



STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

4601 N Monroe Street • Spokane, Washington 99205-1295 • (509)329-3400

June 29, 2015

Mr. Kevin R. Cooke, P.E.  
Utilities Director  
Spokane County  
1026 W. Broadway Ave, 4<sup>th</sup> Floor  
Spokane, WA 99260

RE: Spokane County Regional Water Reclamation Facility Inspection  
NPDES Permit No. WA0093317

Dear Mr. Cooke:

This letter accompanies the Inspection Report for the Spokane County Regional Water Reclamation Facility Inspection that Mike Hepp and I conducted on March 31, 2015. After we met with both Dave Moss and Adam McClymont in the operations building to discuss permit compliance and the next permit cycle, we conducted a visual inspection of the treatment plant. Adam provided access to the laboratory for records review including previously submitted DMRs, lab bench sheets, and equipment maintenance logs. He provided extensive detail on his discharge procedures and normal facility operation. No immediate recommendations from Ecology stem from this compliance inspection.

Thank you for making a continued effort to protect water quality in the Spokane River. Please contact me at (509) 329-3519 or [ekey461k@ecy.wa.gov](mailto:ekey461k@ecy.wa.gov) if you have any questions regarding the information in the inspection report or if I can be of any other assistance.

Sincerely,

M. Eleanor Key, P.E.  
Facility Manager  
Water Quality Program

MEK:red

Enclosure

cc: Dave Moss, P.E., Spokane County Utilities Engineering Manager  
Adam McClymont, CH2M Hill Project Manager  
File







