ADDENDUM TO THE FACT SHEET
FOR NATIONAL POLLUTANT DISCHARGE
ELIMINATION SYSTEM (NPDES)
PERMIT NO. WA0037087

I. GENERAL INFORMATION

Facility: City of Tacoma Central Wastewater Treatment Plant (#1)
2201 Portland Avenue
Tacoma, WA 98421

II. APPLICATION REVIEW

The city of Tacoma submitted an application to the Department of Ecology (Ecology) on December 30, 2008, for permit reissuance, and Ecology accepted it on March 09, 2009. Ecology has sufficiently reviewed the application, discharge monitoring reports (DMRs), and other facility information in enough detail to ensure that:

- The city of Tacoma has complied with the terms, conditions, requirements and schedules of compliance of the expired permit.
- Ecology has up-to date information on the waste treatment practices and the nature, content, volume, and frequency of its discharge.
- The discharge meets applicable effluent standards and limits, water quality standards, and other legally applicable requirements. See Appendix A for a summary report of DMR data analysis.

III. PERMIT REAUTHORIZATION

When Ecology reauthorizes a discharge permit it essentially reissues the permit with the existing limits, terms and conditions. Alternatively, when Ecology renews a permit it re-evaluates the impact of the discharge on the receiving water which may lead to changes in the limits, terms and conditions of the permit.

This fact sheet addendum accompanies the permit, which Ecology proposes to reauthorize for the discharge of wastewater to Commencement Bay, Puget Sound. The previous fact sheet explains the basis for the discharge limitations and conditions of the reauthorized permit and remains as part of the administrative record. This fact sheet documents changes to the facility since Ecology issued the last permit. This fact sheet also describes changes to this permit.

The city of Tacoma (City) completed the Central Treatment Plant (CTP) Upgrade and Expansion Project in May 2009. The project included the following components:

- *New peak wet weather flow treatment (PWWT) system:* The new PWWT system uses the Actiflo ballasted sedimentation process to provide enhanced primary treatment capacity up to 76 mgd. The CTP influent flow up to 60 mgd goes through the existing primary

and secondary treatment processes. Flow in excess of 60 mgd (during peak rainfall events) splits off upstream of the aerated grit facility to the Actiflo PWWT system.

- *Expansion and improvements to the CTP headworks:* Installed three new influent screens, each capable of screening 75 mgd; increased influent pumping capacity to 150 mgd with one pump out of service, and built a new grit removal facility consisting of three, 40 mgd aerated grit tanks to replace the existing grit removal tanks.

- *Replacement of disinfection system:* Replaced the existing gaseous chlorine disinfection system with a sodium hypochlorite system.

- *Expansion of effluent pumping capacity:* Replaced the existing secondary effluent pumps with higher capacity pumps to provide 75 mgd pumping capacity with one pump out of service. Constructed a new peak wet weather effluent pump station with a pumping capacity of 150 mgd with one pump out of service that discharges both secondary and PWWT system effluent to the Commencement Bay outfall during peak flow events.

- *Biosolids handling and storage:* Expanded and modified biosolids handling and processing facilities. Built new blended solids and biosolids receiving facilities.

Federal and state policy on managing wet weather flows continues to evolve. In 2005, EPA published a draft policy on permit requirements for peak wet weather discharges from publicly owned treatment works (POTW) serving separate sanitary sewer collection systems. Under the policy, POTWs would develop a utility analysis assessing options for managing peak wet weather flows, and update that analysis during permit renewal. Among other items, this policy would require POTWs to evaluate:

- Technologies (such as supplemental biological treatment, physical chemical treatment, ballasted flocculation, deep bed filtration, or membrane technology) that are or could be used to provide additional treatment to peak wet weather flows or peak wet weather diversions at the POTW treatment plant and the costs of implementing those technologies.

- The extent to which the Permittee is maximizing its ability to reduce I/I throughout the entire collection system

In many ways, the City has anticipated this policy. The City has already constructed wet weather treatment facilities at the Central Treatment Plant to protect its secondary treatment process and comply with effluent limits. City staff also reported recently that it is spending $4 million annually on its I/I program, 25 percent more than reported in the fact sheet. The City has also adopted an ordinance requiring an inspection by homeowners of private sewer laterals before property sale, major remodel, or construction over the side-sewer (Tacoma Municipal Code 12.08.720, "Inflow and Infiltration Removal from Private Side Sewers").

