgetary projection frameworks.

S4. SAMPLING

1. Qualifying event changes makes sense

We appreciate the understanding, expressed by changes to the sampling requirements, that the qualifying conditions of the prior regulation were too arduous. To meet the prior qualifying event conditions, permittees were put in the position of "playing climatologist" and needed near instant deployment capabilities. The City of Bellingham does have a full-time employee in which this monitoring is designated their highest priority, but even with this "luxury", business hours, vacation, conference, and family and sick leave makes days available to deploy under the prescribed conditions nearly impossible.

2. Analytical parameters selected to monitor

It would appear prudent to accept the recommendations of the 6415 document and add TSS as a permit parameter with the caveat that oil and grease and pH be eliminated. The water quality information from the later two parameters is negligible and the addition of TSS could provide information that can be translated to mass loading estimates and help to assess proper BMP selection. Additionally the recommendation of the 6415 that dissolved metals (in lieu of total) be utilized to assess the actual environmental significance of the zinc or copper species detected should be heeded. The dissolved form of these metals exhibits toxic affects to aquatic life and are directly regulated pursuant to

the 173-201A WAC. The concern that the 24-hour filtration requirement for dissolved metals may be too difficult for permittees to achieve is immaterial when considering that the pH currently required to be monitored, has a maximum holding time of 15-minutes per Section 1060 of Standard Methods for the Examination of Water and Wastewater (2). Ironically, pH with the 15-minute maximum holding time designation has been an industrial permit requirement since the inception of this program.

S5. BENCHMARKS ACTION LEVELS AND DISCHARGE LIMITATIONS

1. Compliance level determination is too rigorous/does not allow for adaptive management to occur

We appreciate and support the desire to define a more stringent response requirement to elevated pollutant concentrations with a clear timeline for actions required. We especially applaud the concept of adaptive management for complex situations such as these where solutions are not always obvious and the obvious is not always a solution. The problem with the draft regulation is that perfect knowledge appears to be implied in that the permittee is given one opportunity to address an identified problem (benchmark exceedence) but that one opportunity to fix this problem is all that is allowed before being assigned to the next compliance tier level. We have learned that correcting benchmark exceedence issues is complex and varied can involve numerous courses of action prior to identifying the probable cause and best solutions to address.

The draft Industrial Stormwater General Permit gives permittee two action level exceedences of any parameter during the 5-year permit cycle then requires a level three response. This does not provide enough opportunity for a permittee to implement additional BMPs to assess effectiveness. In the spirit of true adaptive management a permittee needs to be given the opportunity to implement additional BMPs and to determine the success of these efforts. The action level exceedence allowability at Level 2 should remain as the current permit allows wherein any two action level exceedences of the four previous sampling events results in a Level 3 determination. Such a level designation would allow adaptive management to occur. One cannot verify that an approach (and investment in this approach) is successful until the next sampling round after which case two exceedences have occurred and the permittee is already in Level 3. The timeline for moving to next compliance level is far too rigorous.

In our experience, we tried various BMPs before we realized that the highest likely contributor to the zinc we were observing in our stormwater was our galvanized downspouts. Examples of the BMPs we instituted prior to coming to this conclusion included: routine street sweeping, catch basin inserts, plastic curtains on one area thought to contribute fugitive dust, discussions with the lawn maintenance crews about chemical applications to lawns, and periodic vactoring of stormwater catch basins. After implementing these BMPs a study was conducted which confirmed that the zinc we were still observing was most likely coming from the downspouts on the buildings covering our treatment processes. When these gutters were routed away from the catch basins onto lawn, the zinc levels reduced to levels below the benchmark. As you can imagine, it took various efforts and cost scenarios before the solution could be determined. And contrary to the assumptions of this regulation, our pollutant loading did not appear to originate from the industrial processes performed at our site.

2. Benchmarks and Action Level reductions are not scientifically justifiable

As indicated in the 6415 document, the data this group analyzed exhibits a right-skewed distribution pattern due to the presence of numerous high-end values which was described as being typical for stormwater data. The report went on to describe that there is a high degree of variability in stormwater data collected to date for this regulation, relative to what is observed in other types of pollutant monitoring data. For this reason alone it is indefensible to be applying such credibility to non-transformed (grab sample) data. The draft Industrial Stormwater General Permit requires no statistical transformation of the collected data and each grab sample is utilized for derivation of corresponding action by the permittee. This is contrary to the recommendations of the 6415 document (recommend utilizing median value for compliance level determination) and to good statistical practices.

Additionally, the draft general permit selected benchmark and action level targets which are *lower* than those recommended in Table 5-1 of the 6415 document. This is a double edged compliance tactic that defies good statistical and scientific practices. Realizing that the stormwater data is skewed to the right, applying basic statistical means to offset this tendency is essential. It was described by Andrew Craig, DOE Water Quality Specialist, in the public meeting held 04/03/07 that it was determined that median values would not be utilized for fear that permittees would not be able to adjust to this change. While a small percentage of permittees may have trouble with the concept of utilizing basic statistical tools, this is a disservice to the majority of permittees and to good scientific and statistical practices. If grab sample data is to be used without consideration of normalizing the data derived, then the benchmark and action level targets should at a minimum be raised from the recommended levels not lowered!