Sections F thru L: Complete on all inspections, as appropriate. N/A = Not Applicable		PERMIT NO. WA-0093317
<b>SECTION F - Facility and Permit Background</b>		
ADDRESS OF PERMITTEE IF DIFFERENT FROM FACILITY (Including City, County and ZIP code)	DATE OF LAST PREVIOUS INVESTIGATION BY EPA/STATE April 7, 2014	
	FINDINGS Facility maintains excellent treatment efficiency and has a proactive approach to operations and facility management.	
<b>SECTION G - Records and Reports</b>		
RECORDS AND REPORTS MAINTAINED AS REQUIRED BY PERMIT. DETAILS:	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A (Further explanation attached _____)	
(a) ADEQUATE RECORDS MAINTAINED OF:		
(i) SAMPLING DATE, TIME, EXACT LOCATION	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO <input type="checkbox"/> N/A
(ii) ANALYSES DATES, TIMES	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO <input type="checkbox"/> N/A
(iii) INDIVIDUAL PERFORMING ANALYSIS	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO <input type="checkbox"/> N/A
(iv) ANALYTICAL METHODS/TECHNIQUES USED	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO <input type="checkbox"/> N/A
(v) ANALYTICAL RESULTS (e.g., consistent with self-monitoring report data)	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO <input type="checkbox"/> N/A
(b) MONITORING RECORDS (e.g., flow, pH, D.O., etc.) MAINTAINED FOR A MINIMUM OF THREE YEARS INCLUDING ALL ORIGINAL STRIP CHART RECORDINGS (e.g., continuous monitoring instrumentation, calibration and maintenance records).	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO <input type="checkbox"/> N/A
(c) LAB EQUIPMENT CALIBRATION AND MAINTENANCE RECORDS KEPT.	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO <input type="checkbox"/> N/A
(d) FACILITY OPERATING RECORDS KEPT INCLUDING OPERATING LOGS FOR EACH TREATMENT UNIT.	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO <input type="checkbox"/> N/A
(e) QUALITY ASSURANCE RECORDS KEPT.	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO <input type="checkbox"/> N/A
(f) RECORDS MAINTAINED OF MAJOR CONTRIBUTING INDUSTRIES (and their compliance status) USING PUBLICLY OWNED TREATMENT WORKS.	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO <input type="checkbox"/> N/A
<b>SECTION H - Permit Verification</b>		
INSPECTION OBSERVATIONS VERIFY THE PERMIT. DETAILS: Process details accurate.	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A (Further explanation attached _____)	
(a) CORRECT NAME AND MAILING ADDRESS OF PERMITTEE.	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO <input type="checkbox"/> N/A
(b) FACILITY IS AS DESCRIBED IN PERMIT.	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO <input type="checkbox"/> N/A
(c) PRINCIPAL PRODUCT(S) AND PRODUCTION RATES CONFORM WITH THOSE SET FORTH IN PERMIT APPLICATION.	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO <input type="checkbox"/> N/A
(d) TREATMENT PROCESSES ARE AS DESCRIBED IN PERMIT APPLICATION.	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO <input type="checkbox"/> N/A
(e) NOTIFICATION GIVEN TO EPA/STATE OF NEW, DIFFERENT OR INCREASED DISCHARGES.	<input type="checkbox"/> YES	<input type="checkbox"/> NO <input checked="" type="checkbox"/> N/A
(f) ACCURATE RECORDS OF RAW WATER VOLUME MAINTAINED.	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO <input type="checkbox"/> N/A
(g) NUMBER AND LOCATION OF DISCHARGE POINTS ARE AS DESCRIBED IN PERMIT.	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO <input type="checkbox"/> N/A
(h) CORRECT NAME AND LOCATION OF RECEIVING WATERS.	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO <input type="checkbox"/> N/A
(i) ALL DISCHARGES ARE PERMITTED.	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO <input type="checkbox"/> N/A
<b>SECTION I - Operation and Maintenance</b>		
TREATMENT FACILITY PROPERLY OPERATED AND MAINTAINED. DETAILS: The treatment plant staff takes a very proactive approach to maintaining the process/mechanical equipment used at the facility. Staff communicates very well with Ecology on any changes and or modifications to the operation of the facility.	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A (Further explanation attached _____)	
(a) STANDBY POWER OR OTHER EQUIVALENT PROVISIONS PROVIDED.	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO <input type="checkbox"/> N/A
(b) ADEQUATE ALARM SYSTEM FOR POWER OR EQUIPMENT FAILURES AVAILABLE.	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO <input type="checkbox"/> N/A
(c) REPORTS ON ALTERNATIVES SOURCE OF POWER SENT TO EPA/STATE AS REQUIRED BY PERMIT.	<input type="checkbox"/> YES	<input type="checkbox"/> NO <input checked="" type="checkbox"/> N/A
(d) SLUDGES AND SOLIDS ADEQUATELY DISPOSED.	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO <input type="checkbox"/> N/A
(e) ALL TREATMENT UNITS IN SERVICE.	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO <input type="checkbox"/> N/A
(f) CONSULTING ENGINEER RETAINED OR AVAILABLE FOR CONSULTATION ON OPERATION AND MAINTENANCE PROBLEMS.	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO <input type="checkbox"/> N/A
(g) QUALIFIED OPERATING STAFF PROVIDED.	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO <input type="checkbox"/> N/A
(h) ESTABLISHED PROCEDURES AVAILABLE FOR TRAINING NEW OPERATORS.	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO <input type="checkbox"/> N/A
(i) FILES MAINTAINED ON SPARE PARTS INVENTORY, MAJOR EQUIPMENT SPECIFICATIONS, AND PARTS AND EQUIPMENT SUPPLIERS.	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO <input type="checkbox"/> N/A
(j) INSTRUCTIONS FILES KEPT FOR OPERATION AND MAINTENANCE OF EACH ITEM OF MAJOR EQUIPMENT.	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO <input type="checkbox"/> N/A
(k) OPERATION AND MAINTENANCE MANUAL MAINTAINED.	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO <input type="checkbox"/> N/A
(l) SPCC PLAN AVAILABLE.	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO <input type="checkbox"/> N/A
(m) REGULATORY AGENCY NOTIFIED OF BY PASSING. (Dates _____)	<input type="checkbox"/> YES	<input type="checkbox"/> NO <input checked="" type="checkbox"/> N/A
(n) ANY BY-PASSING SINCE LAST INSPECTION.	<input type="checkbox"/> YES	<input type="checkbox"/> NO <input checked="" type="checkbox"/> N/A
(o) ANY HYDRAULIC AND/OR ORGANIC OVERLOADS EXPERIENCED.	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO <input type="checkbox"/> N/A

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**SECTION J - Compliance Schedules**

PERMITTEE IS MEETING COMPLIANCE SCHEDULE.  YES  NO  N/A (Facility has approved QAPPs for toxics, dates for facility planning have not yet passed)

CHECK APPROPRIATE PHASE(S):