Ecology is continuing to monitor federal requirements for managing peak wet weather flows. If EPA adopts new policies or regulations, Ecology will require the City to comply with new requirements.

With a few exceptions, Ecology determined it does not need to change the existing permit requirements, including discharge limits and monitoring, to protect the receiving water quality. The previous fact sheet addressed conditions and issues at the facility at the time when Ecology issued the previous permit in 2004. Since the issuance of the current permit, Ecology has not received any additional information which indicates that environmental impacts from the discharge warrant a complete renewal of the permit. The reauthorized permit is almost identical to the previous permit issued on May 04, 2004, with changes discussed on the following pages.

Ecology reviewed inspections and assessed compliance of the city of Tacoma discharge with the terms and conditions in the previous permit and determined that it should not rank the facility as a high priority for permit renewal. Ecology assigns a high priority for permit renewals in situations where water quality would benefit from a more stringent permit during the next five-year cycle.

Ecology carried over the discharge limits and conditions in effect at the time of expiration of the previous permit to this reauthorized permit. Ecology changed the submittal dates for reports from those in the previous permit. Ecology removed the completed report requirements that do not require additional or continued assessment. It adjusted the dates for the other standard compliance and submittal requirements that it carried over from the past permit into this reauthorized permit. Ecology considered these reports necessary in the previous permit and no information has come forward to cause it to reconsider.

Ecology changed or modified the following items in the proposed reauthorized permit.

A. Interim limit

Ecology removed the interim limits from the previous permit as the City sent the "declaration of construction completion" for the new peak wet weather treatment system and upgrades to the liquid treatment train in June 2008. The final limits after upgrades are effective as of June 2008.

B. Dilution Factor

The fact sheet of the previous permit explained the basis for dilution factors derived from the PLUMES model. See page 14 of the fact sheet. The new dilution factor is 22 (acute) and 145 (chronic) after the CTP upgrade and expansion.

C. Final limit for Total Residual Chlorine

The previous permit set water quality based effluent limits for total residual chlorine as follows: 0.124 mg/L (average monthly) and 0.325 mg/l (maximum daily). Ecology calculated the final limit for total residual chlorine incorporating the new dilution factor resulting from the plant upgrade. The new limit is 0.109 mg/L (average monthly) and 0.286 mg/L (maximum daily). See Appendix A for calculations.

D. Limit for Whole Effluent Toxicity (WET)

The previous permit set a limit for acute whole effluent toxicity (WET) and the Permittee met the limit. This permit includes the same limit as several acute tests showed less than 65 percent survival in 100 percent effluent. Ammonia is likely the cause of toxicity. We

changed the Acute Critical Effluent Concentration (ACEC) from 4 percent to 4.5 percent because of the new dilution factor resulting from the plant upgrade.

The previous permit required an effluent characterization for chronic whole effluent toxicity and included a provision for a chronic limit; the limit went into effect if the characterization showed that a limit was needed to protect water quality. The Permittee performed the effluent characterization and results showed that there was no requirement for a limit. The proposed permit removes the effluent characterization and the provision for a chronic WET limit. The Permittee will test for chronic toxicity during the last year of the permit cycle before permit renewal. In addition, the Permittee must perform chronic toxicity testing once every year while flow blending is occurring in accordance with the monitoring requirements as specified in section S2.A of the permit. The Chronic Critical Effluent Concentration (CCEC) remains at 0.7 percent with the new dilution factor (rounding to one significant digit).

E. Nutrient Monitoring

Ecology added once a month nutrient (both nitrogen and phosphorus) monitoring in the influent and effluent of the facility. Ecology is requiring this monitoring for all municipal wastewater treatment plants discharging to Puget Sound or freshwaters that drain to Puget Sound. Excess nutrients may lead to low levels of dissolved oxygen in the Sound that can lead to fish kills. The objective of this monitoring is to characterize nutrient loading into and from the wastewater treatment plants discharging to the Puget Sound. In addition, this monitoring will provide data that Ecology will use in its on-going study of the affects of nutrients on dissolved oxygen in Puget Sound. For more information on Ecology's Puget Sound efforts, see:
http://www.ecy.wa.gov/puget_sound/dissolved_oxygen_study.html.