As the draft permit is currently written, permittees will be required to implement actions and incur large capital expenditures based on outliers. A simple spreadsheet can be created and posted to the DOE's website to assist those permittees who require assistance in determining median values. At very least, the benchmark value determination should be established to utilize the absolute values obtained from grab samples, but the action level determination should utilize the median of the values collected over a unit time that includes at least 5 consecutive samples.

Finally, the DOE's WQP Policy 1-11 which is the DOE document which interfaces with the regulation which the benchmark and action level are based (WAC 173-201A) clearly states that for toxic parameters, there must be at least two samples taken within a three-year period. These data are then averaged for determination of acute and chronic criteria exceedence. The draft general permit utilizes unaveraged data for determination of exceedence over a five-year permit cycle which is contrary to its own Policy 1-11. This despite the knowledge that stormwater exhibits a right-skewed distribution in relation to the other matrixes which the WAC 173-201A applies.

S8. CORRECTIVE ACTION

1. Timeline for Permit Report Submittals insufficient to meet budgetary frameworks

The due dates that correspond to compliance level activities are too tight to meet budgetary frameworks established for government agencies such as the City of Bellingham. The Table below presents an example of the due dates in the draft rule:

Table 1.0 Partial summary of permit report submittals

Permit Section	Submittal	Frequency	Due Date	Capital BMPs*a requirement?
S8 B.7	Level 2 Report	After 2 exceedences of Action Level (AL)	Within 60 days	YES
S8 C.6	Level 3 Report	Any 4 exceedences of an AL or any 2 exceedences of an AL after completion of Level 2 corrective action	Within 6 months	YES
S8 D.4	Level 4 Report with: 1. Engineering report or 2. Waiver Request	Any 2 exceedences of an AL after completion of Level 3 corrective action	Within 6 months	YES

* **Capital BMPs** means the following improvements which will require capital expenditures, including BMPs, manufacturing modifications, concrete pads and dikes and appropriate pumping for collection and transfer of stormwater, and roofs and appropriate covers for manufacturing areas.

As is evident in Table 1.0 above, the permittee is given a maximum of a six-month timeframe to complete those tasks which can require a significant capital expenditure. While this fiscal availability may be an option for businesses in the private sector, public entities need a greater planning horizon for those expenses particularly of a capital nature. Depending on the overall cost, Council approval is often a requirement. The nature of public sector budget accounting is such that budgets are projected greater than 6-months prior to the year for which expenditures are to be made. The due dates for capital expenditures should be broadened considerably.

For example, for a Level 3 corrective action response to be meaningful the permittee should be allowed additional time (1.5 years at a minimum) for the investigation and selection of appropriate stormwater capital BMPs and operational source control BMPs. Without perfect knowledge of the complex process this regulation encompasses the permittee should be encouraged to derive the information necessary to aid in the selection of the BMPs that will best fit the unique situation on-site. The permittee will need time to collect additional information and for the selection of the BMP that will allow for a successful capital expenditure and water quality outcome. Realize that climate conditions leading to such investigative sampling can delay the derivation of this clarifying information.

Level 4 responses should be given a minimum of a two-year scheduling timeframe (verses the draft proposal of a schedule not to exceed 12 months) to allow the permittee the opportunity for capital expenditures to meet budgetary constraints and to allow the permittee to optimize the selection of what would likely be the best of the BMPs available to meet water quality goals. Otherwise, a permittee will need to rush the selection of BMPs which will lead to diminishing returns on the water quality investment.

2. Retroactive requirement for response in Level 3 should be eliminated

The draft regulation has the requirement that the clock for compliance with the new Level 3 corrective action start retroactively back to December 31, 2004. This retroactive response also has a six-month submittal requirement. This requirement is overly burdensome to those of us who have been vested in working to maintain full compliance with the current regulation. Retroactive implementation of a newly revised regulation is an overly burdensome practice and one that is likely to violate the important legal principles of retroactivity analysis.

3. Insufficient Operational Source Control BMPs information/technology exist to assist in meeting requirements at specified action levels

The DOE appears to have set criteria to be met in stormwater and technical achievability does not appear to be a consideration in the setting of these benchmark and action level criterion. If capital improvement projects to attain compliance are required, the DOE must be able to provide information for the permittees that technology is available which has capability to remove to a pollutant level that is required. This information and technology does not exist to treat stormwater to meet the metals benchmarks and action levels. The draft regulation provides a link (page 44 if 118) to the *2005 Stormwater Management Manual for Western Washington: Volume IV -- Source Control BMPs (3)* as an optional reference in the Level 1 Corrective Action determination. Unfortunately, this document does not contain any technology or information on a technology which would assist a permittee in the selection of a capital BMP that would assist in the reduction of zinc and copper in stormwater to meet the levels required in the draft regulation.

References in Text

1. Evaluation of Washington's Industrial Stormwater General Permit, November 2006. EnviroVision and Herrera Environmental Consultants, prepared for the Washington Department of Ecology Contract No. C0600124.
2. Standard Methods for the Examination of Water and Wastewater 21st edition, 2005. American Public Health Association, American Water Works Association, and the Water Environment Federation. United Book Press, Inc. Baltimore, MD.
3. Stormwater Management Manual for Western Washington, February 2005. Washington State Department of Ecology Water Quality Program publication number 05-10-32.