- (a) THE PERMITTEE HAS OBTAINED THE NECESSARY APPROVALS FROM THE APPROPRIATE AUTHORITIES TO BEGIN CONSTRUCTION.
- (b) PROPER ARRANGEMENT HAS BEEN MADE FOR FINANCING (mortgage commitments, grants, etc.).
- (c) CONTRACTS FOR ENGINEERING SERVICES HAVE BEEN EXECUTED.
- (d) DESIGN PLANS AND SPECIFICATIONS HAVE BEEN COMPLETED.
- (e) CONSTRUCTION HAS COMMENCED.
- (f) CONSTRUCTION AND/OR EQUIPMENT ACQUISITION IS ON SCHEDULE.
- (g) CONSTRUCTION HAS BEEN COMPLETED.
- (h) START-UP HAS COMMENCED.
- (i) THE PERMITTEE HAS REQUESTED AN EXTENSION OF TIME.

**SECTION K - Self-Monitoring Program**

Part 1 - Flow measurement (Further explanation attached \_\_\_\_\_)

PERMITTEE FLOW MEASUREMENT MEETS THE REQUIREMENTS AND INTENT OF THE PERMIT.  YES  NO  N/A  
DETAILS:

- (a) PRIMARY MEASURING DEVICE PROPERLY INSTALLED.  YES  NO  N/A  
TYPE OF DEVICE:  WEIR  PARSHALL FLUME  MAGMETER  VENTURI METER  OTHER: (Specify) \_\_\_\_\_
- (b) CALIBRATION FREQUENCY ADEQUATE. (Date of last calibration) November 2014  YES  NO  N/A
- (c) PRIMARY FLOW MEASURING DEVICE PROPERLY OPERATED AND MAINTAINED.  YES  NO  N/A
- (d) SECONDARY INSTRUMENTS (totalizers, recorders, etc.) PROPERLY OPERATED AND MAINTAINED.  YES  NO  N/A
- (e) FLOW MEASUREMENT EQUIPMENT ADEQUATE TO HANDLE EXPECTED RANGES OF FLOW RATES.  YES  NO  N/A

Part 2 - Sampling (Further explanation attached \_\_\_\_\_)

PERMITTEE SAMPLING MEETS THE REQUIREMENTS AND INTENT OF THE PERMIT.  YES  NO  N/A  
DETAILS:

- (a) LOCATIONS ADEQUATE FOR REPRESENTATIVE SAMPLES.  YES  NO  N/A
- (b) PARAMETERS AND SAMPLING FREQUENCY AGREE WITH PERMIT.  YES  NO  N/A
- (c) PERMITTEE IS USING METHOD OF SAMPLE COLLECTION REQUIRED BY PERMIT.  YES  NO  N/A  
IF NO,  GRAB  MANUAL COMPOSITE  AUTOMATIC COMPOSITE FREQUENCY 24-hour time based collection
- (d) SAMPLE COLLECTION PROCEDURES ARE ADEQUATE  YES  NO  N/A
  - (i) SAMPLES REFRIGERATED DURING COMPOSITING  YES  NO  N/A
  - (ii) PROPER PRESERVATION TECHNIQUES USED  YES  NO  N/A
  - (iii) FLOW PROPORTIONED SAMPLES OBTAINED WHERE REQUIRED BY PERMIT  YES  NO  N/A
  - (iv) SAMPLE HOLDING TIMES PRIOR TO ANALYSES IN CONFORMANCE WITH 40 CFR 136.3  YES  NO  N/A
- (e) MONITORING AND ANALYSES BEING PERFORMED MORE FREQUENTLY THAN REQUIRED BY PERMIT. Facility has taken additional Cd samples trying to identify a pattern of discharge.  YES  NO  N/A
- (f) IF (e) IF YES, RESULTS ARE REPORTED IN PERMITTEE'S SELF-MONITORING REPORT.  YES  NO  N/A

Part 3 - Laboratory (Further explanation attached \_\_\_\_\_)

PERMITTEE LABORATORY PROCEDURES MEETS THE REQUIREMENTS AND INTENT OF THE PERMIT.  YES  NO  N/A  
DETAILS:

- (a) EPA APPROVED ANALYTICAL TESTING PROCEDURES USED. (40 CFR 136.6)  YES  NO  N/A
- (b) IF ALTERNATE ANALYTICAL PROCEDURES ARE USED, PROPER APPROVAL HAS BEEN OBTAINED.  YES  NO  N/A
- (c) PARAMETERS OTHER THAN THOSE REQUIRED BY THE PERMIT ARE ANALYZED. Regular process monitoring occurs as part of the facility operations.  YES  NO  N/A
- (d) SATISFACTORY CALIBRATION AND MAINTENANCE OF INSTRUMENTS AND EQUIPMENT.  YES  NO  N/A
- (e) QUALITY CONTROL PROCEDURES USED.  YES  NO  N/A
- (f) DUPLICATE SAMPLES ARE ANALYZED. \_\_\_\_\_ % OF TIME  YES  NO  N/A
- (g) SPIKED SAMPLES ARE USED. \_\_\_\_\_ % OF TIME  YES  NO  N/A
- (h) COMMERCIAL LABORATORY USED.  YES  NO  N/A
- (i) COMMERCIAL LABORATORY STATE CERTIFIED.  YES  NO  N/A

LAB NAME: Anatek, Axys Environmental Labs (for toxics)

LAB ADDRESS \_\_\_\_\_

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**SECTION L - Effluent/Receiving Water Observations** (Further explanation attached \_\_\_\_\_)

OUTFALL NO.	OIL SHEEN	GREASE	TURBIDITY	VISIBLE FOAM	VISIBLE FLOAT SOL	COLOR	OTHER
001	n/a	n/a	low, river clear	n/a	n/a	n/a	no visible effluent impact

(Sections M and N: Complete as appropriate for sampling inspections)

**SECTION M - Sampling Inspection Procedures and Observations** (Further explanation attached \_\_\_\_\_)

- GRAB SAMPLES OBTAINED
- COMPOSITE OBTAINED
- FLOW PROPORTIONED SAMPLE
- AUTOMATIC SAMPLER USED
- SAMPLE SPLIT WITH PERMITTEE
- CHAIN OF CUSTODY EMPLOYED
- SAMPLE OBTAINED FROM FACILITY SAMPLING DEVICE

COMPOSITING FREQUENCY \_\_\_\_\_ PRESERVATION \_\_\_\_\_

SAMPLE REFRIGERATED DURING COMPOSITING:  YES  NO

SAMPLE REPRESENTATIVE OF VOLUME AND NATURE OF DISCHARGE \_\_\_\_\_

**SECTION N - Analytical Results** (Attach report if necessary)

No sampling conducted.

Arrived Onsite: 0900  
Left Site: 1230  
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In attendance: Adam McClymont, David Moss, Mike Hepp, Ellie Key

Ellie Key and Mike Hepp met both David Moss and Adam McClymont at the SCRWRF on March 31, 2015. The inspection started with a meeting to discuss facility submittals and other facility documentation. There are submittals that need to be logged by Ecology into PARIS – the Spill Plan and 2014 Wasteload Assessment. Ellie will follow up with these and log the submittals with the appropriate dates within the database. A pH violation from January 2014 also needs correction as the exceedance on the continuous monitor fell within Ecology's tolerance.

Adam indicated that the County has finished their O&M manual updates. After the internal review process completes Anthony will submit the document ahead of the 4/15/15 submittal deadline. The County also indicated that they are preparing another comprehensive document for next year as there will be changes made to the facility within the next calendar year.

Dave wanted to know if there the next permit has a potential for WET limits. The majority of the results indicate a non-toxic effluent. Ellie will follow up with Randall Marshall at HQ regarding this issue. Adam will write another letter, if necessary. WET limits in the next permit cycle do not seem likely.

Permit development will start in the fall of 2015. Meeting will be held to discuss both measurable progress in toxicant reductions and also the permit development process. Ellie will work with Dave to schedule these meetings.

The County is currently undergoing a process to re-characterize the facility's influent. Design values, based on empirical data, do not accurately reflect the strength of the influent wastewater. There are three internal whitepapers that the County will keep as internal documents. However, the data contained in these white papers will be shared with Ecology once the data compilation completes. This information will accompany the permit application submission.

