



State of Washington Department of Ecology
**WASTEWATER TREATMENT PLANT
 COMPLIANCE INSPECTION REPORT**

Northwest Regional Office
 3190160th Ave SE
 Bellevue, WA 98008
 (425) 649-7000 ph
 (425) 649-7098 fax
 (last update 4-15-05)

Section A: General Information

Report Version	PERMIT #	mo/day/yr	Inspection Type	Inspector Code	Facility Type
<input checked="" type="checkbox"/> New <input type="checkbox"/> Amended	WA-002056-7	06/28/2007	A	E	<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Remarks					
Inspection work 1.0	Facility Self-Monitoring Evaluation Rating 5	Photos Taken <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Samples Taken <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Lead Ecology Inspector(s) Shawn McKone	

Section B: Facility Data

Name and Location of Facility Inspected and Phone	Entry Time	Permit Effective Date
City of Oak Harbor Wastewater Treatment Plant: RBC Facility 1501 SE City Beach Dr. Oak Harbor, WA 98277	10:03 am	June 1, 2005
	Exit Time	Permit Expiration Date
	11:58 am	May 25, 2010
Name(s) of On-Site Representative(s)/Title(s)	Ecology Staff On-Site	
Rob Kelley, Lead Operator Phil Mathews, Operator Scott Hubbard, Lab Coordinator	Shawn McKone Tonya Lane	
Name, Address of Responsible Official/Title/Phone and Fax Number.	Other Facility Data	
Cathy Rosen, Public Works Director 1400 NE 16 th Avenue Oak Harbor, WA 98277		
Phone Number (360) 279-4751 Fax Contacted? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		

Section C: Areas Evaluated During Inspection (Check only those areas evaluated)

<input type="checkbox"/> Permit	<input checked="" type="checkbox"/> Flow Measurement	<input checked="" type="checkbox"/> Operations & Maintenance	<input type="checkbox"/> CSO/SSO (Sewer Overflow)
<input type="checkbox"/> Records/Reports	<input checked="" type="checkbox"/> Self-Monitoring Program	<input type="checkbox"/> Sludge Handling/Disposal	<input type="checkbox"/> Pollution Prevention
<input checked="" type="checkbox"/> Facility Site Review	<input type="checkbox"/> Compliance Schedules	<input type="checkbox"/> Pretreatment	<input type="checkbox"/> Multimedia
<input type="checkbox"/> Effluent/Receiving water	<input type="checkbox"/> Laboratory	<input type="checkbox"/> Storm Water	<input checked="" type="checkbox"/> Other

Section D: Summary of Findings/Comments

INTRODUCTION

The Department of Ecology (Ecology) conducted a Regional Class I Inspection at the Oak Harbor-RBC Wastewater Treatment Plant (WWTP) on June 28, 2007. Shawn McKone, Ecology's Northwest Regional Office Water Quality (NWRO-WQ) Facility Manager, and Tonya Lane, NWRO-WQ, conducted the inspection with assistance from Rob Kelley, Phil Mathews and Scott Hubbard. This inspection fulfills regional Class I inspection requirements of conducting periodic onsite system evaluations. This inspection focused on the City's RBC facility and their recent response to the failure of the plant's sole flow meter. The inspection also reviewed the extensive maintenance performed by the staff at the RBC plant during the meter-related down time. This was an announced inspection.

The facility is regulated by Permit no. WA-002056-7, which was issued on May 25, 2005, and expires on May 25, 2010. The permit covers operations of both the RBC facility and the city's lagoon treatment facility, which is linked to a common collection system.

RESULTS AND DISCUSSION

Flow Meter: The City notified Ecology on May 24th that the RBC plant's only flow meter was malfunctioning and that replacement parts were not readily available. The meter is used to measure the amount of flow processed by the facility for compliance monitoring purposes. The meter also provides operating information to the chlorination and dechlorination systems and to the sampling equipment. Since the malfunctioning meter had the potential to cause operational problems as well as uncertainty in sampling accuracy, the City was advised to divert flow to the Seaplane Lagoon facility until replacement parts arrived.

The staff, in consultation with the meter supplier, determined that the likely cause of the malfunction was the control unit. According to the vendor, the old control unit (Isco 4411) had a history of software problems. Based on the vendor's

recommendation, the staff replaced the suspect control unit with a new control unit (Esco 4411e). The facility was placed back into service on June 21st. At the time of this visit, the replacement appeared to have resolved the problems. Plant staff also suspected that the sensor tube for the meter could have been a cause of the problems. The tubes were not replaced, however, since the control unit appeared to be the more likely cause.

