

```

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
*                                                                 P. 01 *
*                                                                 *
*          TRANSACTION REPORT          OCT-27-98 TUE 02:48 PM *
*                                                                 *
* DATE START  RECEIVER          TX TIME  PAGES TYPE  NOTE          M#  DP *
*-----*
* OCT-27 02:47 PM 2062486876      56"    3 SEND    OK          329 *
*-----*
*                                     TOTAL :          56S PAGES: 3 *
*-----*
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

```

Parametrix, Inc.

5808 Lake Washington Blvd. N.E., Suite 200, Kirkland, WA 98033-7350
 425-822-8880

FAX TRANSMISSION COVER PAGE
 FAX # 425-889-8808

To: Barbara Hanna
 Company Name: Pet of Seattle
 Telephone #: _____
 Fax #: 206 248 6876
 PMX Project #: _____
 From: _____ Ext. _____
 Sent By: PAUL FENDT
 Date: Oct 27, 1998

Parametrix, Inc.

5808 Lake Washington Blvd. N.E., Suite 200, Kirkland, WA 98033-7350
425-822-8880

FAX TRANSMISSION COVER PAGE

FAX # 425-889-8808

To: Barbara Hanna
Company Name: Dept of Seattle
Telephone #: _____
Fax #: 206 248 6876
PMX Project #: _____
From: _____ Ext. _____
Sent By: Paul Fendt
Date: Oct 27, 1998
Number of Pages (Total): 3

Comments/Message:

Copper

Backup Copy Will Will Not Be Sent Via _____

This facsimile is confidential and may also be attorney-privileged. If you are not the intended recipient or the person responsible for its distribution, please call us collect immediately at (425) 822-8880 and return the original to us via the U.S. Postal Service. Thank you.

AR 024768

Water Quality Talking Points - Copper

Background

A four hour "reasonable potential analysis" was completed during the 401 negotiations last summer to determine the effectiveness of BMPs to remove metals from storm water. The analysis was extremely conservative, and used a methodology that has not been adopted or recognized to answer questions regarding the quality of storm water.

The results showed that standard BMPs would effectively remove all metals except copper. Sand filters were not shown to be more effective than other BMPs.

The 401 certification required that one of 8 BMP treatment trains be used, and that each requires a sand filter or compost filter.

Issues

Copper is ubiquitous in storm water runoff in developed and urbanized areas. Sources include automobile brakes and rooftops. Copper in the stream at background (upstream) stations frequently exceed the copper criteria.

The Port has demonstrated that the quality of storm water runoff from the airport is similar to residential area runoff and "cleaner" than runoff from industrial activities for which the airport is regulated through the NPDES permit.

The Port has been required to meet water quality standards for storm water discharges in the 401 certification. This is a departure from storm water discharge compliance through BMPs.

The Port has already implemented many source controls, including the industrial waste system, snow storage areas, removed cross-connections, and installed pumping systems to name a few.

Sand filters were not shown to effectively remove copper. Compost filters are unproven in large-scale facilities and long-term applications.

Constructing sand filters on this scale will cost 10s of millions of dollars, and may not solve the environmental issue that has been described. An AKART analysis on a 15-acre site estimated copper treatment would cost 1 million dollars. Extrapolating to 1500 acres of airport is a cost of 100 million dollars.

Discussion

How will the Port and Ecology arrive at an understanding of points of compliance (i.e. end of pipe vs. mixing zone) and compliance schedules for such a variable source as storm water discharge?

What is the level of detail required by Ecology to determine that the Port has provided reasonable assurance with its compliance schedule?

How is Ecology addressing this issue with other permit holders?

Does the Port need to retrofit the existing facility, considering the cost of tearing up existing facilities, locating wildlife attractants, facilities that may not be effective, the duplication of this issue in the NPDES permit, and the fact that the Port in its present configuration preceded the Clean Water Act?

The issue is defined by sources of pollutants on one side, and water quality standards on the other. Between the two is the treatment that is required for the new runway. How will the Port and Ecology reach

a compromise on the gap between the sources and compliance, when treatment technologies are not readily available or are extremely costly?

Water Quality Talking Points - Copper

Background

A four hour "reasonable potential analysis" was completed during the 401 negotiations last summer to determine the effectiveness of BMPs to remove metals from storm water. The analysis was extremely conservative, and used a methodology that has not been adopted or recognized to answer questions regarding the quality of storm water.

The results showed that standard BMPs would effectively remove all metals except copper. Sand filters were not shown to be more effective than other BMPs.

The 401 certification required that one of 8 BMP treatment trains be used, and that each requires a sand filter or compost filter.

Issues

Copper is ubiquitous in storm water runoff in developed and urbanized areas. Sources include automobile brakes and rooftops. Copper in the stream at background (upstream) stations frequently exceed the copper criteria.

The Port has demonstrated that the quality of storm water runoff from the airport is similar to residential area runoff and "cleaner" than runoff from industrial activities for which the airport is regulated through the NPDES permit.

The Port has been required to meet water quality standards for storm water discharges in the 401 certification. This is a departure from storm water discharge compliance through BMPs.

The Port has already implemented many source controls, including the industrial waste system, snow storage areas, removed cross-connections, and installed pumping systems to name a few.

Sand filters were not shown to effectively remove copper. Compost filters are unproven in large-scale facilities and long-term applications.

Constructing sand filters on this scale will cost 10s of millions of dollars, and may not solve the environmental issue that has been described. An AKART analysis on a 15-acre site estimated copper treatment would cost 1 million dollars. Extrapolating to 1500 acres of airport is a cost of 100 million dollars.

Discussion

How will the Port and Ecology arrive at an understanding of points of compliance (i.e. end of pipe vs. mixing zone) and compliance schedules for such a variable source as storm water discharge?

What is the level of detail required by Ecology to determine that the Port has provided reasonable assurance with its compliance schedule?

How is Ecology addressing this issue with other permit holders?

Does the Port need to retrofit the existing facility, considering the cost of tearing up existing facilities, locating wildlife attractants, facilities that may not be effective, the duplication of this issue in the NPDES permit, and the fact that the Port in its present configuration preceded the Clean Water Act?

The issue is defined by sources of pollutants on one side, and water quality standards on the other. Between the two is the treatment that is required for the new runway. How will the Port and Ecology reach

a compromise on the gap between the sources and compliance, when treatment technologies are not readily available or are extremely costly?

AR 024772