F. Organic Priority Pollutants Monitoring During Flow Blending

The proposed permit requires once per year monitoring of organic priority pollutants (Table II, 40 CFR 122, Appendix D) during flow blending. This monitoring is in addition to the yearly pretreatment monitoring.

G. O&M Manual

Ecology is requiring the submittal of a new Operations and Maintenance (O&M) Manual by July 30, 2011 for our review. The new O&M Manual became necessary as the City completed the CTP upgrade and expansion project. The manual must meet the requirements of Chapter 173-240-080 WAC.

H. Temperature Evaluation

As part of the review of the permit and the implementation of new temperature standards, and using conservative estimates of the effluent and receiving water temperatures, Ecology determined that the discharge does not have the potential to violate temperature standards in the receiving water. As a result, Ecology is not requiring monitoring for temperature (see Appendix A for Temperature Analysis).

I. Mixing Zone Authorization

Ecology re-wrote this permit section (S1.C) but Ecology did not change the size of mixing zone. The new language provides clarity and specifies dilution factors (taken from the fact sheet) for this discharge.

J. Reporting Permit Violations

Ecology re-wrote this permit section (S3.E) to clarify requirements for reporting permit violations.

K. Progress Report on Sanitary Sewer Overflow Elimination Program

Ecology clarified the language on this permit section (S10.B) to describe the requirements for an annual progress report for the City's sanitary sewer overflow (SSO) elimination program. In addition to describing SSO program activities, the proposed permit requires the City to report the location and volume of SSOs occurring in a given year, precipitation data, and data from previous years. A discussion should address the probable causes of any changes in SSOs from prior years. The Permittee may prepare a single report to cover the City's entire collection system and meet the requirements of both CTP and North End Treatment Plant (NETP) NPDES permits.

Ecology must public notice the availability of the draft reauthorized permit at least 30 days before it reissues the permit [Washington Administrative Code (WAC) 173-220-050]. Ecology invites you to review and comment on its decision to reauthorize the permit (see Appendix B-Public Involvement for more detail on the Public Notice procedures).

After the public comment period has closed, Ecology will prepare a response to comments document that it will attach to this fact sheet addendum. The response to comments will include the resultant changes to the permit and either addresses each comment individually or summarizes the substantive comments and respond. Ecology sends a copy of the response to comments to all parties who submitted comments. Ecology will include the response to comments in this fact sheet addendum.

IV. RECOMMENDATION FOR PERMIT ISSUANCE

Ecology proposes to reissue this permit for five years.

APPENDIX A-- TECHNICAL CALCULATIONS

TACOMA CENTRAL # 1 WWTP DMR Data Analysis Report (June 2004 through April 2010)

Note: Data statistics are based on monthly DMR values

Influent	Flow		BOD5				TSS			
	mgd		mg/L		lb/d		mg/L		lb/d	
	Monthly Average	Monthly Maximum	Monthly Average	Monthly Maximum	Monthly Average	Monthly Maximum	Monthly Average	Monthly Maximum	Monthly Average	Monthly Maximum
n	70	70	70	70	70	70	70	70	70	70
Min	15.30	16.40	11	172	23185	33329	164	256	29340	39075
Max	44.20	113.80	469	1079	87315	186043	564	4997	102447	179770
Average	20.36	32.07	247	359	41248	58158	325	565	51557	82499
95th %	32.51	76.02	406	608	61024	83901	484	834	67920	131788
	Limit				**Limit**				**Limit**	
	60				**127000**				**114000**	

Effluent	Flow		BOD5					TSS				
	mgd		mg/L		lb/d		%	mg/L		lb/d		%
	Monthly Average	Monthly Maximum	Monthly Average	MaximumWeekly Average	Monthly Average	MaximumWeekly Average	Monthly Percent Removal	Monthly Average	MaximumWeekly Average	Monthly Average	MaximumWeekly Average	Monthly Percent Removal
n	69	69	70	70	70	70	70	70	70	70	70	70
Min	14.40	16.10	9	10	1612	1759	86	11	12	1737	2170	88
Max	39.80	115.90	27	33	7581	22250	97	29	45	6561	20777	97
Average	19.88	31.26	17	21	2854	3897	93	19	23	3225	4504	94
95th %	31.78	70.16	22	31	4514	5897	96	28	35	4544	7857	96
			Limit	**Limit**	**Limit**	**Limit**	**Limit**	**Limit**	**Limit**	**Limit**	**Limit**	**Limit**
			30	**45**	**15012**	**22518**	**85**	**30**	**45**	**15012**	**22518**	**85**

