

DEPARTMENT OF ECOLOGY
Environmental Assessment Program

April 20, 2006

TO: Jim LaSpina, Water Quality Program

FROM: Steven Golding, Environmental Assessment Program

SUBJECT: **Comments on Draft Industrial General Permit**

I have reviewed the draft Industrial Stormwater General Permit (ISGP) and would like to provide the following comments. As an Engineer with Ecology's EAP program, I have been involved in ISGP related studies for several years. In addition to commenting on the sampling portion of the draft permit, I will suggest an alternative incorporating many elements of the *Evaluation of Washington's Industrial Stormwater General Permit: In response to Senate Bill 6415* (EnviroVision and Herrera Environmental Consultants) November 2006.

The draft ISGP specifies how stormwater discharges are to be sampled, what pollutant parameters to require, and how to analyze the data and submit it to Ecology. In developing a sampling plan, it is essential to determine how the data will be used. Without this, there is no basis for determining data quality, quantity, and especially the conditions under which it is collected.

From an abbreviated survey I conducted of 20 ISGP's with monitoring requirements, all included conditions specified in the 1992 NPDES Storm Water Sampling Guidance Document. EPA 833-B-92-001:

- 72 hour dry period requirement
- Collection of samples during the first hour of stormwater discharge
- A sampled storm at least 0.1 inches of precipitation.

The current Washington ISGP differs only in requiring a 24 hour dry period due to western Washington's wet season that often includes overlapping storms.

The draft permit which specifies that samples can be taken anytime a facility is discharging is a departure from the current ISGP and the ISGPs of all 20 states I have surveyed. The data produced will not be comparable with data collected for the current ISGP. Because stormwater discharge data are already highly variable, increasing the randomness of sample collection, as the draft permit does, will result in data with limited utility.

It is clear that by specifying that sampling can take place any time there is a discharge, the draft permit will meet its principal objective of ensuring permittees will have ample opportunity to collect samples. As shown with Olympia climate data, there will be far more than ample opportunities. Data from 1999-2004 show 58 weekdays with greater

than or equal to 0.1 inches of rainfall during the October 1 to June 30 proposed sampling period. (*Stormwater Quality Survey of Western Washington Log Yards*, EAP Publication No. 04-03-041). This means that permittees will have an opportunity to sample 58 days on average in order to collect 4 samples, plus days that have less than 0.1 inches rainfall for which there is also a discharge.

I suggest that a middle ground be taken to ensure that permittees will have sufficient opportunity to submit the 4 days of samples required, while also providing a context for the data. The suggestions depart only somewhat from the current ISGP and those of other states. Tying stormwater discharge sampling to conditions such as after one day preceding dry or during the first portion of a rainfall, provides an opportunity to collect what might be worst-case conditions. Just as importantly, by anchoring data collection to a specified dry/rainfall pattern, the data produced are on a common basis so that comparisons can be made.

The utility of standardizing collection conditions in this was found in a 2006 Ecology EAP study using data from 28 facilities under the current Ecology ISGP. Data from different facilities were found to be useful. Many facilities reporting low zinc concentrations were found to be sampling or reporting incorrectly. In several cases unexpectedly high zinc concentrations pointed to zinc sources that had not been considered. In one case, cleaning hydraulic fluid on the ground considerably reduced the zinc reported in their discharge. (*A Survey of Zinc Concentrations in Industrial Stormwater Runoff* – EAP report 06-03-009). It is likely that these relative trends would not have been found if the stormwater discharge data were collected randomly, as in the draft permit.

Recommended Approach to Sampling Requirements

I recommend applying recommendations, some modified from *Evaluation of Washington's Industrial Stormwater General Permit: In response to Senate Bill 6415* (EnviroVision and Herrera Environmental Consultants) November 2006.

The document has been carefully prepared, preserves much of the current context for data collection, is sound, and can be cited. Following each bulleted recommendation I have indicated how it will increase opportunities for sampling beyond those of the current permit.

- Introducing a wet season sampling schedule such as September through March (as in the *Evaluation* report), or October 1 to June 30 as in the draft permit.

This requirement to extend the wet season and to end the requirement of one sample each 3-month period, greatly extends applicable days for sampling. It eliminates the problem of permittees having to collect samples during dry quarters or even during specific quarters.

- Retaining the 24-hour dry period requirement (recommended by *Evaluation Report*). This is important as the most significant anchor to maintain sampling schedule consistency with respect to precipitation patterns.

24-hours dry can be defined as a period where pavement is dry or may be moist and even wet, as long there is no runoff within or from the site. The logic is that if there is no runoff, pollutants are still immobilized until runoff begins. Ecology proscribed this approach at workshops and subsequent contacts with permittees shortly after

monitoring requirements were put in place. Employees walking from a parking lot to a building can often make the simple assessment of whether stormwater is or is not running off.

- Removing the storm event size target (*Evaluation Report*). At workshops and informally Ecology has recognized a 0.01 inch rain during the hour of collection as acceptable; the logic is that it is the rain intensity during the first hour that is relevant. When sampling is complete, the course of the storm to meet a 0.1 cumulative rainfall, as recommended by EPA, becomes irrelevant. Ecology provided rain gages to permittees at workshops to measure preceding dry and 0.01 inch of rainfall. Going further, *Evaluation Report* recommends removing the storm event size target entirely. The logic is that for there to be a 12-hour window of discharge, the discharge was associated with a rain event and can be sampled.
- Extending the sample collection period from 1 hour to 12 hours of discharge. (*Evaluation Report*). This measure alone will provide a large increase in sampling opportunities. As is, a permittee can sample a storm only within one hour of the beginning of discharge. The change to sample anytime within 12 hours of discharge allows many storms that were previously non-qualifying to be sampled. For example, a rain beginning at 9PM or later could be sampled the following morning at 9 AM. Because discharge from facilities comes at different times relative to rainfall, it has been difficult for facility personnel to keep up with the onset of discharge in order to sample the first hour. In this respect, the new measure will improve compliance in.
- Because discharge comes at different times relative to rainfall, often a few hours later, the one-hour requirement made it difficult for facility personnel to keep up. It required checking the discharge point regularly. In practice, many permittees did not succeed in doing so.

Dropping the requirement of no longer having to measure rainfall, and changing the sampling time to within a window of 12 hours, will simplify sample collection, allowing more permittees to readily be in compliance.

Summary of Recommended Approach to Sampling Requirements:

These recommendations simplify the procedures of permittee sampling and allow improved flexibility. Conditions for facilities for all permittees will provide ample opportunity for sampling as required 4 times per year.

- Requiring sampling only during a wet season and not on a rigid one-per-quarter basis.
- 24-hours antecedent dry, where “dry” is defined as a damp or even wet condition with no runoff.
- Remove the storm size target. Sample any time it is raining (and other conditions apply)
- Extend the sample collection period from 1hour to 12 hours.

The first and last of these bulleted items in particular greatly expand opportunities for permittee sampling.

cc: Dale Norton