The lack of meter redundancy is a concern for Ecology. As this incident revealed, meter failure can lead to a loss of integrated process control and can prevent staff from collecting monitoring data required by permit. While the plant staff had the luxury of diverting flow from the RBC plant to the Lagoon facility in this situation, that luxury will not always exist. Alternatives for improving meter reliability were discussed during this visit. The city may install a second effluent meter, an influent meter to use in conjunction with the effluent meter or may purchase spare meter components to allow them to quickly repair future problems. At the time of this visit, the staff planned to monitor the effectiveness of the repair before deciding on how best to improve redundancy.

Post Inspection Update: The City notified Ecology on July 17th that the meter was once again malfunctioning and would again divert flow to the lagoon facility. Troubleshooting by the staff led to the conclusion that the problems was with the sensor tube. As of August 2nd, the staff was waiting on replacement parts; they anticipate restarting the facility on August 6th.

Maintenance: The downtime caused by the malfunctioning meter gave the staff an opportunity to perform significant maintenance on the plant's components. The RBC disks were thoroughly cleaned, drive chains replaced and chain housings repaired. The main bearings were inspected and found to be in good shape. One of the plant's secondary clarifiers was steam cleaned, however staff did not have time to clean the second prior to plant restart; the second was being cleaned during this inspection.

In order to maintain the plant's biological activity during the down time, it was necessary for the staff to route a small amount of wastewater through the facility. This flow was not discharged to Oak Harbor. Instead, it was routed back to the diversion lift station and sent to the lagoon facility. In addition to the need to keep wastewater flow entering the plant, staff could not take both RBC trains down at the same time. While they were maintaining one train, the other train remained active to support the facility's microbial community. The staff's strategy was successful in maintaining biological activity within the facility, which resulted in a smooth facility restart. Effluent testing results for the plant's first full day back online were available at the time of the inspection and revealed very good results: BOD5 – 20 mg/L, CBOD – 14 mg/L, TSS – 13 mg/L.

CONCLUSION

The City of Oak Harbor's Wastewater Treatment staff routinely demonstrates a high level of competence in operating and maintaining the city's two treatment plants. Their response to the meter failure at the RBC plant was appropriate given the lack of spare parts and the luxury of being able to divert flow to another facility. However, since complete diversion to the lagoon facility may not always be an option during high flow periods, the city should take steps to ensure that the loss of key equipment in the future will not cause plant shutdown. The facility should either install a second meter or maintain an inventory of parts for the existing meter. The NPDES permit requires adequate maintenance and operational procedures to ensure reliable flow measurement. The lack of spare parts or redundancy can lead to unreliable flow measurement in violation of the permit.

Attachments:

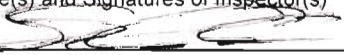
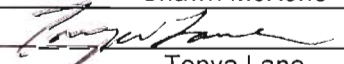

Photographs

Copies to:

Rob Kelley, City of Oak Harbor

Shawn McKone, Ecology

Central Files: Oak Harbor Wastewater Treatment Plant; WA-002056-7; WQ 6.1

Name(s) and Signatures of Inspector(s) 	Agency/Office/Telephone WA Dept. of Ecology, NWRO, (425)649-7037 3190 160 th Ave SE, Bellevue, WA 98008-5452	Date 8/2/07
Shawn McKone 	WA Dept. of Ecology, NWRO, (425)649-7050	
Name and Signature of Management Q A Reviewer  Karen Burges	Agency/Office/Phone and Fax Numbers WA Dept. of Ecology, NWRO, (425)649-7207	Date 8/13/07