Effluent	Fecal coliform		pH		Ammonia, Total		Chlorine		Dissolved Oxygen		Temperature	
	#/100 mL		standard units		mg/L (as N)		mg/L		mg/L		degrees C	
	Monthly Geom.	Weekly Geom.	Monthly Minimum	Monthly Maximum	Monthly Average	Monthly Maximum	Monthly Average	Monthly Maximum	Monthly Average	Monthly Maximum	Monthly Average	Monthly Maximum

	Mean	Mean										
n	70	70	70	70	70	70	70	70	70	70	64	64
Min	9	14	6.1	6.6	8	17	0.04	0.10	3.10	4.10	9.90	13.00
Max	85	458	6.8	7.9	30	55	0.15	1.83	7.20	10.60	22.30	24.50
Average	37	78	6.4	7.0	20	29	0.08	0.22	5.47	7.42	16.86	18.38
95th %	69	140	6.6	7.6	26	44	0.11	0.31	7.01	9.20	21.57	22.71
	Limit	**Limit**	**Limit**	**Limit**			**Limit**	**Limit**				
	200	**400**	**6.0**	**9.0**			**0.124**	**0.325**				

Summary of Effluent Limit Violations

Monitoring Period	Parameter	Value	Unit	limit max
Mar-05	Coliform, Fecal	F|458	#/100 mL	200
Dec-08	Chlorine	0.35	mg/L	0.325
Jan-10	Chlorine	1.83	mg/L	0.325
Jan-10	Chlorine	0.152	mg/L	0.124

Qualifier "F" indicates less than

CALCULATION OF LIMIT FOR TOTAL RESIDUAL CHLORINE

Dilution (Dil'n) factor is the inverse of the percent effluent concentration at the edge of the acute or chronic mixing zone.

Permit Limit Calculation Summary

PARAMETER	Acute Dil'n Factor	Chronic Dil'n Factor	Metal Criteria Translator Acute	Metal Criteria Translator Chronic	Ambient Concentration *ug/L*	Water Quality Standard Acute *ug/L*	Water Quality Standard Chronic *ug/L*	Average Monthly Limit (AML) ug/L	Maximum Daily Limit (MDL) ug/L	Comments
Total Residual Chlorine, before upgrade	25.0	148.00				13.0000	7.5000	**124.1**	**325.0**	
Total Residual Chlorine, after upgrade	22.00	145.00				13.0000	7.5000	**109.2**	**286.0**	

Continued

Waste Load Allocation (WLA) and Long Term Average (LTA) Calculations							Statistical variables for permit limit calculation				
WLA Acute *ug/L*	WLA Chronic *ug/L*	LTA Acute *ug/L*	LTA Chronic *ug/L*	LTA Coeff. Var. (CV) *decimal*	LTA Prob'y Basis *decimal*	Limiting LTA *ug/L*	Coeff. Var. (CV) *decimal*	AML Prob'y Basis *decimal*	MDL Prob'y Basis *decimal*	# of Samples per Month *n*	
325	1110.00	104.4	585.5	0.60	0.99	104.4	0.60	0.95	0.99	30.00	1.00
286	1087.50	91.8	573.6	0.60	0.99	91.8	0.60	0.95	0.99	30.00	1.00

TEMPERATURE ANALYSIS

Marine T-mix

T-Mix is based on WAC 173-201A-200(1)(c)(i)--(ii) and Water Quality Program Guidance.