Recently, the County has been shaving their influent flows and directing some flow to the City of Spokane's treatment plant where they maintain a reserve capacity of 10 million gallons per day (MGD). The County normally pumps approximately 8 MGD to their facility and allows the excess to flow by gravity to the City's treatment plant. However, the facility has recently seen a decrease in their membrane efficiency. Also, lower ambient air temperatures (e.g. colder shoulder seasons between summer and winter) decreases ammonia oxidation bacteria activity resulting in decreased removal efficiency. Given the higher than expected influent nitrogen loading to the facility, the County has reduced their influent flows to approximately 6.8 MGD to counteract the decreased treatment efficiency. Given the ability to redirect raw wastewater to the City's treatment plant, the County has not violated their effluent ammonia limits documented in the NPDES permit.

Enhancements to the treatment process may occur to enable the facility to manage the higher than expected influent nitrogen loading. Troubleshooting this issue will be included in the County's internal plant analysis. It's possible that the County will expand to help with the increased loadings. Possibilities being vetted include increasing aeration basin capacity and adding additional membranes. Analyzing fluxuations in seasonal hydraulic and organic loadings will also be included in the treatment plant analysis.

Dave and Ellie discussed if a public notice of application will be necessary if there is no increase in flows prior to the next permit cycle. Given the status of the facility as a major discharger, Ecology will public notice the application.

Part of starting the influent characterization included relocating the influent composite sampler. Adam has worked to continuously refine the sample tube location so that upstream recycle influence does not skew the data. The new sampling point located downstream of the influent screens and upstream of the recycle returns has provided better data. Adam compared both grab and composite samples to define the current influent sampling point. The facility's O&M manual will reflect the change in the influent composite sampling.

The current discharge permit requires the County to conduct yearly receiving water temperature monitoring. The results from the past three (3) years conclude that the facility has no thermal impact to the Spokane River as the outfall discharges to a gaining reach, where the aquifer feeds the river. Given that the results provide the same conclusion, the risk to the County's staff placing thermistors in the river and the time/expense of the report development, the County will request a reduction in this monitoring. Rob Lindsay will write a letter for the formal request and a permit modification will remove the sampling requirement for the remaining permit cycle. This permit modification will need to be public noticed; however, it will be the only piece of the permit open to public comment. The County will decide if they would like to reopen their discharge permit for this reduction in monitoring.

Dave reiterated that the Spokane Community College will put in both a continuous flow meter and thermistor at the Green Street bridge as part of a project sponsored by the Spokane River Regional Toxics Task Force. He expects that the flow data recorded at this new station will help with future permit development as reasonable potential determinations use dilution factors in the receiving water body.

During the inspection, the County also requested a clarification to their daily sampling requirement. Currently, there are parameters that must be sampled 7/week and the facility does not typically staff on the weekends. In other permits, permit writers clarify daily to mean 5 samples per week (5/week) excluding holidays and weekends. If the County opts to modify their permit the temperature monitoring reduction, the sampling frequency will also be clarified.

During the 2014 calendar year, the County experienced 3 sanitary sewer overflows (SSOs). These were minor overflows and the County has been working with their insurance company to match records of the events.

Visual inspection of the treatment facility confirmed that the County does a great job with their ongoing daily operation and maintenance. Housekeeping procedures also keep the grounds quite clean.

Adam and the County have placed a few maintenance items on an action list for the next two years:

- Reconfigure spray to help with temperature control in the post aerobic digester.
- Extend the solids drain piping and evaluate the effect on the influent/effluent grit system.
- In 2014, baffles in the aeration basin collapsed. To date, three of the four have been shored to prevent future collapse. All quadrants in the AB are back online and the diffuser piping reconnected. In 2016, the facility will shore up the remaining baffle to prevent a future collapse.
- Both caustic and sodium hypochlorite has started to react with the paint selected for the dosing room. The County will repaint the CMU block this next year.

Adam also noted that the use of ferric chloride (used for chemical phosphorus removal) in their normal operations increases the grit in their wasted solids. This grit causes excessive wear and tear in the positive displacement pumps used in the solids dewatering process. The tungsten stators take the brunt of the abuse from the ferric grit and have to be replaced every few months. Replacement costs are approximately \$20,000 each and constitute a major expense in the facility's O&M budget.

Visual site inspections yielded no recommendations or Ecology required action items. There were minor amounts of foam in the chlorine contact basin; however, it's not reaching the outfall. The county expects surfactants discharged to the collection system or a potential result from a change to the solids return system. At this time, the foam does not pose any significant concern.

The County continues to produce a high quality effluent. They also maintain excellent communication with Ecology's Water Quality program and their permit manager.