ANNOUNCED Inspection

PHOTO ADDENDUM – OAK HARBOR RBC WASTEWATER TREATMENT PLANT, WA-002056-7

PHOTO #:01 DATE: 6/28/2007 TAKEN BY: MCKONE
FILE NO.: OH062007_1 TIME: 10:36AM
DESCRIPTION: RBC DISK #1, NORTH TRAIN

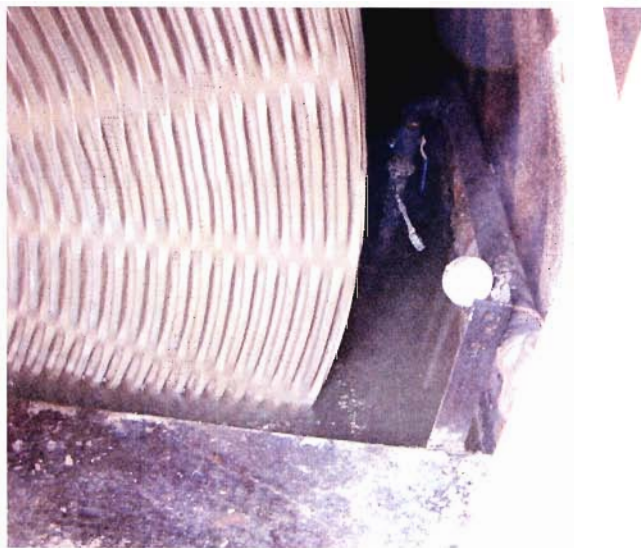


PHOTO #:02 DATE: 6/28/2007 TAKEN BY: MCKONE FILE
NO.: OH062007_2 TIME: 10:36AM
DESCRIPTION: RBC DISK #1, NORTH TRAIN



PHOTO #:DATE: 6/28/2007 TAKEN BY: MCKONE
FILE NO.: OH062007_4 TIME: 10:39AM
DESCRIPTION: RBC DISK #2, NORTH TRAIN

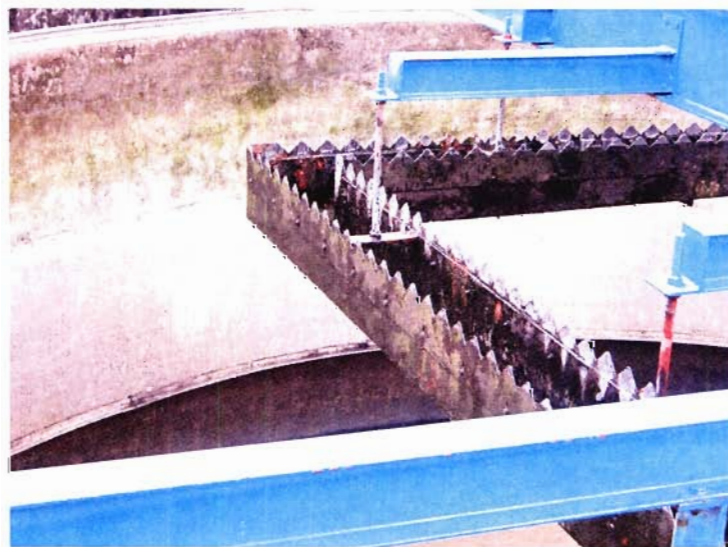


PHOTO #:04 DATE: 6/28/2007 TAKEN BY: MCKONE
FILE NO.: OH062007_6 TIME: 10:42AM
DESCRIPTION: NORTH SECONDARY CLARIFIER IN THE PROCESS
OF BEING CLEANED

PHOTO ADDENDUM – OAK HARBOR RBC WASTEWATER TREATMENT PLANT, WA-002056-7

PHOTO #:05 DATE: 6/28/2007 TAKEN BY: McKONE
FILE No.: OH062007_7 TIME: 10:42AM
DESCRIPTION: NORTH SECONDARY CLARIFIER IN THE PROCESS
OF BEING CLEANED



04 DATE: 6/28/2007 TAKEN BY: McKONE
FILE No.: OH062007_9 TIME: 10:43AM
DESCRIPTION: FLOW METER LOCATION AT THE HEAD OF THE
CHLORINE CONTACT CHAMBER. NEW CONTROL UNIT (ON THE
LEFT, OLD UNIT ON THE RIGHT.

INSTRUCTIONS**Section A: General Information**

Report Version: New for 1st version, Amended for amended versions

NPDES Permit No.: Enter the facility's NPDES or State permit number.

Inspection Date: Insert the date entry was made into the facility. Use the month/day/year format (e.g., 06/30/04 = June 30, 2004).