All Data inputs must meet WQ guidelines.
The Water Quality temperature guidance document may be found at: http://www.ecy.wa.gov/biblio/0610100.html

Notes: City of Tacoma Central Wastewater Treatment Plant (#1)

INPUT	May-Sep	Oct-Apr
1. Chronic Dilution Factor at Mixing Zone Boundary	145	145
2. Annual max 1DADMax Ambient Temperature (Background 90th percentile)	13.2 °C	13.2 °C
3. 1DADMax Effluent Temperature (95th percentile)	24.0 °C	24.0 °C
4. Aquatic Life Temperature WQ Criterion	19.0 °C	19.0 °C
OUTPUT		
5. Temperature at Chronic Mixing Zone Boundary:	13.27 °C	13.27 °C
6. Incremental Temperature Increase or decrease:	0.07 °C	0.07 °C
7. Incremental Temperature Increase 12/(T-2) if T≤ crit:	1.07 °C	1.07 °C
8. Maximum Allowable Temperature at Mixing Zone Boundary:	14.27 °C	14.27 °C
A. If ambient temp is warmer than WQ criterion		
9. Does temp fall within this warmer temp range?	NO	NO
10. Temp increase allowed at mixing zone boundary, if required:	---	---
B. If ambient temp is cooler than WQ criterion but within 12/(T_{amb}-2) and within 0.3 °C of the criterion		
11. Does temp fall within this incremental temp. range?	NO	NO
12. Temp increase allowed at mixing zone boundary, if required:	---	---
C. If ambient temp is cooler than (WQ criterion-0.3) but within 12/(T_{amb}-2) of the criterion		
13. Does temp fall within this Incremental temp. range?	NO	NO
14. Temp increase allowed at mixing zone boundary, if required:	---	---
D. If ambient temp is cooler than (WQ criterion - 12/(T_{amb}-2))		
15. Does temp fall within this Incremental temp. range?	YES	YES
16. Temp increase allowed at mixing zone boundary, if required:	NO LIMIT	NO LIMIT
17. Do any of the above cells show a temp increase?	**NO**	**NO**
18. Temperature Limit if Required?	**NO LIMIT**	**NO LIMIT**

APPENDIX B--PUBLIC INVOLVEMENT INFORMATION

Ecology proposes to reissue a permit to The city of Tacoma. The permit includes wastewater discharge limits and other conditions. This fact sheet addendum describes the facility and Ecology's reasons for reauthorizing the permit conditions.

Ecology placed a Public Notice of Application on June 9, 2008, and June 16, 2008, in the *Tacoma News Tribune* to inform the public about the submitted application and to invite comment on the reissuance of this permit.

Ecology will place a Public Notice of Draft on June 23, 2010, in the *Tacoma News Tribune* to inform the public and to invite comment on the proposed draft National Pollutant Discharge Elimination System permit and fact sheet addendum.

The Notice –

- Tells where copies of the draft Permit and Fact Sheet are available for public evaluation (a local public library, the closest Regional or Field Office, posted on our website.).
- Offers to provide the documents in an alternate format to accommodate special needs.
- Urges people to submit their comments, in writing, before the end of the Comment Period
- Tells how to request a public hearing of comments about the proposed NPDES Permit.
- Explains the next step(s) in the permitting process.

Ecology has published a document entitled **Frequently Asked Questions about Effective Public Commenting** which is available on our website at http://www.ecy.wa.gov/biblio/0307023.html.

You may obtain further information from Ecology by telephone, 360-407-6279, or by writing to the permit writer at the address listed below.

Water Quality Permit Coordinator
Department of Ecology
Southwest Regional Office
P.O. Box 47775
Olympia, WA 98504-7775

The primary author of this permit and fact sheet is Mahbub Alam.

APPENDIX C—RESPONSE TO COMMENTS

Ecology received comments from the city of Tacoma during public comment period. Ecology addressed the comments below.

Comment #1:

> Page 1 of 47, Section Plant Type: In the latest upgrade project the City replaced chlorine disinfection with a sodium hypochlorite system.

Ecology Response #1:

> Ecology agrees with the comment.
>
> We changed the plant type to read "Secondary – Activated Sludge (Pure Oxygen) with sodium hypochlorite disinfection."

Comment #2:

> Page 7 of 47, Section S1.A Footnote d: CTP, like our NETP, uses on-line pH monitoring. Suggest the language in this Section should be the same as in NETP's recent NPDES revision: "Indicates the range of permitted values. When pH is continuously monitored, excursions between 5.0 and 6.0, or 9.0 and 10.0 shall not be considered violations provided no single excursion exceeds 60 minutes in length and total excursions do not exceed 7 hours and 30 minutes per month. Any excursions below 5.0 and above 10.0 are violations. The instantaneous maximum and minimum pH shall be reported monthly."