Inspection Type: Use one of the codes listed below to describe the type of inspection:

- | | |
|--|--|
| A Compliance Evaluation (non-sampling) | G Compliance Evaluation (Sampling) Re-Sample |
| B Compliance Evaluation (sampling) | H Reconnaissance |
| C Enforcement Case Support | I Reconnaissance |
| D Multimedia | J Site Visit |
| E Pretreatment Compliance Inspection | K Other |
| F Compliance Evaluation (non sampling) Follow-up | |

Inspector Code: Use one of the codes listed below to describe the *lead agency* in the inspection:

- | | |
|---|--|
| E - Ecology Inspector | L - Joint Ecology/Laboratory Accreditation Inspectors – Ecology Lead |
| H - Joint Ecology/Health – Ecology Lead | T - Joint EPA/Ecology Inspectors - EPA Lead |
| J - Joint Ecology/EPA Inspectors - Ecology Lead | C - Contractor or Other Inspectors (<i>Specify in Remarks Columns</i>) |

Facility Type: Use one of the choices below to describe the facility.

Public - Municipal Publicly Owned Treatment Works (POTWs)

Private - Municipal Privately Owned Treatment Works

Remarks: These columns are reserved for remarks.

Inspection Work Days.: Estimate the total work effort (to the nearest 0.1 work day), up to 99.9 days, that were used to complete the inspection. This estimate includes the accumulative effort of all participating inspectors; any effort for laboratory analyses, testing, travel time and preparation time. This estimate does not require detailed documentation.

Facility Evaluation Rating: Use information gathered during the inspection (regardless of inspection type) to evaluate the quality of the facility self-monitoring program. Grade the program using a scale of 1 to 5 with a score of 5 being used for very reliable self-monitoring programs, 3 being satisfactory, and 1 being used for very unreliable programs.

Photos Taken: Yes or No

Samples Taken: Yes or No

Lead Ecology Inspector: Enter lead inspector's name

Section B: Facility Data

This section is self-explanatory except for: "Other Facility Data," which may include new information not in the permit or PCS (e.g., new outfalls, names of receiving waters, new ownership, and other updates to the record), e-mail addresses...; and "Ecology Staff On-Site", which may include staff names, titles, phone numbers, or e-mail addresses.

Section C: Areas Evaluated During Inspection

Check only those areas evaluated by marking the appropriate box. Use Section D and additional sheets as necessary.

Section D: Summary of Findings/Comments

Support the findings, as necessary, in a narrative report. Use the headings given on the report form (staffing, back-up power) as appropriate. Reference a list of attachments, such as completed checklists, photos, lab reports, etc. Use extra sheets as necessary.

LINKS AND INFORMATION:

"Informational Manual for Treatment Plant Operators"; February 2004; by the Department of Ecology
Publication Number 04-10-020:

<http://www.ecy.wa.gov/pubs/0410020.pdf>

The manual was prepared to help wastewater treatment plant operators complete and submit their Discharge Monitoring Reports (DMRs) and other annual reports to the Department of Ecology. The manual is available in hard copy. To request a copy, contact the Department of Ecology, Publications Distribution Center at P.O. Box 47600, Olympia, WA 98504-7600 or by Telephone: (360) 407-7472. Updates to the manual are included on the website version.

Ecology's Wastewater and Reuse website:

<http://www.ecy.wa.gov/programs/wq/wastewater/index.html>

Ecology's Operator Certification website:

http://www.ecy.wa.gov/programs/wq/wastewater/op_cert/index.html

Ecology's Laboratory Accreditation website:

http://www.ecy.wa.gov/programs/eap/labs/labs_main.html

Ecology's Biosolids website:

<http://www.ecy.wa.gov/programs/swfa/biosolids/>

Ecology's Operator Outreach: Carl Jones (360) 407-6431; cjon461@ecy.wa.gov

Ecology's Municipal Compliance Specialist (Northwest Regional Office): Amy Jankowiak (425) 649-7195;

ajan461@ecy.wa.gov

Ecology's Wastewater Operator Certification Coordinator: Poppy Carre (360) 407-6449; 1-800-633-6193 (within the state)

poca461@ecy.wa.gov

Ecology's Biosolids Coordinator (Northwest Regional Office)" Marietta Sharp (425) 649-7258 mars461@ecy.wa.gov

Reporting Spills/Overflows/Upsets/Bypasses/Loss of Disinfection IMMEDIATELY:

Ecology's 24-hour number: (425) 649-7000 to report a spill

Department of Health – Shellfish Program 24-hour number: (360) 236-3330