Ecology Response #2:

> In the past, Ecology used the above-mentioned pH footnote to accommodate online pH monitoring. Recently Ecology's Laboratory Accreditation Program clarified that it would not issue accreditation for online pH measurement. Ecology's Laboratory has identified many issues with online monitoring including difficulties with quality control. Online pH instrumentation can be used for process control but it cannot be used to measure and report pH to meet an NPDES permit monitoring requirement. Tacoma must use bench top equipment as accredited by Ecology. Ecology is correcting permits for this monitoring requirement during re-issuance.
>
> Ecology did not make any changes to the permit due to this comment.

Comment #3:

> Page 8 of 47, Section S1.C Dilution Factors table: The City would appreciate the opportunity to discuss with Ecology staff the inclusion of the two human health criteria, and to understand the implications of these new criteria in the permit.

Ecology Response #3:

The table presents dilution factors that Ecology uses with respect to human health- based criteria. These dilution factors are not new. See page 14 of the fact sheet, which was written during issuance of the previous permit. Since this permit is a reauthorization, the fact sheet remains as part of the administrative record. Nonetheless, Ecology is willing to discuss any questions or concerns the City may have.

Ecology did not make any changes to the permit due to this comment.

Comment #4:

Page 9 of 47, Section S2. & Appendix A: This comment is to affirm that all monitoring requirements are outlined in Section S2.A through D. Appendix A is included and intended as a guide to specify analytical methods to be used and quantitation levels to be achieved for the monitoring requirements listed in S2.

Ecology Response #4:

Monitoring that is required for permit compliance is included in section S2. However, monitoring that is required for permit re-application is not explicitly included in these tables. The City should consult the permit application forms to determine if additional monitoring will be necessary for permit renewal. Appendix A lists approved analytical methods and associated detection limits. It is not a guide; the City must use the methods specified in Appendix A, unless modified with the approval of Ecology's Laboratory Accreditation Program. The inclusion of Appendix A in the permit does not imply that the Permittee has to test for all pollutants listed in the Table.

Ecology did not make any changes to the permit due to this comment.

Comment #5:

Page 9 of 47, Section S2.A: Wastewater Temperature Effluent. Per the amended Fact Sheet, included with this permit draft, temperature monitoring was to be dropped (page 4, Section H)

Ecology Response #5:

The temperature evaluation confirmed that continuous temperature monitoring for the effluent and the receiving water is not necessary. The requirement to monitor effluent temperature with a daily grab sample was included in the previous permit and Ecology believes it is necessary to continue that monitoring as such data is often important for understanding plant performance, especially during periods of non-compliance.

Ecology did not make any changes to the permit due to this comment.

Comment #6:

Page 12 of 47, Section S2.A Footnotes 3 & 4: Past practice has required quarterly sampling results to be submitted within 45 days of then end of the quarter. Submittal with the DMR of the final month of the quarter, or year, would be very difficult to comply with because generation of

these reports requires some time after the laboratory work is completed. Reports should be due to Ecology within 45 days of the end of the calendar period. Please clarify.

Ecology Response #6:

Per permit condition S3.A.5, priority pollutant analysis data are due to Ecology no later than 45 days following the monitoring (day). It is not "within 45 days of the end of the quarter" as the City stated in the comment. Reporting with the DMR of the final month of the quarter is preferable but not necessary. Ecology modified the footnotes 3 & 4 as below:

[3] Quarterly is defined as: January through March – First Quarter (report within 45 days following monitoring) April through June – Second Quarter (report within 45 days following monitoring) July through September – Third Quarter (report within 45 days following monitoring) October through December – Fourth Quarter (report within 45 days following monitoring)
[4] Yearly is defined as calendar year January through December (report within 45 days following monitoring)

Comment #7:

Page 21 of 47, Section S5.G: The City if in the process of developing an on-line electronic O&M manual for all of the recently completed upgrades at the CTP. The plan is then to convert the balance of the existing plant O&M manual to the new electronic format, modifying and updating it as required to keep it current. This project will not be able to be completed by the due date posted in this section of the permit (July 30, 2011). The City requests a discussion with Ecology on this issue, in hopes of developing a mutually agreeable schedule to meeting the O&M manual requirements.

Ecology Response #7:

Upon discussion with the City, Ecology changed the due date for submission of the O&M manual from July 30, 2011, to July 30, 2012. Accordingly, we also changed the first submittal date of the annual O&M manual review confirmation letter from July 30, 2012, to July 30, 2013.

Comment #8:

Page 23 of 47, Section S6.H: Due date needs to be updated from 2008.

Ecology Response #8:

Ecology changed the due date from December 15, 2008, to December 15, 2014.

Comment #9:

Page 32 of 47, Section S10.B: The second paragraph of Section S10.B is a new requirement regarding the annual progress report. The City agrees that performance measures are important, but at the same time we are concerned with the implications made by so much emphasis being placed on SSO volume measurement.

While this is, of course, the overall goal – it must be recognized that it will likely take some significant amount of time before the aggressive improvements that Tacoma is continuing to make to the collection system will begin to result in actual measurable reductions is wet weather related SSO volumes. Experience across North America has shown that until a significant portion of the collection system can be made completely tight (including all privately owned parts of the collection system) measureable differences are not typically recognized. In addition to this fact another inherent challenge that must be recognized, prior to so much emphasis being placed on annual SSO volumes being a primary near term performance measure is the inherent challenge with area velocity flow measurement in gravity sewer pipes. The current best technology still presents accuracy issues that make reliance upon this information for slight changes in volumes for near term performance measures questionable at best. In addition to this issue it is also a proven fact that the collection system reacts very differently, with respect to I&I, depending on the nuances of the different wet weather events. These nuances include antecedent ground water conditions, rainfall intensity, rainfall duration, etc.

These three concerns make the City very uncomfortable with using this performance measure the way it is currently written as it implies that meaningful data will be available to measure if near term SSO volumes are being reduced. It would be better to look at this information over a more long term basis.

Ecology Response #9:

Ecology agrees that this data should be viewed over the longer term, and that use of term "performance measures" may be confusing in the context of annual reporting. We have redrafted the second paragraph of this permit section:

> *The progress report shall provide the location and volume of each sanitary sewer overflow and the corresponding precipitation amount (inches prior to the overflow), and the total number and volume of sanitary sewer overflows (and corresponding precipitation amounts, both those amounts causing overflows, and seasonal totals) in the previous calendar years. The City may include additional data and information as it deems appropriate.*

Annual progress report as stated in permit section S10.B is not a new requirement. Ecology included the language in this section to get a better picture of the City's sanitary sewer overflow (SSO) elimination program.

Comment #10:

Page 6, Fact Sheet Addendum: Flow in Table column title "Monthly Maximum" in both the influent and effluent table should be "Daily Maximum" not "Monthly." The flows indicated here are each daily flows from the DMRs.

Ecology Response #10:

The "monthly maximum" column analyzes daily maximum flow values for a series of months. There are maximum and minimum of those values. The unit "mgd" refers to the totalized daily flow. When we said "monthly average," we analyzed monthly average daily flow values for a series of months. Similarly, when we said "monthly maximum," we analyzed monthly maximum of daily flow values for a series of months. While the current heading is a bit confusing, writing "daily maximum" would be misleading.

Ecology did not make any changes to the permit due to this comment.

Comment #11:

Page 24 of 47, Section S6.A.3.a: We would like Ecology to clarify and provide examples of "non-routine batch discharges" referred to in S6.A.3.a. It is our opinion that all discharges – process and domestic/continuous or batch - are addressed by a facility's wastewater discharge permit or slug load discharge control plan.

Ecology Response #11:

Non-routine batch discharges encompass a wide variety of potential discharges. It includes such things as wastewater generated by periodic cleaning of process areas, equipment, boiler systems, refrigeration systems, roofs, air handling equipment, sumps, and roads. It also includes off-spec batches of product, spills, leaks, tank heels, residues in process piping, fire suppression chemicals, contaminated stormwater, and discharges caused by flooding. We agree that all discharges – process and domestic/continuous or batch – should be addressed by a facility's wastewater discharge permit or slug load discharge control plan.

Ecology did not make any changes to the permit due to this comment.